

# Investing in Troubled Times

## ENTREPRENEURS ARE YOUR SAFEST BET

BY JOEL M. SHULMAN

In these troubled times, with investors unsure of when or where to place their funds for maximum benefit, one investment tenet should be clear: bet on entrepreneurs. Our research of 27,000 publicly traded global companies, employing more than 12 years worth of data, demonstrates that entrepreneurial companies consistently outperform peer nonentrepreneurial companies by a wide margin. With very few exceptions these results remain true even after adjusting for year, market cap size, region, and sector. And, following the tumultuous market collapse in 2008–2009, it appears that entrepreneurial companies are now poised to perform better than ever.

### WHY DO ENTREPRENEURIAL COMPANIES PERFORM BETTER?

Tough economic conditions favor efficient producers. Organizations that emphasize entrepreneurial culture, organic growth, and aligned compensation trump corporate bureaucracies every time. Entrepreneurs keep their organization costs lean, debt levels manageable, and expansion projects within reach. Though they may have much less access to cheap debt or equity, they more than compensate with clever methods for making their resources go further. Consequently, they are less affected than nonentrepreneurs by macrocredit decisions that reduce borrowing capacity in the marketplace. They have the balance sheets to withstand difficult capital-market conditions and the management expertise, confidence, and savvy to navigate unexpected disruptions.

Nonentrepreneurial companies, on the other hand, require cheap capital to support their inefficient ways. They create bloated organizational structures, payrolls, and layers of red tape. During easy credit periods, management can quickly grow revenues through deal making and company takeovers. This immediately benefits senior managers as executives of nonentrepreneurial companies earn higher salaries and lavish corporate perquisites. Managers often tend to curry stakeholder favor with high-dividend yields (relying on borrowing if need be). There is little concern about growing revenues organically, the old-fashioned way, since it takes too long.

Nonentrepreneurial CEOs of major publicly traded companies typically last only three to five years—akin to the brief life of an NFL running back. So they need to strike quickly and acquire as many companies as possible, while the cheap capital is available. In the short term, these acquisitions will absolutely increase revenues, and will provide an opportunity to create economies of scale and organizational efficiencies for all stakeholders. However, the evidence of acquired growth tends to show that it fails to deliver in the long run. When credit markets no longer provide easy capital, those organizations that have borrowed heavily to support years of bad decisions suffer the most. This is why the stock prices of nonentrepreneurial companies often do not keep pace with the market and are more likely to fail when credit disappears.

### LARGE COMPANIES OFTEN START WITH A VISIONARY ENTREPRENEUR

Many large bureaucratic organizations began with a great entrepreneurial founder with a vision reaching far into the future. Well-known examples include Ford Motor Company and Xerox, both of which started with dynamic, visionary entrepreneurs. Today, however, Ford and Xerox are no longer perceived as entrepreneurial. In fact, they are often depicted as the embodiment of corporate bureaucracy and competitive decay. These are just two examples, among many, that demonstrate how over time companies shift from being entrepreneurial growth engines to bureaucratic machines. Some companies, such as Polaroid, do not adapt to changing market conditions and quietly file for bankruptcy.

Entrepreneurial growth is not confined to just start-ups. In many cases, the entrepreneurial culture that was instilled by a scrappy entrepreneur extends well beyond the early stages of a company's development. Legendary entrepreneurs such as Sam Walton, who founded Wal-Mart, and Ingvar Kamprad, who founded IKEA, kept the entrepreneurial spirit alive even as their companies matured and grew large. Both Walton and Kamprad watched costs diligently, keeping classic agency costs low (e.g., limiting expensive travel, hotels, and car rentals for all employees), and led a frugal



example for others to follow. Their unique identification with their companies and the efficient manner in which they generated profits for all members of their organization, created a loyal team and a culture that enabled their companies to prosper.

Even today large entrepreneur-led companies, such as Apple Computer, boast relatively low administrative costs, high income margins, and frequent product developments. These attributes generate exceptional sales/earnings growth and well above-average stock price appreciation.

Investors are constantly on the lookout for the next great growth-stock story. Are there attributes that are common among high-potential growth ventures, such as Apple Computer and Wal-Mart? Our evidence suggests that the answer is yes. In fact, we believe that there are hundreds of other publicly traded high-potential growth companies scattered around the world at various stages of discovery. It is just a matter of gathering the proper data and looking in the right places.

#### WHAT ATTRIBUTES DISTINGUISH ENTREPRENEURS?

In recent years there have been many academic papers that have examined the success of family-owned ventures or founder-CEO companies. Some studies suggest that founder-CEO companies outperform all others, and some studies suggest they do not. But being a successful entrepreneur is more than just *starting* or *owning* a business. Many new ventures are created each year, but the vast majority fail within three to five years. Furthermore, there are many examples of successful, entrepreneurial managers, such as Jack Welch at General Electric, that did not start or inherit a company.

What is it then that lies at the foundation of a successful entrepreneurial company? Successful entrepreneurs need to efficiently employ their resources opportunistically. This means that entrepreneurs will likely grow their revenues organically, rather than through acquisition. Organic growth, contrasted with acquired growth, enables entrepreneurs to better control the final value-added products/services and the unique culture established in their organization. As companies get larger it becomes increasingly difficult to integrate two distinct business cultures. In extreme culture clashes, disastrous consequences may ensue, as we saw when Lucent Technologies merged with Alcatel and Chrysler merged with Daimler-Benz.

Entrepreneurial growth companies stick to their primary business model, keeping their costs low and borrowing modestly. For example, Apple Computer, despite having a growth rate of close to 20% in 2009, had no long *or* short debt and more than half of its total assets in cash and equivalents. Furthermore, its return on equity was in excess of 24%, and its margins were more than double the industry averages. Additionally, entrepreneurs know how to sustain long-term growth and maximize ROIC (return on invested capital) through strategic alliances and partnerships. For many companies, alliances and partnerships often do not work as planned. Skillful entrepreneurs, however, know how to use their personal networks and powers of persuasion for mutual gain. In the case of Apple Computer, Steve Jobs coordinated successful partnerships with Nike and Disney/Pixar, among others.

