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Valuation of Chinese companies
The perspective of the private equity industry

White paper
in association with
Zero2IPO and BDO

Contents

Foreword

Dear readers,

This is the second study conducted on behalf of the Deutsche Börse-CMS "China-Europe Private Equity Roundtable". Our first white paper entitled “European investors' exposure to Chinese private equity” gave an overview of general considerations for European investors approaching the Chinese private sector industries via Chinese private equity and venture capital fund managers.

In the meantime the Chinese capital market has evolved further, and investments in small and mid-sized enterprises are entering a new phase of development.

China's economy, while still on the growth path, has slowed in 2012 – GDP growth dropped to 7.4% in the third quarter of 2012. As a consequence business models, in particular those of private sector companies, are being challenged.

Moreover, the IPO channel for small and mid-size companies appears to be quite narrow for the time being, and price/earnings ratios of listed companies have decreased significantly.

Thus private equity and venture capital investors are becoming more and more cautious. Price negotiations with entrepreneurs have become increasingly tough, sector focuses have changed and exit strategies are under scrutiny.

In this environment investors have to cope with the art of valuation of Chinese businesses. This paper confirms that valuation methods in China are quite different from Western patterns.

Our special thanks goes to Zero2IPO, our research partner in China, for giving an overview of recent market developments in the Chinese private equity and venture capital industry, as well as to BDO for their incisive views regarding valuation approaches.

Lastly, we are thankful for the support of Karl Olbert, who conducted the research in the first part of the study.

The China-Europe private equity roundtable network, which we have built up over recent years enables us to follow up on market trends in particular, bringing the views of European investors and Chinese fund managers together. We are thankful for the openness and trust of our network partners in China and Europe.

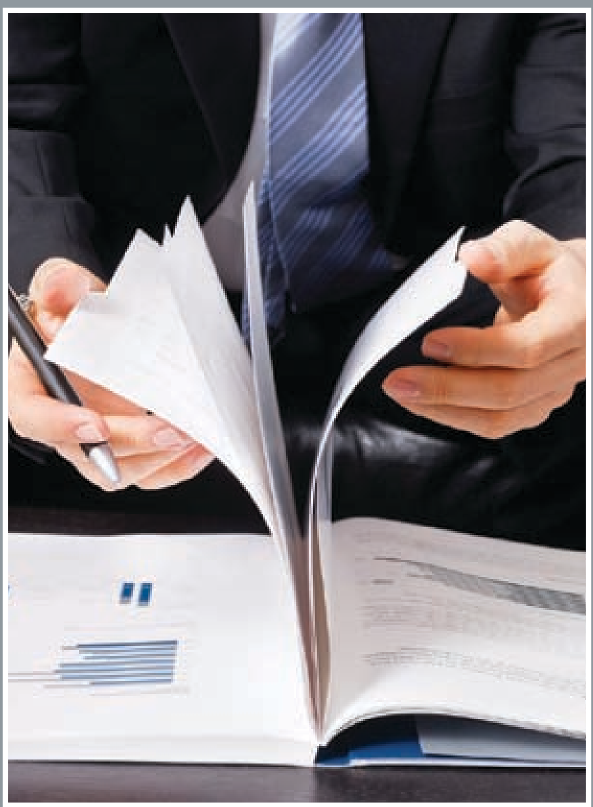
Once again, we hope that our study contributes to more transparency and better understanding of the Chinese private equity and venture capital industry. China remains one of the most important and promising markets for investors around the globe. As has happened elsewhere in the Western capital markets, China will undergo a consolidation in the private equity and venture capital world. And certainly it is only the fittest who will survive.

Volker Potthoff　　　　Alexander von Preysing

Our study

The following study is in three sections.

- First we discuss key aspects of the valuation of target companies based on interviews with market participants.
- In the second part, Beijing-based private equity research group Zero2IPO provides a detailed analysis of private equity and venture capital investments[1] in China over the past few years.
- Thirdly, the international auditing company BDO AG, from Hamburg, delivers insights into valuation methodology and procedure from an auditor's point of view.



