Private Equity Partners | market update

4th Quarter 2008

Introduction

Over the last two decades, private equity investments (VC and LBO) have become an increasingly important component of institutional investors' portfolios for two primary reasons:

- Top quartile private equity returns have generally outperformed top quartile public debt and equity returns by a wide margin, and
- The low correlation with public debt and equity returns provides important diversification benefits.

We expect private equity's appeal to continue, likely even strengthen, in the current investment cycle because (1) we believe the above reasons will remain true, (2) investors have few investment choices that are likely to bring them a satisfactorily high return in this very dislocated market (e.g., the 10-year average return for the S&P 500 is now negative) and (3) private equity investors have the ability to directly create value in their investments through active management efforts, enhancing private equity's appeal compared to many other asset classes whose valuations seem far too often to be at the mercy of exogenous events. The private equity industry, to be sure, is not without its own challenges. But on balance we believe private equity funds—particularly certain classes of funds—are very well-positioned for this environment. More on that in a moment.

Piper Jaffray has been in business since 1895 and investing in private equity since 1980. The firm now stands as the fifth largest independent investment bank in the US and operates using less than 2:1 leverage. The firm has 28 offices in North America, Europe and Asia.

We formed the Private Capital team nine years ago to act as a long-term, global private equity investor, both as a fund of funds and as a direct investor. We have built an astute, experienced and nimble team that is dedicated to serving our clients' needs and to identifying and accessing top managers and direct investments worldwide. Our team's capabilities and insights are augmented by the industry sector, valuation, capital markets and global insights of the firm's nearly 300 equity research analysts and investment bankers. We are well-positioned for the opportunities and challenges that lay ahead.

We segment our efforts into three broad categories:

- Leveraged buyout (including distressed and special situations),
- Venture capital, and
- CleanTech.

Given the significance of the global credit crisis, market turmoil and current investor uncertainty, we thought it would be helpful to convey our observations about the private equity landscape.

General Private Equity Comments

Right now, precisely this moment in time, is a very good time to begin making new commitments to high quality private equity teams. Do not mistake anyone of us for Pollyanna. We are being pragmatic. Take the emotion out of it and look at how low valuations are today. If we have an overarching piece of advice it is this: stick to your long-term investment allocation policy and begin anew making intelligent investment choices grounded in fact and historical context.

Returns expectations

1. **Looking forward**: Expectations for private equity investments being made today are very, very good based on our experience and historical returns data from past recessionary periods. Many good managers have proven their ability to generate strong returns across market cycles, but their greatest successes have come during times of market dislocation like we have today.
2. **Looking backward**: Expectations for private equity investments that are in the incubation stage are now generally lower than original expectations. There are exceptions, but many companies are facing near-term headwinds and some will not survive this downturn. The survivors should take longer to reach liquidity and therefore produce lower IRRs than they would have produced in a "normal" environment.

Private Capital

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Current conditions and 2009 challenges for all private equity firms

1. Let's start with the obvious. We are in the midst of a global economic downturn. We, therefore, expect portfolio companies' revenue growth to slow and this will be widespread.

2. Reduced number of liquidity events compared to historical averages. Many of you already are acutely aware of this slowdown in 2008. We expect this to continue well into 2009, and perhaps beyond that.
   a. Few, if any, IPOs. (There are pros and cons to this—see Opportunity #2 below for one benefit.)
   b. Reduced M&A activity in the first part of 2009 and then perhaps an uptick as sellers' expectations adjust downward to match buyers' expectations, which are naturally quicker to reset after an economic downturn. Mitigating factor: many corporations that historically have been active acquirers have significant cash reserves and could become active acquirers again in the near future.

3. Slowing investment pace in the short-term as managers conserve cash and triage existing portfolio companies.

4. Strong co-investors are a must in this environment. Private equity managers are beginning to worry that syndicate partners may run out of capital and be unable to infuse capital into follow-on rounds for their portfolio companies. Given the onerous "pay to play" or "cramdown" provisions of typical private equity deals, in this environment this issue could create a real opportunity for syndicate members with dry powder; at the expense of those members without it.

5. However, capital is, and will continue to be, available for high quality portfolio companies at all stages of maturity.

6. Finally, the ability to find and access the best managers for this environment—not just the well known firms—are as important as ever.