Some companies create organic growth through revolutionary business platforms. Intuitive Surgical, the global leader in robotic-assisted minimally invasive surgery, is able to achieve extraordinary growth through strong ties to hospitals. Moreover, the company has shifted its growth from sales of its robots to sales of surgical supplies required for the robots' use. These strategies have enabled the company to achieve annualized growth exceeding 25%.

Entrepreneurs realize the importance of their key team members and strategic stakeholders, and make an effort to ensure adequate compensation and incentives for both groups. They often lead by example, as is the case with senior executives at Research in Motion, Google, Infosys, and Apple Computer, where the CEOs earn considerably smaller salaries than other members of their senior staff and generate the bulk of their wealth through stock appreciation. Successful entrepreneurs maintain a careful watch on all key aspects of the business and project a clean, positive image. Company morale tends to be high, and senior executive turnover low. Profits endure various economic cycles, and balance sheets are handled conservatively. The combined effect, when handled well, may provide explosive wealth creation for all stakeholders, assuming that the company also enjoys good investment opportunities.

Strong management teams with significant resources can overcome many obstacles. But strong management and resources are not enough. When market conditions sour, team capabilities and resources rank secondary to opportunity in importance. Strong managerial teams with capital will survive longer than industry competitors—but, generally, market conditions win. During periods of economic retraction, business models unravel, and risk capital diminishes or becomes prohibitively expensive.

The bottom line is that even great, successful entrepreneurs with vast financial resources do not always win. In order to become a great growth story, entrepreneurial teams need opportunities to match their resources. Entrepreneurs seek out and deliver high ROIC projects and engage in successful deal brokering. They leverage business relationships to full economic advantage and position their company at the heart of industry growth. Their wealth is created from a unique vision on how to extract value within competitive market environments.

Eventually the outstanding results of entrepreneurial businesses attract the attention of analysts and the media, and publicly traded stocks of entrepreneurial companies are bid higher. Clearly, with a rising stock price, all stakeholders benefit—perhaps none more so than the entrepreneurs who are central to the wealth generation.

#### HOW CAN WE IDENTIFY AND TRACK ENTREPRENEURS?

How can analysts identify businesses that operate with an entrepreneurial approach? Some of the distinguishing traits, particularly financial criteria, can be screened for quickly using large financial databases. Not all traits, however, are quantitative, and these need to be uncovered, one company at a time, from SEC reports or investigative calls to the company. Where possible, we have attempted to create decision rules in the classification of ambiguous terms that reflect favorable entrepreneurial characteristics.

Popular press reports often refer to entrepreneurial companies with well-known leaders in the context of “entrepreneurial culture,” “entrepreneurial vision,” and a “charismatic leader.” But these traits are not readily transparent on a company’s financial statement. Instead we searched for attributes that are markers of entrepreneurial behavior that can be monitored. For example, we presume that an organization with an “entrepreneurial culture” would have a more efficient workforce that would outperform nonentrepreneurial companies. If this were the case, then we would expect entrepreneurial companies to have lower SGA (selling, general, and administrative expenses), higher gross margins, and higher ROA (return on assets). Otherwise, entrepreneurial culture would provide little economic benefit. Company SGA, ROA, net profit, and other margin-related factors can be easily monitored and compared to industry benchmarks by using most financial databases.

Additionally, we would like to evaluate “entrepreneurial vision,” but obviously this is difficult to quantify and track. We presume that company managers with better entrepreneurial vision will select more efficient and economically effective growth vehicles, without taking on undue risk. This trait might be represented by superior growth characteristics compared to other nonentrepreneurial peer companies in the same industry. These characteristics include: (1) more organic growth, (2) more strategic alliances/partnerships/licensing deals, (3) lower debt levels, (4) lower or no dividends, and (5) higher sales turnover (sales divided by total assets).

Finally, we would like to be able to identify companies with a “charismatic leader,” but do not have a consistent, reliable predictor to support press reports or anecdotal evidence. Instead we presume that a charismatic leader has the ability to lead a company to a more prosperous future. To that end, many of the benefits of a charismatic leader are already captured in the financial criteria delineated above. Moreover, charismatic leaders are more likely to have greater longevity and retain key managers and staff longer than unpopular, ineffective leaders. Many of the variables are interrelated. For example, if entrepreneurs have lower SGA expenses, then it is likely that ROA will also be higher. Similarly, if entrepreneurs have more strategic partnerships, alliances, and licensing deals, they will generate a higher ROIC due to the leveraging of intellectual property. But the variables that we identify may be a descriptive byproduct of entrepreneurs and entrepreneurial companies and not necessarily a primary filter for discovering entrepreneurial companies. This is a subtle, but important, distinction to keep in mind as we describe a set of publicly traded companies in our portfolio. And, in order to ensure that we are not incorporating a small firm or sector bias in our entrepreneur categorization, we will be careful to evaluate companies by distinct market capitalization and industry.

#### FIFTEEN ATTRIBUTES THAT DISTINGUISH ENTREPRENEURS

Prior academic research—including Livingston (2007), Burkart et al. (2003), and Pérez-González (2006), among others—provides evidence that there may be a number of factors that distinguish entrepreneurial companies from nonentrepreneurial companies. We

summarize 15 key attributes below (including some from the academic literature, as well as a few proprietary variables of our own) that we believe will offer insight as to our differentiated investor performance on publicly traded stock:

1. Organic growth opportunities
2. Above-average ownership stakes among key stakeholders
3. Low SGA
4. Above-average ROIC
5. Sustainable growth
6. Manageable debt
7. Active strategic alliances/partnerships/licensing deals
8. Aligned executive compensation packages
9. Low executive turnover
10. Transparent governance
11. Long duration of key managers
12. Low or no dividends
13. Family involvement
14. High EBITDA (earnings before interest, taxes, depreciation, and amortization) margin percentage
15. Other significant stakeholder relationships (such as key board members, etc.)