Executive summary

Over the past 15 years, China has seen a considerable increase in assets under management, investments in target companies, as well as in the number of both domestic and foreign private equity managers. It is now fair to say that the private equity industry has become an important provider of capital to the private sector in China in general, and that, furthermore, it exercises a significant and growing impact on the broader Chinese economy.

There are now more than 5,000 private equity companies active in China. Since 2006, an aggregate amount of $126bn has been invested by private equity and venture capital managers[1] in a large number of mostly small to medium sized growth-oriented companies. This investment has been spread across many industry sectors and over large parts of the country. Over the same period $261bn has been raised by the private equity and venture capital industry from international as well as domestic investors. Since 2009 it has been RMB funds attracting the most capital.

Growth of the private equity industry in China

After years of rapid growth we expect a consolidation of the private equity industry with respect to its market participants. The market as such will continue to expand.

The valuation of target companies depends largely on the valuation of the IPO market in China, which even after a substantial decline over recent years, is still rather high in an international context. Thus entrepreneurs can expect high entry prices for their companies from the private equity managers.

Private equity-backed IPOs

A large number of companies have become used to the long queues for private equity-backed IPOs in China. The question is, though, whether the exchanges can continue to support the current level of IPOs induced by the private equity industry. In order to solve the backlog, alternative exit avenues such as trade sale and secondary sale may need to be further developed.

Note: 1. For definitions of private equity and venture capital, please see Footnote 1 in the article 'Private equity investments in Chinese companies – a market analysis' on page 12.

Valuation methods
For the valuation of companies by private equity managers the comparison with price/earnings multiples is the most popular method, but they also use a variety of other more-or-less-sophisticated mechanisms. The most demanding task remains to establish the proper financial basis for the calculation of company value; that is to say, to check the correctness of the financial statements and forecasts. Financial statements have to be controlled very thoroughly.

Due diligence
In an international context, the due diligence process in China is key. Essentially, everything has to be called into question or challenged. GPs have to execute the due diligence with a degree of precision and focus uncommon in Europe.

Ownership structures
Private equity managers normally acquire only minority stakes in family-run businesses. Naturally, their influence on the company's performance is likely to be limited. In this context the purchase price becomes very important, especially in terms of securing a return on the overall investment.

Industry standards
- Many GPs in China do not apply common international valuation standards.
- However LPs are, it would appear, interested in a wider introduction and use of standards such as IPEV or ILPA. Their application should also be better adhered to by the GPs. This is also true of reporting standards.

Capital markets
- The capital market in China is still on a development path. Information is not readily available and more difficult to gain. This makes the experience of the manager and his network even more important in China than it is in the West.

- There is a wide variation in quality with respect to the valuation process and result, mainly due to the unusually rapid growth of the industry. This situation would need to improve in order for capital to be better allocated within the economy.

Ongoing challenges
- In the current environment one of the biggest challenges for GPs is the negotiation of a reasonable price with the entrepreneur for a stake in his company.

- The experience of the GP, the added value he can offer to the target company, and particularly his negotiation skills, should help contribute to a successful outcome.

- Many GPs want to avoid volatility and dependence on stock markets. They will increasingly consider alternative valuation methods and exit channels, for example trade sales and secondaries.

Introduction – private equity starts and finishes with cash

Last year's report looked at European investors' exposure to private equity in China. This year the focus is on how private equity managers and investors work out the valuation of target companies.

The basis of any valuation is, strictly speaking, the financial statements and relevant forecasts; that is to say, it can be expressed in purely numerical terms. But this definition would not do justice to all the subtleties involved, and would not fully explain how the result of a valuation, essentially a price-building process, actually materialises. Ideally, further aspects, such as due diligence need to be taken into account.

In its short history of about 15 years, the private equity industry in China has seen an enormous increase in assets under management, investments in target companies, and domestic and foreign private equity managers.

There are now more than 5,000 GPs active in China, three quarters of which are domestic. The introduction of RMB funds, in particular, has led to dynamic growth within the industry over recent years.

Initially, mostly domestic players offered RMB funds, but there are now also international groups involved, particularly from the US, which manage both USD and RMB funds.

Thus, competition is increasing in an environment which itself brings new challenges. "Many LPs in China are not long-term LPs," notes Joe Chang, head of Hong Kong office at SCM Strategic Capital Management.