Opportunities

1. Increased number of distressed and special situations opportunities.

2. Increased number of late stage opportunities (and at favorable valuations) as companies that need capital and were counting on an IPO to provide it must now obtain new investment capital elsewhere to maintain their operations. This opportunity arises out of Challenges #2 and #4 above, which shows that one person's challenge often is another person's opportunity.

3. Increased number of secondary opportunities. Much of the anticipated opportunity will be technical in nature, created by the combination of the new mark-to-market rules and forced secondary sales resulting from some institutions inadvertently becoming over-allocated to private equity as the values of their public equity and other holdings have decreased precipitously (the so-called "denominator effect"). Banks will add to the supply as many of them are expected to be forced sellers in Europe and the USA to meet regulatory capital requirements. We see secondaries as a particularly big opportunity for our team but not until after yearend valuations are known. Usually yearend numbers become available in March and April. We expect significant mark-to-market battles between auditors and management teams this year so we anticipate delayed reporting of 2008 results. ***We would be extremely cautious about buying secondaries today***, as we believe the private equity community in general has not yet fully marked down their portfolios to reflect current comparables or revised projections. We are observing some discounts to June 30 valuations in the 10-40% range. Often times, these are not deep enough discounts, as we expect yearend private equity valuations to take into account the 2H 2008 stock market decline and therefore be generally much lower than the June 30 levels. Buying secondaries too early in a declining market can be disastrous. As a result, we don't expect appropriately attractive secondary buying opportunities until later in 2009 when yearend 2008 valuations become known. One other point of caution: this will not be an exact repeat of the boom times that secondary buyers enjoyed in 2002. Today, underlying portfolio companies are more highly levered and we believe more companies in this upcoming pool of secondaries are likely to be worthless and more dedicated secondary funds will be competitively bidding for them so the discounts may not be steep enough to achieve ample returns. The upcoming secondary cycle looks attractive at first but a lot of uncertainty remains about how good or bad returns from this cycle will be.

Buyout Update

Our forward-looking recommendation in three words: smaller is better. Generally, we believe experienced teams with small fund sizes that are implementing a lower middle market investment strategy are best positioned today. We think investors should be seeking highly motivated, disciplined teams who are focused on generating an outsized return; not just on raising a bigger follow-on fund. Further, the current cycle will expose those buyout firms who rely primarily on leverage and financial engineering to produce their returns. Said differently, the ability of a firm to directly enhance company operations is of critical importance today, whether it be via industry expertise, the implementation of information systems, supply chain improvements, personnel upgrades, the formation of pooled buying consortiums or other means.

Additional comments by segment:

1. **<u>Mega LBOs</u>**: This sector faces tremendous headwinds because the credit markets are shut down to bigger deals that require a lot of leverage. Typically, these deals require a syndicate of banks. The big syndicate banks are in no mood for big new deals. The IPO window was open in 2007 for LBO-backed deals providing plenty of liquidity and quick homeruns; not so today. Similarly, the leveraged recaps of 2006-7 are ancient history. Many of the big firms are saddled with problem portfolio companies and are focused on salvage and repair efforts. This drains resources for new deal activity in what could otherwise be a good deal environment. Furthermore, and perhaps more central to our thinking, is that there is a significant misalignment of interests at many of the mega buyout firms. Fund sizes for the mega firms have quadrupled in 10 years, as have management fees (and possibly egos). If an individual partner can make millions a year solely from the management fee, maximizing the investment return and thereby the carried interest fee would seem to wane in terms of priorities. When a firm gets into "asset gathering mode" and is no longer focused primarily on generating an outsized return for its investors, it is time for LPs to head for the exits.

2. **<u>Middle Market</u>**: This sector also faces an uphill battle. GE Antares Capital, named Middle Market Lender of the Year by *Buyouts* magazine, recently decided to cease lending through at least the end of 2008. We expect other lenders in this segment to do the same and we all know you can't do leveraged buyout deals without leverage. Further, we have seen too many generalist firms buying companies at auction in the middle market, as opposed to finding deals on a proprietary basis. We fear these generalists are significantly overpaying for their portfolio companies, making it difficult for them to meet their LPs' return expectations. In contrast, we believe that industry specialists (e.g., tech- or healthcare-

focused LBO firms) can generate attractive returns today. They are finding or even creating proprietary deals and at sensible valuations. They also hold an advantage over generalists when competing for companies within their area of expertise, as management tends to side with the team that demonstrates the greatest ability to grow the company post-acquisition.