We suggest that these entrepreneur attributes generate superior risk-adjusted returns for investors (compared to nonentrepreneurs) and test for statistical significance in the next section. The tests we provide are based on a hypothetical portfolio of all companies holding the entrepreneurial characteristics across various industry sectors, market capitalizations, and geographic regions. Our results include both bull and bear market time periods.

Given the hypothetical ability to generate excess risk-adjusted rates of returns, we also provide actual audited results of an ongoing portfolio implemented by a long-short hedge fund. Performance attribution will be shown for the combined portfolio, as well as by its components, long (entrepreneur) and short (bureaucrat) positions.

#### DATA AND METHODOLOGY

We gathered our data from a variety of sources, including: (1) Standard & Poor’s Compustat for financial data; (2) CRSP for monthly stock price data; (3) Capital IQ for international data; (4) ExecuComp for management compensation data; (5) SEC monthly and quarterly corporate filings for ownership data, company acquisitions, financial reports, and other noteworthy disclosures; (6) company reports and management conference calls (sometimes accessed through archive records on Yahoo! Finance); (7) S&P Net-Advantage for ancillary debt information; (8) Thompson ONE for merger-acquisition deal data; and (9) Internet searches for miscellaneous company data.

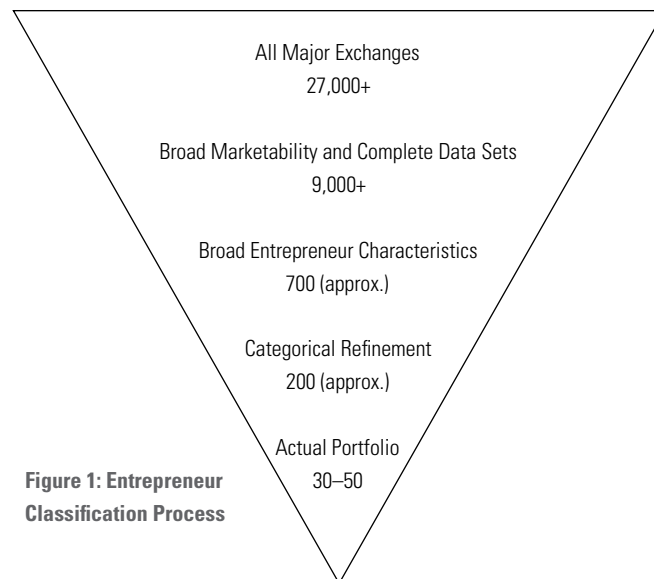
We begin our search process by gathering qualitative and quantitative data on our 15 entrepreneurial attributes from the data sources identified above over the time period January 1, 1997, through August 31, 2009. We selected this time period so that it would allow us to review the annual performance of our hypothetical

portfolio during several bull and bear market conditions. The combined databases provide information on more than 27,000 global companies, but we narrowed our list down to more than 9,000 by eliminating companies with incomplete financial statements, stock prices, or informational disclosures. We then applied some of our attribute criteria to arrive at approximately 700 companies deemed to be in our “broad entrepreneur” classification (shown in Figure 1). Our broad entrepreneurs have an owner-manager orientation along with certain capital structure and governance characteristics, but have not yet been filtered for growth, compensation, organizational turnover, or other variables identified on our list of entrepreneurial traits. The first run of broad-entrepreneur attribute filters can be handled very quickly and efficiently through quantitative screening. In particular, some (but not all) questions regarding the management team and financial resources can be handled in this manner. However, issues regarding growth are best handled by a careful review of each company on a one-by-one basis.

As Figures 2 and 3 show, our approximately 700 broad entrepreneurs represent each of the 10 major industry sectors in 36 countries. The heaviest concentration of entrepreneurs resides in the US, principally in the IT (information technology) and consumer-discretionary sectors. Our broad entrepreneurs represent 120 primary industries. We then further refined our set of broad entrepreneurs based on a company-by-company categorical refinement as determined in our attribute criteria. A quick quantitative screen could not determine many of the attributes identified above. For example, organic-growth characteristics, management relationships, stakeholder relationships, research and development investments, ownership history, governance relationships, executive compensation, and notes to the financial statements all had to be reviewed on a company-by-company basis. We also attempt to minimize the “survivorship bias” of our groupings, by requiring that our entrepreneurs had been publicly traded for at least 3 years or had reached \$50 million in market capitalization. As a practical matter, this eliminates most of the nano-cap companies in our data set and significantly improves the consistency of our entrepreneur data set from year-to-year. Our final set of “global entrepreneurs,” including all US and International (non-US) entrepreneurs, represents approximately 200 companies.

Table 1 shows the annual returns for our global entrepreneurs, categorized by market capitalization (as determined below). We also show the annual returns for major stock indices such as the S&P 500, Russell 3000 Index, DJIA (Dow Jones Industrial Average), and NASDAQ for the corresponding time periods. For purposes of categorization of our entrepreneurs we used the following criteria:

- Large capitalization: > \$5 billion
- Mid capitalization: \$1 to \$5 billion
- Small capitalization: \$0.25 to \$1 billion
- Micro capitalization: \$50 to \$250 million
- Nano capitalization: < \$50 million