With $261bn of capital being raised and aggregate investments of $126bn since 2006, the private equity industry has become a key provider of capital for the private sector in China, particularly for small and medium sized companies across a tranche of industries.

Private equity is also increasingly seen as an important motor for the private sector and for liberalising the Chinese economy. It is revealing, therefore, to examine the preferred industry sectors by capital allocation, something which the Zero2IPO research does later in this report (see page 12). Entrepreneurs have taken advantage of the high equity valuations available on the domestic exchanges, and this has led to inflated expectations of what a realistic price is when negotiating for a stake in their own company with a GP.

Methodology

- The following study is based on the analysis of a series of extended expert interviews over the past months with experienced market participants. The interviewees expressed their personal views and remained anonymous unless they agreed to be quoted in this study.
- With the background of an intensive screening of the market, long-term experience in the industry – including regular visits and knowledge on the ground – we selected an adequate number of representative private equity managers, including fund of funds managers from China as well as Europe, most with offices in China.
- We also interviewed large European investors, such as family offices or institutional investors, for example pension funds. The interviews were conducted partly at offices in China and partly over the phone.

In terms of price/earnings multiples, what is clear is that while the average multiple has decreased from 60x, in 2010, to 48x, in 2011, and 30x, by the end of Q2 2012, this is still relatively high by international standards (see chart on page 8).

Capital allocation issues

This leads to a situation whereby asset managers are forced to compete with each other to find attractive investment targets, which, in turn, raises concerns about whether capital is being properly allocated.


Private equity investors are bound to question whether the price can enable them to achieve their expected return on investment. The dynamic growth of the private equity industry produced different results – good and professional equity managers and less good ones. It is arguable whether the short time period was sufficient to train such a large number of specialists appropriately. In the beginning experienced people, often Chinese trained in the West, particularly in the US, entered the market working for subsidiaries of the big international private equity companies and subsequently started their own private equity businesses.

But meanwhile most are now local companies with local specialists with less of an international background. From 2007 onwards there has been a big jump in quality as the market became tougher. But particularly over the past few years many private equity companies came new to the market.

The motivation for the entrepreneur to sell a stake in his company to a private equity manager is often quite a straightforward one, as he will not receive more credit from his bank or other sources for his business expansion plans.

The IPO channel

At the same time the expectation of an IPO in future – still by far the number one exit route for private equity in China – is tempting because this improves the publicity for the company and its owners, leads to easier access to credit, and improves the relationship with local governments. However, currently a large number of private equity-backed companies are preparing for an IPO in China, which has led to a long queue. In addition, international IPO markets are less accessible due to regulatory restrictions with regard to offshore listings.

The question arises as to how this situation can be improved and how the exchanges can cope with the sheer quantity of IPOs induced by the private equity industry. Alternative exit avenues like trade sale, secondary sale, and other M&A activities have to and will be developed further by the industry.

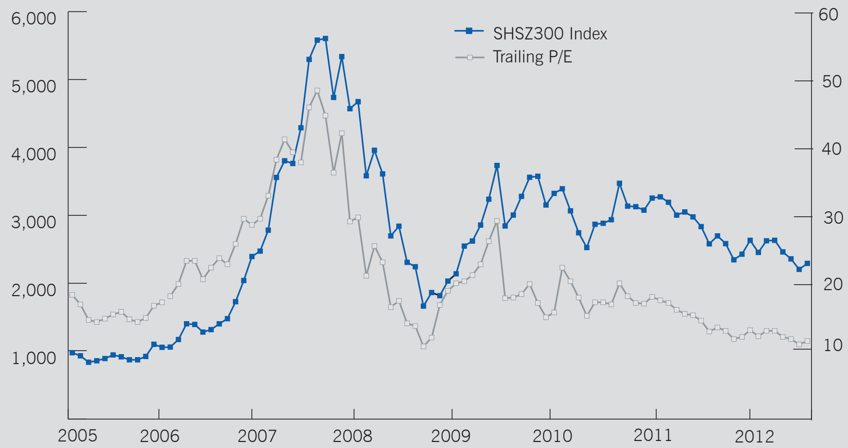
The first generation entrepreneur does not want to cease his activity. As a consequence he is only prepared to sell minority stakes. The entrepreneur wants to see his company, often his life's achievement, still connected with his name and family. This is also true later when the company will be listed on the stock exchange.