3. **Lower Middle Market:** This sector is best situated for new deal activity and promises great returns if you invest with experienced, highly motivated teams that generate proprietary deal flow. Deals in this sector can still get done but on a more selective basis than a year ago. Generally speaking, credit is available for deals that require less leverage, are smaller in size and where banks don't need to syndicate their loans. Our primary focus for new investments is in lower middle market firms with small funds in the US and Europe and certain other geographic areas like Canada, China and the Nordic countries.

Valuations and Investment Pace: Buyers have reset expectations; not all sellers have though. This will slow down the investment pace in the near-term until both sides agree as to where valuations have settled under today's new conditions.

Timing: Historically, good buyout funds tend to generate their best returns in the vintage years immediately following recessionary environments. For example, the early 1990s and 2000s produced very attractive returns. Top quartile returns for those periods are 1992: 29.8%, 1993: 25.9%, 2002: 29.9%, and 2003: 26.7%[1].

Distressed Funds: We include distressed funds within our LBO fund of funds strategy, so a brief note on distressed funds is appropriate here. LPs and GPs began prognosticating about declaring a boom time for distressed funds in 2006. They were wrong. The prognostications grew louder in 2007. They were too early. Distressed markets are interesting right now but pricing is still unstable and could drop further. It is better to let a falling knife hit the floor, than to try to catch it on the way down. LPs should move prudently in this sector and align themselves with patient GPs who have experienced similar market cycles. We also think that firms with an ownership mentality (buy it, fix it and then sell it) are preferable to firms with a trader mentality (buy it and flip it).

In summary, we believe now is a great time to make new commitments to buyout funds. That may seem counterintuitive at first but then becomes obvious based on historical returns data parsed from different economic cycles. We believe the best investment opportunities are with (1) lower middle market firms that have highly motivated teams, demonstrably proprietary deal flow and relatively small fund sizes, (2) industry specialists with small or mid-sized funds and (3) experienced distressed managers who apply an ownership mentality to their portfolios.

Venture Capital Update

We see opportunity across stages, industry sectors and geographic regions. As a general rule, we view teams with smaller fund sizes as better positioned in this environment. While the demise of venture capital (as pronounced by Sevin Rosen some time ago) has been greatly exaggerated, we do believe that market conditions require a re-tooling of many venture firms and for other firms to leave the playing field. The universe still consists of too many managers. Further, too many managers are raising funds that are bigger than warranted for today's environment. Valuations have decreased overnight. The IPO window is closed. There are too many "me too" companies being funded and all of them can't possibly get liquid in these conditions. Many established managers are raising increasingly large funds, making their new fund sizes inconsistent with their previous funds and/or prior investment strategies. Further, many managers are now investing in 30 or more portfolio companies per fund, such that their partners are stretched too thin and no longer can devote adequate time to build each company. The arrogance factor is high. The alignment of interests between GPs and LPs is gone at many previously successful VC firms where GPs are being handsomely compensated by a 2-2.5% management fee on a very large pool of committed capital. At such firms, the GPs too often are no longer sufficiently motivated by the carried interest fee. We are unabashedly cutting managers who have moved into this category, including big name firms.

Additional VC comments ordered from positive to negative

1. Late stage investing is entering what will likely be a terrific vintage. With the IPO market closed, the need for additional capital will reduce valuations.
2. China presents a great opportunity for experienced managers. While exporting their products to the rest of the world is attractive, the domestic market alone creates a landscape for outsized returns. Our funds are directly benefiting from this through investments in companies like Bio Fan, China Hydro and ET Solar.
3. Digital Media represents an incredible opportunity if capital efficient models are employed (e.g., Facebook, LinkedIn and Pandora).
4. The number of US-based VC funds continues to decline as underperformers are increasingly unable to raise new funds. We view this favorably, believing there were too many VCs competing for too few good deals and that this was hurting returns across the entire industry. The number of VC firms worldwide is growing, which we believe is generally a good thing as most overseas markets are in need of growth capital that only VCs can provide.
5. The public markets are closed. In the first nine months of this year, 77 companies withdrew their IPOs in the USA, 19 in the third quarter alone (source: Bloomberg). Through September 30, 2008, 46 companies went public, down from 227 during the same period in 2007 (source: Piper Jaffray Capital Markets).
6. Capital intensive VC deals will struggle as growth slows, new debt or equity becomes harder (or impossible) to obtain and the public markets cannot fill the void.