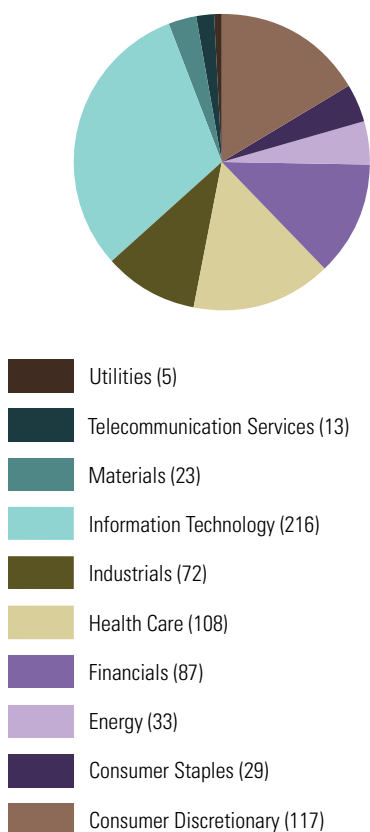
**Figure 1: Entrepreneur Classification Process**

As Table 1 demonstrates, some categories, such as large-cap entrepreneurs, dominated their peer capitalization benchmarks (the S&P and DJIA) in every year that we studied. For example, in 1997, 1998, and 1999, the large-cap entrepreneurs earned 36.10%, 60.15%, and 59.29%, respectively, whereas the corresponding returns for the S&P 500 were 26.92%, 23.65%, and 17.84%. Similarly, mid-cap and small-cap entrepreneurs dominated their peer benchmark (the Russell 2000 Index) in every year studied. The performance of our smallest capitalization groups, micro cap and nano cap, outperformed in most, but not all, years. In some of the years in which the entrepreneurs outperformed the Russell 2000 Index, the results were substantial; in 2003 the micro-cap entrepreneurs provided returns of 87.7% (compared to 45.37% for the Russell 2000 Index). Overall, each of the categories outperformed their peer benchmarks (in a statistically significant manner) over the time period studied, except nano caps (primarily due to the last couple of years and small sample size). We see from Table 1 that investors that bet on entrepreneurs in the small-, mid-, and large-cap categories would have enjoyed relatively strong performances in most years and are enjoying an especially strong year thus far in 2009.

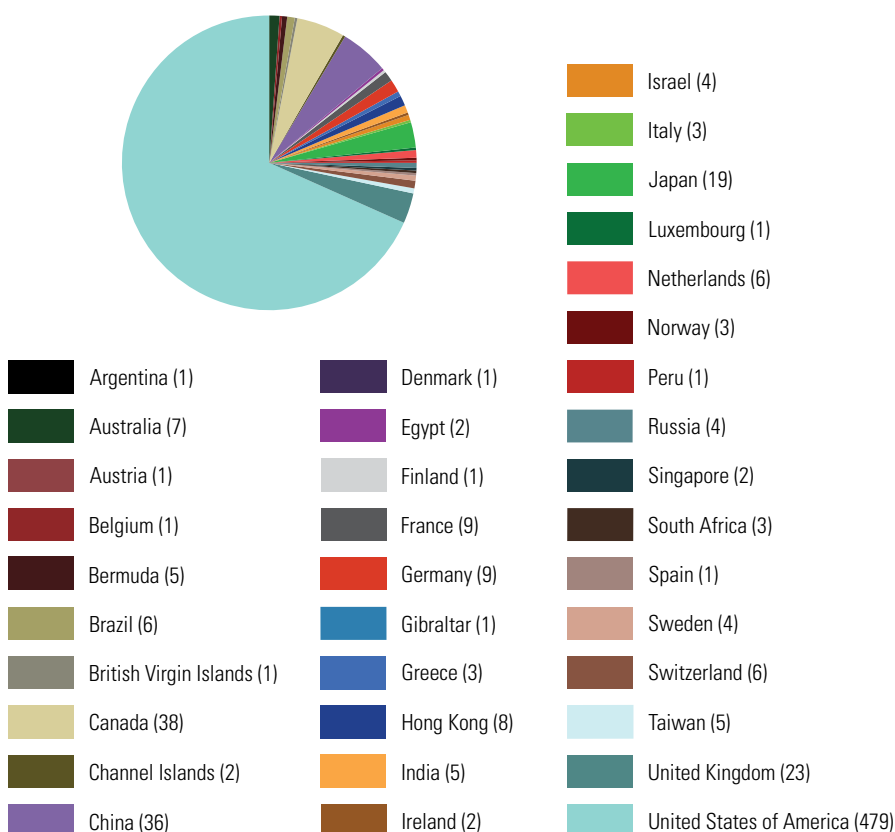
Although Table 1 shows the performance of our entrepreneurs by market capitalization, it does not evaluate the data by sector or geographic location. We therefore performed our statistical analyses on monthly return data of our global entrepreneurs and categorized our data into eight groups:

1. Global entrepreneurs (entrepreneurial companies based within and outside of the US; > \$0.05 billion market cap)
2. International entrepreneurs (entrepreneurial companies based outside of the US; > \$0.05 billion market cap)
3. US entrepreneurs (companies based in the US; > \$0.05 billion market cap)
4. Large-cap entrepreneurs
5. Mid-cap entrepreneurs

**Figure 2: Broad Entrepreneurs by Sector**



**Figure 3: Broad Entrepreneurs by Country**



6. Small-cap entrepreneurs
7. IT entrepreneurs (> \$0.05 billion market cap)
8. Industrial-sector entrepreneurs (> \$0.05 billion market cap)

To help compile our distinct groupings we were assisted by the hedge fund eIQ (Entrepreneurial Insight Quantitative Capital Partners), which will publish the indices in fall 2009. (Due to space limitations in this publication, we only show a few of the graphs.) As the graphs in Table 2 illustrate, the entrepreneurs outperformed their peer benchmarks by wide margins. The best

performing category, small-cap entrepreneurs, easily outperformed their peer benchmark by a factor of seven to eight times. During the course of the bull market run from January 2003 to October 2007, the compounded returns of global small-cap entrepreneurs increased our hypothetical \$50,000 investment by almost 1,500% to approximately \$750,000! These returns were across many industries and represented many countries. However, as the graphs also indicate, the absolute decline for the small-cap entrepreneurs has been sharper than the comparative benchmarks during the recessionary time period. The next-best category in our grouping was