The purpose of this study is to better understand the valuation and price-building process of companies and identify where the challenges are.

We regard the private equity industry as an important and valuable catalyst for further growth of the private sector in China, and for the development of domestic capital markets there and beyond.

Valuation methods and standards – it is mainly an art

SHSZ300 Index and Trailing P/E



Source: CICC Research

Note: SHSZ300 Index is the left-hand scale and Trailing P/E the right-hand scale.

When talking to private equity managers about the valuation of investment targets in China you will find there are no easy answers.

Most managers normally look at the audited financial statements of the past three years and they compare similar peer companies which are listed at the stock exchange with respect to their price/earnings ratio, possibly with an adjustment for the size of the company or other facts.

If there are no comparable enterprises listed, non-public transactions may be a guide. However there is little transparency in the transaction market and it is difficult to find adequate data.

Many of the international and well established domestic groups also take other factors into account like enterprise value, the EBITDA multiple (Earnings Before Interests, Taxes, Depreciation and Amortisation) in comparison to publicly listed companies, but also previous transactions globally and in China.

As the market is not transparent and many data are not publicly available, the bigger groups with their expert networks have a natural advantage.

Additionally, in the absence of further information or for certain industry sectors the enterprise to book value is being chosen by some managers.

Discounted cash flow models are rarely used, and deemed highly subjective, and the result varies strongly from any minor change in the assumption.

There are managers who want to look at the valuation independent of the stock exchange valuations. With price/earnings ratios being very volatile and highly divergent from stock exchange to stock exchange they try to avoid the common price/earnings multiple approach.
One way being practised would be to base the valuation on tax adjusted net profit numbers and calculate with their internal rate of return and cash multiple targets. These two targets can be conflicting with respect to the holding period of the investment.

Normally the companies only have a short history of high growth, and the sustainability of these growth rates is unclear. Future earnings projections, which should be in the range of 3 to 4 years are seldom available and have often been produced just for the GP, not for the business.

Sorting out tax issues was often mentioned as a common problem, also with respect to a future listing, which otherwise would not be possible.

Therefore, the quality of the financial statements which are available for checking, investigation, and valuation are big issues for GPs. Only a deep and thorough due diligence process will provide the necessary information and trust. However, it is not a panacea, and it is the quality of the financial statements, together with the experience and professionalism of the private equity manager that ultimately contribute to a good valuation process and result.

Following the rapidly increasing number of GPs to currently more than 5,000 companies, the natural result is that standards of professionalism vary and consolidation is to be expected.

The valuation has generally become more conservative with respect to multiples, but also with respect to the period of investment, i.e how long it takes a company to progress to the next level, which is about two years longer than before the financial crisis of 2007.

A conservative manager who rates – depending on the company – the price/earnings comparable at 25x could, for instance, apply a 50% discount and offer 12.5x, with a view to an exit in three to four years. In a competitive situation prices being payed could also be higher.

Even after the IPO and during the lock-up period (its duration depends on the proportional size of the stake), a discount is generally applied. Some managers discount less, some not at all.

Apart from the valuation, the acquisition price being paid by the GP is really a negotiation between the two parties. Here the GP's negotiating skills are key. But also his experience and added value can enhance the business of the company during the holding period, and his exit capabilities can thus influence the negotiation result.

Relevance of the valuation and the acquisition price

Topline growth, operational improvement and multiple arbitrage – all these efficiently supported by the private equity manager – should be seen as the main factors contributing to the overall performance of an investment. However, many GPs and investors consider the level of the purchase price to be extremely significant. "The purchase of the company is most important. The influence of the private equity manager during the holding period is limited, particularly in the case of a minority interest." explains Cary Zhou, managing partner at New Margin Ventures.

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Jörg Natrop, senior portfolio manager of alternatives, at Ärzteversorgung Westfalen-Lippe, comments: "It has been proved that if the acquisition price and leverage are too high, value creation is often not possible any more, especially in times like 2008."