In summary, we think the VC industry has its challenges, but there are good return opportunities if you know what to look for and can access the right funds. Best opportunities are: (1) disciplined late stage investors with mid-sized funds, (2) seed and early stage managers with experience and small funds, and (3) VCs in select regions like Asia that utilize time-tested VC investment principles and grow companies through significant direct interaction with management.

CleanTech Update

As stated above, we are long-term, global private equity investors. While securities markets are in turmoil at the moment, the world simultaneously is experiencing a major transformation in the energy, water, transportation, building materials, lighting and agriculture industries in response to global population changes, increasing resource demands, national security interests and concerns about global warming. CleanTech has become an economic growth driver. ***We believe CleanTech represents the biggest private equity investment opportunity today but unlocking top CleanTech returns requires at a minimum: (1) an experienced and knowledgeable team, (2) substantial research capabilities and (3) a healthy dose of pragmatism (or perhaps skepticism).***

[1] Source: Venture Economics, as of 6/30/08.

We believe pureplay managers—those who focus all or most of their investment efforts on CleanTech—best understand the opportunities and challenges associated with this transformation and are going to reap the biggest investment returns from it in the near-term. Generalist VCs are significantly behind the learning curve, with the vast majority of them taking too much technology risk in early stage companies or paying too much for follow-on rounds in more mature companies.

Also, we see the election of Obama as a net positive for CleanTech investors as he and other Democratic leaders are strong advocates for CleanTech. Collectively they have voiced their determination and intent to, among other things, (1) increase the amount of electricity generated by renewable sources (solar, wind, geothermal, wave, tidal, etc.), (2) expand the production and use of biofuels, (3) upgrade the electricity grid in the USA to handle the shift to electric cars and to provide the necessary infrastructure to increase the supply of electricity that can come from renewable sources, and (4) reduce CO2 emissions through a carbon tax or a cap and trade system in the very near term. As for this last point, the USA may be better following China's lead of providing tax incentives to utilities, businesses and consumers that go green (see 3b below), rather than taxing them in this economic environment or imposing inherently flawed, often fraudulent, wealth transferring cap and trade systems.

Effects of the Global Financial Crisis

1. Expect valuations to decrease on existing investments due to mark-to-market rules. Some of these decreases will be merely temporary.
2. Good news for late stage and growth equity CleanTech firms because companies needing cash now will be forced to do additional private rounds – many of which will be at lower valuations than the prior round.
    a. Note that only two CleanTech companies went public YTD in the USA (GT Solar and Energy Recovery). GT Solar was backed by one of our underlying managers. AIM and the Toronto Exchange each had only one CleanTech IPO so far this year. So the IPO window has narrowed significantly for even the CleanTech sector.
3. Bad news for project finance deals that need cheap debt and tax equity financing
    a. Solar farms, wind farms, biofuels plants, solar panel and battery manufacturing plants.
        i. Debt and tax equity financing has largely evaporated,
        ii. Cost of debt, when it can be found, is now quite high,
        iii. Many projects that were underway have been mothballed and the IRR meter is now running backwards on them,
        iv. New projects will be shelved, and
        v. There is a big opportunity for investment teams that can raise capital and administer tax credits for these deals.
    b. Exception: China, where the government is actively providing financing to these projects and promoting (even directly funding) the adoption of CleanTech solutions throughout its industrial base, presenting an amazing opportunity for certain VCs. Anecdotally, China is now actively pushing its high-polluting but low-margin businesses such as leather tanneries and textile businesses to surrounding countries like Vietnam.
    c. There is speculation that by mid-2009, the Department of Energy may begin to provide project finance funding or guarantees to areas deemed to be high priorities, but there can be no assurance this will happen.
4. Pretenders/wannabees/political animals/overly optimistic are going to be exposed in this cycle (both companies and VCs)
    a. This is good news. Weaker VC funds won't get funded, which will further alleviate upward pressure on valuations and reduce the "race to the bottom" on term sheets submitted to companies like those we saw in late 2007/early 2008.
    b. Similarly "me too" companies won't be funded, enhancing profitability prospects for high quality companies.

Where do we see opportunity?