**Table 1: Annual Returns for Global Entrepreneurs versus Stock Indices**

Sources: CRSP and Capital IQ.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009 (YTD through 8/31/09)
S&P 500	26.92	23.65	17.84	-10.69	-14.2	-26.6	23.42	8.61	2.96	13.62	3.53	-38.49	13.00
Russell 2000	20.52	-3.45	19.62	-4.2	1.03	-21.58	45.37	17	3.32	17	-2.75	-38.2	14.50
Dow Jones	20.34	14.93	22.5	-6.38	-7.48	-18.34	22.58	3.1	-0.61	16.29	6.43	-33.8	8.20
NASDAQ	19.52	33.41	61.91	-49.86	-24.01	-37.84	40.58	8.24	1.36	9.52	9.81	-40.5	27.40
Ent Large Cap	36.1	60.15	59.29	21.94	19.28	-7.23	50.65	31.58	22.59	17.51	23.8	-37.6	63.40
Ent Mid Cap	42.17	20.19	65.42	22.64	16.82	-2.72	56.83	20.79	18.37	21.44	16.71	-33.9	55.00
Ent Small Cap	26.14	12.39	76.78	6.94	38.81	0.47	71.74	22.32	12.64	28.17	0.66	-21.9	71.1
Ent Micro Cap	26.41	28.16	56.42	-7.31	31.84	-1.54	87.7	24.47	0.43	11.58	-12.97	-40.9	74.6
Ent Nano Cap	19.43	12.73	89.34	-10.4	52.74	23.37	107.25	25.51	16.03	-19.4	-46.31	-83.5	31.5

international entrepreneurs. Our figures show all compounded stock price returns unadjusted for currency gains or losses. Given the dollar movement relative to other currencies during the 2003 to 2007 time period, the international entrepreneur returns could have been significantly higher. During this time period, the non-currency-adjusted returns for international entrepreneurs increased by almost 1,100%. This was well above all major benchmarks and was statistically significant ( $p$ -value  $< 0.001$ ).

We also grouped our entrepreneurs by industry sector, adjusted for market capitalization, and performed the entrepreneur-sector analysis for each of the eight sectors that had sufficient data for a statistical analysis. When possible, we segmented the groups of entrepreneur data and compared them with the results of non-entrepreneurs in the same sector, segmented by market cap groupings. For example, we had a number of IT entrepreneurs and compared them with all of the IT non-entrepreneurs in the large-cap, mid-cap, and small-cap categories. For some of our entrepreneur groupings, we had insufficient data to compare each of these market cap groupings but instead compared results against the entire industry sector of non-entrepreneurs. Although each of our entrepreneur groupings provided superior, statistically significant results compared to their peer benchmarks, we show only two for illustrative purposes. Both the industrial and IT entrepreneurs outdistanced their comparative benchmarks during the period of study. For the IT entrepreneurs we used the technology-based NASDAQ as a benchmark, and for our large-cap entrepreneurs we used the DJIA. Again, both entrepreneur groups provided statistically superior results compared to the underlying benchmarks.

#### CONCLUSION FROM OUR HYPOTHETICAL MODELS

We conclude from our data analysis that our entrepreneur groups, viewed from a variety of different perspectives—including market capitalization, industry sector, time period, and geographic region—appreciably outperform a peer group of non-entrepreneurs. The differences in returns appear striking and are statistically significant. We conclude from our data that an investor could build a portfolio of entrepreneur companies and earn a superior, risk-adjusted rate of return.

#### MOVING FROM THEORY TO PRACTICE

As we began developing and testing our hypothetical models we realized that our global entrepreneurs were providing exceptional risk-adjusted rates of returns. The returns appeared robust over both bull and bear market conditions, though they clearly offered more variability than the underlying benchmark indices. We approached eIQ Capital Partners, which provided seed capital and agreed to build an audited track record of performance. eIQ selected a subset of our 200 global entrepreneurs—based on their additional fundamental screens, liquidity, trading, and currency-hedging constraints—and employed approximately 30–50 positions beginning in August 2005. The positions were not static and rotated as informational updates became available. Most of their long positions had a holding period of 6 months to 1 year, though

in some cases the long positions were held longer. We note that while the hedge fund generated risk-adjusted alpha on their 30–50 positions, their results were not appreciably different (i.e., not statistically significant) from our 200 global entrepreneurs. We surmise that some of the benefits that the smaller hedge fund portfolio (30–50 positions) may have gained from its conviction list were comparable to the gains that our larger (200 positions) theoretical portfolio generated through direct investments in foreign markets (in which the hedge fund did not participate).

The fund also selected 30–50 positions among our worst-performing non-entrepreneurs (deemed “bureaucrats”) to sell short. Our bureaucrats were selected from a separate proprietary model that searches for traits that are the opposite of our entrepreneur model (due to space limitations we will keep this discussion short). Similar to our entrepreneur model, we begin with 27,000 firms and filter down to more than 500 companies for our broad bureaucrat list. We then examined the smaller list on a company-by-company basis to search for the undesirable growth and management characteristics. Consequently, the hedge fund built a long-short equity portfolio based on the desirable characteristics of entrepreneurs and undesirable characteristics of bureaucrats.

#### RESULTS FROM EIQ HEDGE FUND PORTFOLIO

Figures 4–7 reveal the overall results of our eIQ hedge fund, as well as performance attribution contributed by both our long entrepreneur and short bureaucrat positions. The results represent the three-and-a-half-year investment performance from fund initiation in August 2005 to February 2009. We also include the comparative Russell 3000 Index returns and corresponding statistics. We realize that this index is very broad and not often used for comparative purposes. However, our set of global entrepreneurs includes all nine major S&P Industry groups, across a spectrum of market capitalizations in many countries around the world. While the Russell 3000 Index may not comprise a perfect benchmark for these results, we believe a small cap index (such as the Russell 2000), large cap index (S&P 500 or DJIA), or technology index (such as NASDAQ) would be potentially even more misleading. Consequently, we provide a broad-based benchmark for comparative purposes to demonstrate how the portfolio performed against general market movement.