On the other hand getting a stake cheap is extremely difficult in this environment, contrary to the situation ten years ago. Financial engineering is less of a topic in this context as most deals do not use leverage.

Valuation during the holding period

During the holding period of an investment valuations can change, the methodology often being the same. If there is a new financing round for a company the old valuation will normally be adjusted to the higher price paid in the new round. There are conservative GPs who do not appreciate the value and leave the price unchanged.

Often several private equity funds co-invest in a company and then, particularly for fund of funds managers, it is possible to compare the different valuation approaches and results. However, several interviewees were sceptical with respect to a re-evaluation and thought that this does not tend to yield a lot. An investor responsible for private equity in a family office in Munich comments: "When we check the track record we look at the realised profits and not the paper profits."

How to preserve capital

There are several ways private equity managers can structure the deal in order to provide downside protection for their investments, like a profit guarantee often supported by shares in the company or the payment of the purchase price in stages.

Valuation standards

When talking to private equity managers in China about standards with respect to the valuation of companies, they normally have a rather relaxed attitude. They do not like standards and say "valuation is mainly an art".

Or as Jian Pan, managing director at CDH Investments, observes: "I think valuation is not something you follow any particular rules defined by other people. Business nature requires different methods." International managers, for instance from the US or Europe, generally apply valuation standards which are observed in their home country as well. However, investors are keen that good valuation standards are adhered to and often believe the more structured and standardised a valuation the better.

For some investors standards are the biggest problem. They regret the absence of efficiency and transparency. "Some players tend to “game” the various valuation standards to present their valuation updates in a more favourable light," observes Michka Kovats, chief investment officer of a Single Family Office in Switzerland.

Examples of standards used are IPEV valuation guidelines (International Private Equity and Venture Capital Valuation Guidelines) and ILPA Private Equity Principles (Institutional Limited Partners Association). On 12 July 2012, CAPE (China Association of Private Equity) endorsed the IPEV Valuation Guidelines.

Investment reporting

Here, quarterly reports are the norm. Several fund of funds managers have a clause saying that the report has to be delivered within a certain time (45 days). In general the LPs receive the desired data, even if upon request. Often auditors confirm the reporting data. In some cases the entire quarterly reporting is outsourced to an auditor by the private equity manager.

As well as valuation standards there are also IPEV and ILPA reporting standards. For performance measurement reporting some managers also follow the GIPS standards (Global Investment Performance Standards).

Due diligence – how do you put a value on trust?

"The integrity of the entrepreneur we are working with, transparency we perceive in the process, corporate governance, ownership structure and competitive environment are crucial parts of the valuation," one Chinese GP observes.

The GP must be able to assess the key people. The quality of management has to be authenticated. "You cannot hope that it will become better over time. That would be too risky," a European investor notes.

This is also crucial because you will not be able to replace management at a later stage. In most cases you are dealing with a family business, and the influence of the private equity manager is limited in this environment, particularly with a minority stake.

If the family business is well run, the entrepreneur will do more and achieve more than any employed manager ever could. Therefore, the development of trust is of the utmost importance.

In order to find out more about the background of the entrepreneur and company, the GPs often even use forensic support.

The companies generally maintain a multiple set of books. "The entrepreneur may not even know the true earnings," notes Joe Chang, head of the Hong Kong office at SCM Strategic Capital Management AG.

Before the investment, therefore, a thorough financial due diligence is vital, and that takes a lot of time and patience. You also have to screen the operational activities, for instance by verifying the delivery of goods, warehouses and order flow, but also by interviewing customers and checking whether all the information you receive is plausible and without contradiction.

"The entrepreneur may not even know the true earnings."

Joe Chang, head of Hong Kong office at SCM Strategic Capital Management AG

As one European GP based in Hong Kong explains: "You need to map the information and process. How do they make money and achieve growth, segment by segment, in order to better understand the history of the company."

Some types of networking can have a negative influence on performance. Networking and good contacts are positive, but you must be aware of where the limits are. This is also an important part of the due diligence process.

A company has to have a clear market strategy, where it can defend its position and offer an added value which customers are prepared to pay for. In many cases the entrepreneur overestimates his competitive position and its sustainability.