1. Generally in later stage, revenue generating companies…but preferably via "A" rounds
    a. Example: our recent direct investment in Ecore International, which makes commercial and industrial products from recycled tire rubber. The company has a 20-year operating history, a veteran management team and is solidly profitable and growing.
    b. Also seeing good "B" and "C" rounds at reasonable valuations as discussed in #2 above.
2. Investment opportunities are geographically diverse, much more so than traditional tech or healthcare VC opportunities. We favor the USA, Canada, China, Israel and Europe.
3. Interesting industry sectors: (1) energy storage (primarily in batteries and hydrogen rather than flywheels, compressed air or pumped hydro storage), (2) energy efficiency (HVAC, electric motors, optical coatings), (3) waste to energy from landfills, mines or wastewater treatment plants, (4) water purification (municipal and decentralized), (5) wastewater treatment, (6) electric transportation (and related systems like motors, batteries, regenerative braking and battery control modules) [Ed. note: A subsidiary of Warren Buffet's Berkshire Hathaway recently invested approximately $230 million in BYD, a Chinese manufacturer of rechargeable batteries, automobiles, electric automobiles and related products], (7) building materials, (8) agriculture advances (particularly in irrigation), (9) service businesses, (10) solar (various forms but caution is warranted as the technology is evolving, subsidies are in flux and competition is growing) and (11) wind (especially small form-factor turbines and systems that reduce installation costs).
4. Particular areas of little or no interest: biofuels, carbon offset and trading deals, any capital intensive business and concentrated natural gas (CNG) powered transportation systems (sorry Mr. Pickens).

Note: There is no single CleanTech "silver bullet." Many new technologies are required and many new categories will be created. Further, there will be multiple winners within each category (e.g., multiple battery manufacturers in the electric car segment and several different effective technologies utilized in the wind and solar sectors).

In summary, we think the CleanTech sector is better positioned to generate outsized returns today than any other private equity category. The world is experiencing a major transformation in the energy, water, transportation, building materials, lighting and agriculture industries in response to global population changes, increasing resource demands, national security interests and concerns about global warming. The need for investment capital is geographically distributed. We believe the best opportunities are in late stage, revenue generating companies (in contrast to early stage companies with technology risk). Tremendous gains will be made by knowledgeable and disciplined investors. Tremendous losses will be incurred by others. We hope you will partner with us if you are thinking about investing in this exciting sector.

Conclusion

We hope these observations, opinions and experience-based predictions are useful to you as you evaluate your current and future private equity needs. We would be happy to discuss any of the matters set forth herein in more detail with you personally and such meetings are scheduled through Gretchen Postula (gretchen.s.postula@pjc.com).

Keep your head up and your stick on the ice.

The Private Capital Team,
Scott, Danny, Mike, Mark, Gretchen, Denise and Staff

Investments Underway for Private Equity Partners IV

PEP IV affords investors the opportunity to access highly sought after Venture, LBO or CleanTech managers through fund of funds structures. PEP IV also offers a Direct Investment fund that is strategically positioned to invest alongside the top CleanTech managers worldwide, as well as in other proprietary CleanTech investment opportunities. Investors may allocate their capital to any of these four components.

PEP IV highlights:

- VC Fund of Funds
  - Emphasis on small, capital efficient managers, select late stage funds and international exposure focused on China
  - 4 commitments have been completed
- LBO Fund of Funds
  - Focus on smaller funds doing lower middle-market buyouts plus appropriate exposure to Europe/Asia and distressed managers
  - 2 commitments have been completed
- CleanTech Fund of Funds:
  - Follow-up to the first U.S.-based CleanTech FFs, which we launched in 2005
  - Global in scope, emphasis on late stage, growth equity and buyouts
  - 5 commitments have been completed
- CleanTech Direct (co-investment) Fund:
  - Growth equity focus, low/no technology risk, often revenue generating, global in scope
  - 2 investments completed and numerous other deals under active review

The next closing is scheduled for December 5. If you would like additional information about PEP IV, including information on the commitments made to date, please contact Gretchen Postula at (612) 303-6331 or gretchen.s.postula@pjc.com.

Upcoming Events

We are regular speakers and attendees at key industry conferences. We hope to see you at upcoming conferences:

- **November 20-21, 2008:** Ernst & Young's Israel Green Economy Conference 2008 in Tel Aviv, Israel
  www.ey.com/global/Content.nsf/Israel/CleanTech_Conference_2008
- **January 21-22, 2009:** 5th Annual Clean-Tech Investor Summit in Palm Springs, California www.cleantechsummit.com

Piper Jaffray was established in 1895 and has grown to become a nationally and internationally recognized firm serving growth companies and growth company investors. We have a significant commitment to alternative assets through our series of fund of funds and direct investment program.