As the data in Table 3 show, the combined long entrepreneur/short bureaucrat models (shown as eIQ) provided a positive return of 4.68%. This compared against a relatively weak overall market period in which the benchmark portfolio (the Russell 3000 Index) generated a negative return of -43.93% (a difference of 48.61%). Although the appropriate benchmark could be debated, other comparable industry benchmarks, such as the DJIA and S&P 500, were also very negative during the same time period. Table 3 illustrates the strong differential in performance over the time period March 2008 to March 2009. While the Russell 3000 Index declined 48.76% during the period of March 2008 to March 2009, the eIQ hedge fund declined only 3.86% (a difference of 44.90%). Moreover, during the tumultuous seven-month period of August 2008

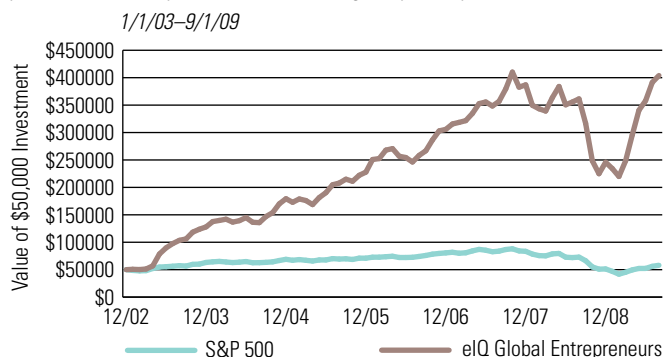
**Table 2: Historical Data of Global Entrepreneur Subsets versus Market Indices**

Sources: CRSP and Capital IQ.

**Panel A**

**eIQ Global Entrepreneur Shares versus S&P 500**

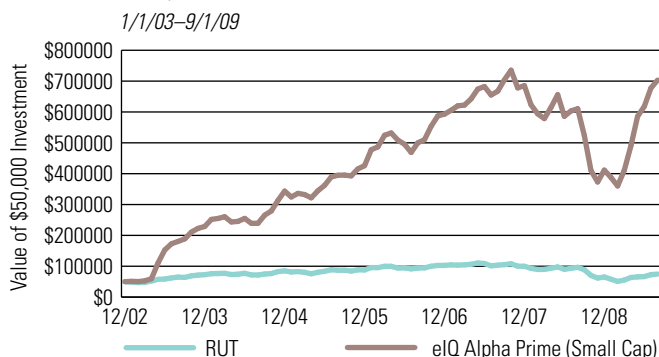
This graph compares the compounded five-year returns of global entrepreneurs (entire data set) against peer benchmarks, assuming an arbitrary beginning \$50,000 investment. The entrepreneurs clearly dominated the S&P 500 (and other peer benchmarks) by a factor of 3–4x during this period (p-value < 0.001).



**Panel B**

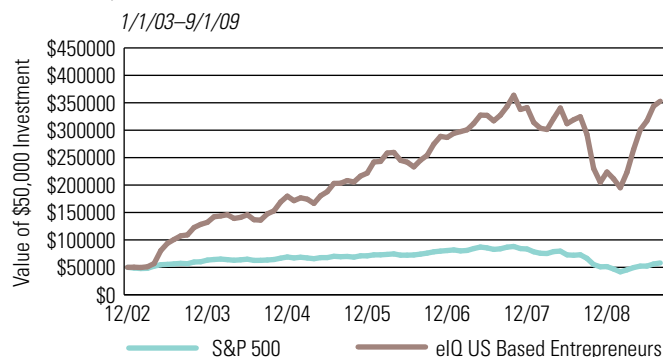
**eIQ Small Cap Shares versus Russell 2000**

Our small-cap entrepreneurs had the strongest performance of all categorizations. Peak outperformance compared to benchmarks was 7–8x, though the gap closed during the recession. Even after the declines, the performance is significantly above benchmarks (p-value < 0.001).



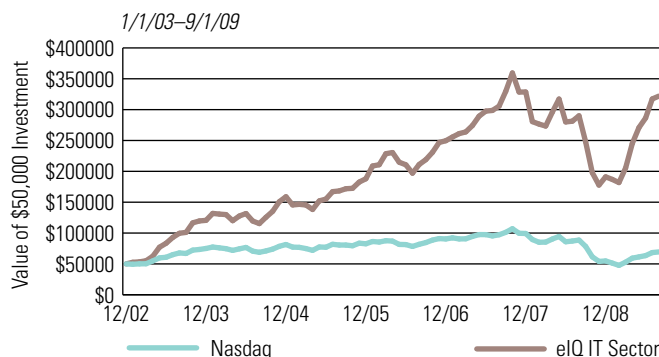
**eIQ US Entrepreneur Shares versus S&P 500**

This graph shows a subset of entrepreneurs and includes only the US companies. While not as strong as the international entrepreneurs (see below), the returns, nevertheless, demonstrate market dominance over the S&P 500 by a significant factor of 3x (p-value < 0.001).



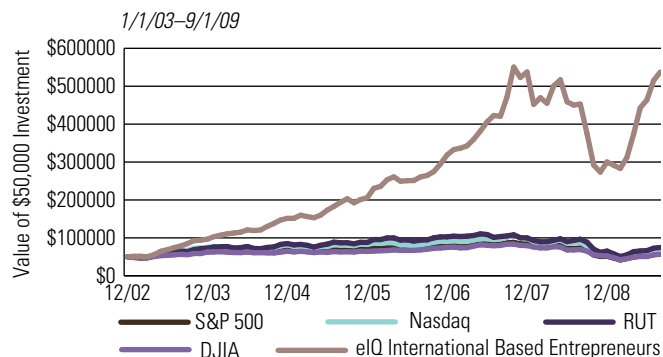
**eIQ IT Shares versus Nasdaq**

We compared the entrepreneur data by industry sector adjusted for market capitalization. In this example, the IT entrepreneurs outperformed the NASDAQ by a factor of 2.5–3.5x. These results were significant (p-value < 0.001).