Conclusions

Efficient and effective allocation of capital is of the utmost importance for the private equity industry and in the interest of both the Chinese capital markets and broader economy.

A key part of this is a rigorous valuation process and result, so that the most suitable companies and sectors can be selected, which, in turn, will build the necessary foundation, upon which the targeted investment results can be built.

However, in the current environment, with a lot of capital available to invest, the purchase price might tend to be a lot higher than was initially anticipated by the acquirer.

As a result value creation, particularly that produced by private equity managers, has to become increasingly important. Therefore, GPs who do not leverage and do not want to depend on the whims of public markets have to deliver more added-value – in addition to more effective investment strategies.

This trend will favour the competent and more established market participants. The private equity industry is, ultimately, expected to deliver the best solutions.

In order to improve the result of valuations, the attitude of some entrepreneurs may have to change. They should learn that financial integrity is a crucial factor in the overall performance and long-term success of a company. Anything else is really only a short-term expediency.

In this process of value enhancement, which will inevitably develop over the coming years, the private equity industry can and should have a positive influence.

The use of international valuation standards, as well as reporting standards, should become more accepted practice. The endorsement of the IPEV Valuation Guidelines by CAPE (China Association of Private Equity) in July this year is certainly a step in the right direction.

With so many private equity managers coming to market over the past few years in China, it is important the industry ensures that the highest professional standards are observed. This needs well-organised training and experience, as well as a vigorous exchange of ideas and knowledge.

Many GPs and LPs alike try to avoid the uncertainties and dependencies associated with accessing the stock markets. They should and will likely increasingly consider alternative valuation methods and exit channels such as trade and secondary sales.