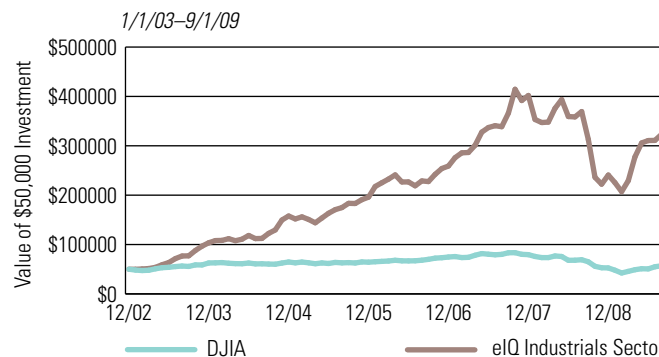
**eIQ International Entrepreneurs versus Major Indices**

The international entrepreneurs had the strongest appreciation but have experienced the sharpest decline during the recession. At the peak, the international entrepreneurs outperformed most major benchmarks by 5–6x. However, the gap has been closing during the recession (p-value < 0.001).



**eIQ Industrial Shares versus Dow Jones Industrial Average**

We tested a number of other industry sectors and compared the large-cap industrial entrepreneurs against the DJIA. In this case the industrial entrepreneurs outperformed the DJIA by a factor of 3–4x (p-value < 0.001).

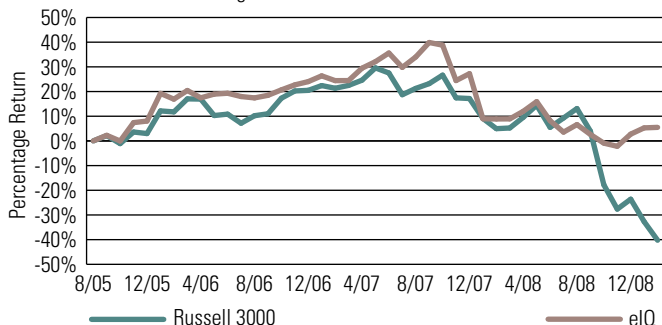


**Table 3: Returns from August 2005–February 2009**

	Jan–Feb 2009	12/1/08– 3/1/09	8/1/08– 3/1/09	3/1/08– 3/1/09	Inception– 3/1/09
eIQ	+1.88%	+7.02%	+1.09%	-3.86%	+4.68%
Russell 3000	-24.09%	-23.02%	-45.07%	-48.76%	-43.93%
Difference	+25.97%	+30.04%	+46.16%	+44.90%	+48.61%

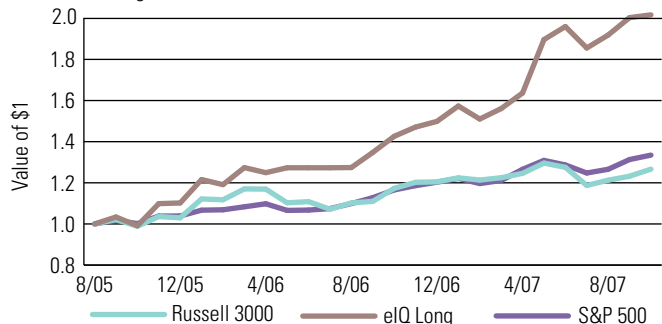
**Figure 4: eIQ Fund versus the Russell 3000 Index—  
Inception through February 2009**

Sources: Infotrac and JPMorgan.



**Figure 5: Long-Only eIQ Fund versus the Russell 3000 Index and S&P 500—  
Inception through October 2007 (Performance during Bear Market Period)**

Sources: JPMorgan and Yahoo! Finance.



through February 2009, the Russell 3000 Index *declined* 45.07%, whereas the eIQ hedge fund actually *earned* 1.09%. Other significant departures include the three-month period of December 2008 through February 2009, which covered the worst January and February performances on record. During those months the Russell 3000 Index *declined* 23.02% and eIQ *increased* by 7.02% (a difference of 30.04%).

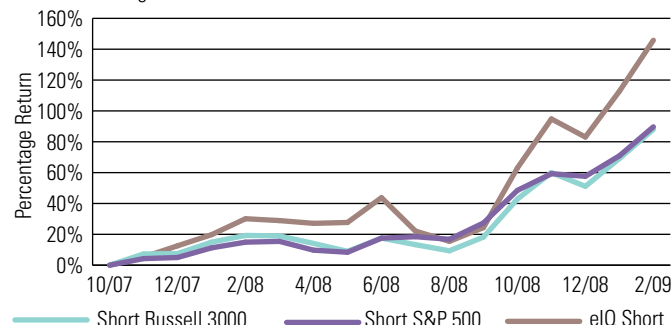
As Figure 4 shows the eIQ fund outperformed the Russell 3000 Index during the majority of the three-and-a-half-year time period. The spread between the two groups initially peaked around the end of the bull market period, October 2007, and then has been widening during the tumult of the bear market in 2008 and 2009.

**Table 4: Regression Analysis of eIQ Fund**

	Monthly	Quarterly	
Annualized Alpha	8.17%	5.34%	
Beta	0.40	0.24	
Correlation	0.48	0.37	
R-Squared	0.23	0.14	
Tracking Error	0.17	0.36	
Information Ratio	0.92	0.44	
Treynor Ratio	-0.03	-0.05	
Jensen Alpha	0.54%	1.16%	
Active Premium	15.68%	16.02%	Source: JPMorgan.

**Figure 6: Short-Only eIQ Fund versus the Russell 3000 Index and S&P 500  
(Performance during Bear Market Period)**

Sources: JPMorgan and Yahoo! Finance.



**Figure 7: Long and Short eIQ Fund versus the Russell 3000 Index  
(Performance during Extreme Market Distress)**

Sources: JPMorgan and Yahoo! Finance.

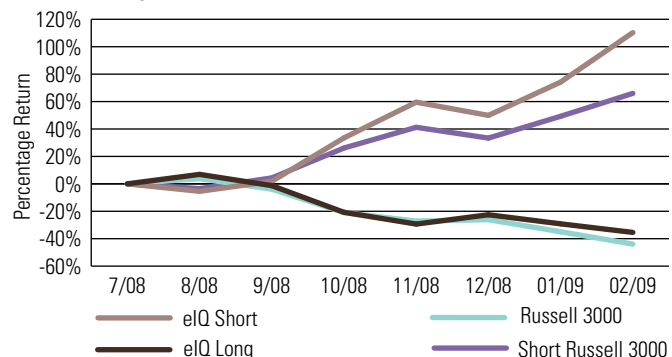


Figure 5 shows the long-only performance of the eIQ hedge fund during the bull market period. This figure helps explain how the overall long-short eIQ hedge fund was able to outperform a long-only index such as the Russell 3000 Index during bull market conditions. As Figure 5 demonstrates, the long-only eIQ portfolio doubled, or earned a little more than 100%, during the time period from August 2005 to October 2007. This performance of the long-only eIQ portfolio entrepreneurs compares very favorably to either the Russell 3000 Index or S&P 500, which earned approximately 25%–35% during the same period. Consequently, the explanation for the overall outperformance of the eIQ long-short hedge fund can be primarily attributed to the investments in entrepreneurs

(long portfolio). The long-entrepreneur investments earned approximately 4 times more than their peer index benchmarks during this period (p-value < 0.001). Moreover, the performance of the eIQ long investments is consistent with the performance of the larger group of entrepreneurs in the hypothetical portfolio.

The performance of the eIQ short portfolio bureaucrats during the bear market beginning in November 2007 reveals important insights. Since we were making observations during a bear market, we used the inverse of the market benchmarks as a “fair” comparison. In other words, we placed investors in the position of either shorting an index such as the Russell 3000 Index or S&P 500 through an ETF (exchange-traded fund) or shorting the eIQ bureaucrat portfolio. The results in Figure 6 show that the eIQ portfolio substantially outperformed the comparable indices (p-value < 0.001). During the 16-month period, the eIQ short portfolio earned a compounded return approaching 146%. The comparable indices would have earned a compounded return of approximately 88%. Since the maximum gain from shorting a stock in a passive short and hold is 100%, the returns, which exceed this amount, clearly reflect active rebalancing. Moreover, given the large outperformance from shorting the bureaucrats during this time period, it becomes clear that the overall hedge fund was able to earn positive returns in a negative market owing to significant alpha generation from the short portfolio.

Figure 7 shows the performance of both eIQ long and short portfolios compared to comparable benchmarks during the period of August 2008 through February 2009. During this period, eIQ generated superior returns on both its long and short portfolios. The alpha generation can be determined by examining the difference between the eIQ long (dark brown) and Russell 3000 Index (turquoise) lines, as well as the eIQ short (light brown) and short Russell 3000 Index (purple) lines. The significance of these results is that both long and short eIQ portfolios have contributed to superior performance during volatile, declining market conditions. Moreover, as shown in earlier figures, the long portfolio contributed significant alpha in appreciating market conditions. Consequently, we find that entrepreneurs in the hedge fund, not unlike the larger group of entrepreneurs in the hypothetical portfolio, provide outperformance in both bull and bear market conditions.

The summary statistics provided in Table 4 demonstrate that the eIQ hedge fund has generated significant risk-adjusted alpha production over its three-and-a-half-year existence. During this time period, the eIQ hedge fund generated an annualized active premium of 15.68% over the Russell 3000 Index. After adjusting for variability, the portfolio generated an impressive, statistically significant annualized alpha of 8.17%. The portfolio beta of 0.40 is very close to the level (0.50 beta) targeted by the fund managers.

#### **SUMMARY: ENTREPRENEURIAL SUCCESS— THE BEST IS YET TO COME?**

Given the recent chaos in financial markets, the question persists whether or not entrepreneurial successes in the past were random flukes or a systematic pattern. If it is a pattern, what would be the

likelihood of being able to take advantage of such information for future application? Our research mission has been to explore these questions and search for unique insight. Ideally, we would be able to discern repeatable anomalous patterns that can be exploited for future economic gain.

We believe we offer good news for investors: Studied over an extended period of time, entrepreneurs as a group, compared against peers in the same sector, market size, geographic territory, and calendar year, have consistently outperformed nonentrepreneurs by a wide margin. Statistical tests supporting these statements, using both hypothetical and actual portfolios, are significant. Further, given the conservative nature of entrepreneurs and their general preference to keep administrative costs modest and to grow revenues organically (rather than through acquisition), entrepreneurial companies may now be well positioned to perform better than ever in the midst of uneasy financial markets.

Our research does not imply that entrepreneurs will outperform nonentrepreneurs every year in every sector in every country around the world. But what it does suggest is that over an extended period entrepreneurs outperform nonentrepreneurs in most major categories and sectors. Moreover, though our data indicate that there are some years in which nonentrepreneurs equal or exceed the performance of entrepreneurs, there may still be greater incentive to invest in entrepreneurs, as in subsequent years entrepreneurs have outperformed nonentrepreneurs by a wider margin. Historical data are no guarantee that statistical patterns will necessarily continue with the same force as in prior periods, though if history is any guide, exceptional rewards may await those investors willing to brave uneasy market conditions. Our recommendations to investors suggest that they should bet on entrepreneurs. Successful entrepreneurs seem to have a knack for knowing how to win—in both good times and bad.

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