Private equity investments in Chinese companies – a market analysis

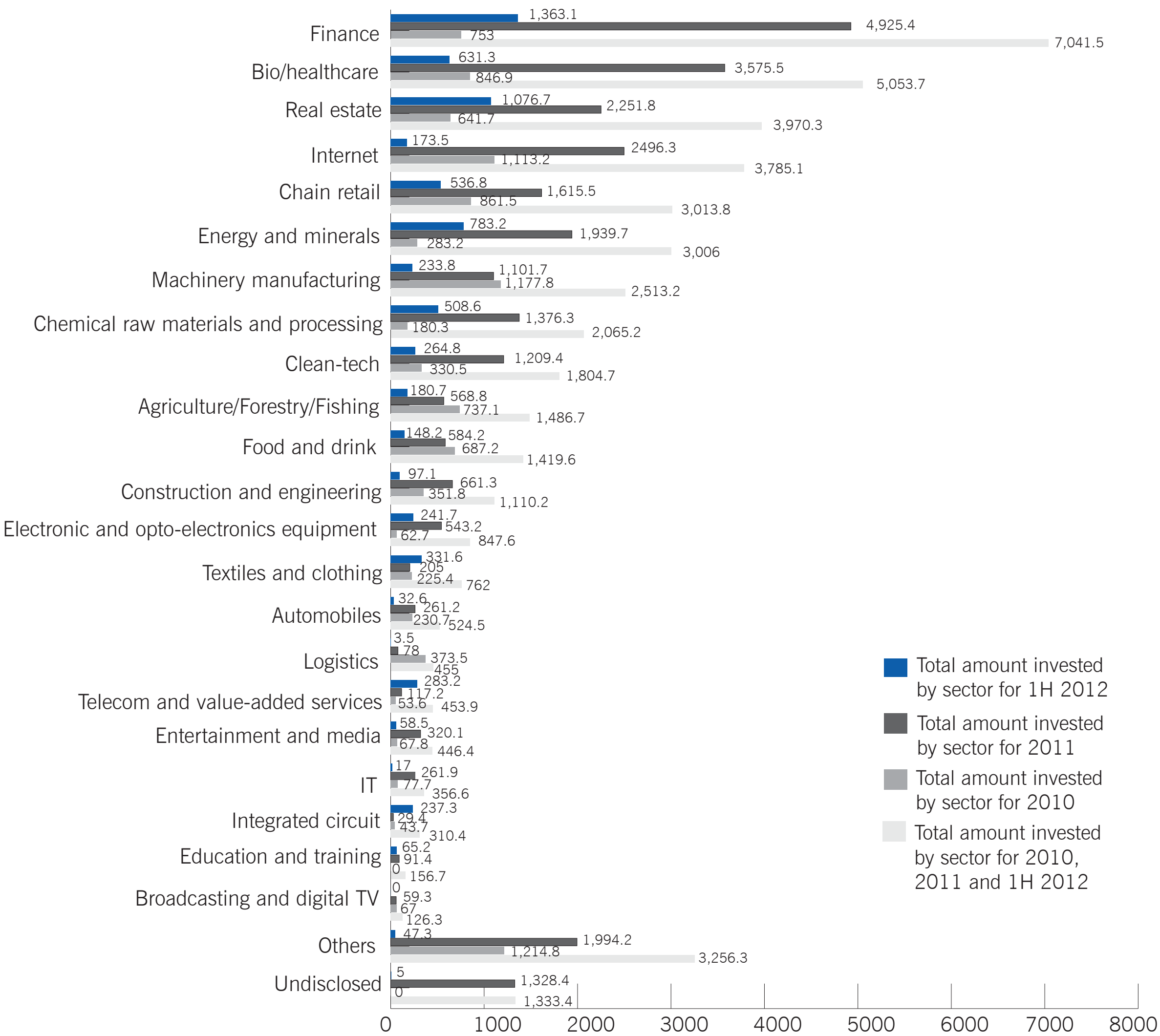
Industry breakdown: the key sectors

The following study, compiled by Zero2IPO in Beijing, analyses the investments undertaken by private equity and venture capital managers[1] and their allocations to different industry sectors from 2010 until the first half of 2012. The overall investment amount during this period was $66.9bn – boosted in particular by substantial investment in 2011, of which $45.3bn was private equity and $20.9bn venture capital, corresponding to 1,310 private equity deals with an average size of $34.6m, and 2,723 venture capital deals with an average size of $7.7m. This analysis will give valuable insights into the way both private equity and venture capital managers[1] allocate capital to the various industry sectors.

Private equity investments and deals

Sectors preferred by private equity managers (see chart 1) were finance, with allocations of

Chart 1: Industry breakdown of Chinese private equity investments by investment amount 2010-1H 2012 (US$m)



Source: Zero2IPO Research Center, July 2011

www.zdbchina.com

Note: The total amount of investment was $45,299.1m, of which $10,380.9m was invested in 2010, $27,597.3m in 2011, and $7,320.9m in H1 2012. Others includes printing, consulting, packaging, tobacco, daily articles, papermaking, transportation, tourism, etc.

Footnote: 1. In this study we cover both private equity and venture capital, however we sometimes only use the expression private equity. Venture capital investment refers to the equity investment conducted by the venture capital institution in emerging, high-growth, potential pre-IPO enterprises for providing specific value-added services such as capital management for start-ups, with a view to sharing the long-term capital appreciation brought by the high growth of the investee. Private equity investment, broadly speaking, refers to all the direct equity or quasi-equity investment made in the companies before or after their IPOs (PIPE), which include those at seed, early, expansion or late stages. Narrowly speaking, private equity only refers to the equity investment made in the mature companies with a large amount of steady cash flows. We adopt the private equity investment in the narrow sense in this report, which excludes venture capital. Based on ways of investment, private equity investment can be divided into growth capital, buyout/buyin, mezzanine capital, turnaround financing, distressed debt, pre-IPO capital (such as bridge finance), as well as private investment in public equity (PIPE) and real estate investment, etc.

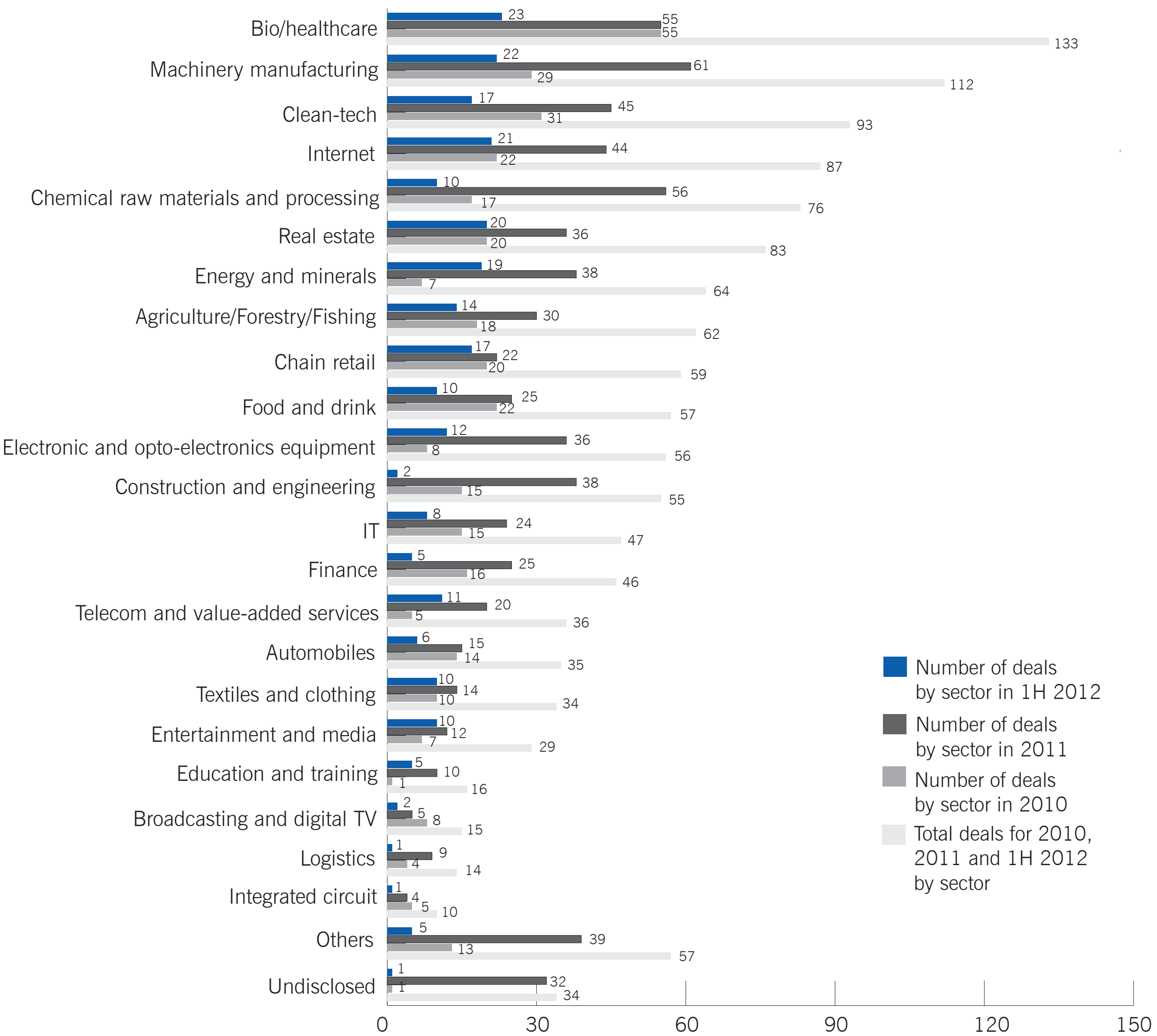
$7,041m, bio/healthcare, with $5,053m, real estate, with $3,970m, and the internet, with $3,785m.

In terms of number of deals bio/healthcare (133), machinery manufacturing (112), clean-tech (93), and the internet (87) were the most dominant sectors (see chart 2).

In 2010, machinery manufacturing and the internet sector saw several large PIPE (Private Investment in Public Equity) and buyout deals.

In 2011, allocations to the finance sector stood out with an aggregate amount of $4.9bn, due mainly to New China Life (a H-share IPO) securing significant domestic institutional investments.

Chart 2: Industry breakdown of Chinese private equity investments by number of deals 2010-1H 2012



Source: Zero2IPO Research Center, January 2011 www.zdbchina.com

Note: The total number of deals was 1,310, of which 363 were in 2010, 695 were in 2011, and 252 were in H1 2012. Others includes printing, consulting, packaging, tobacco, daily articles, papermaking, transportation, tourism, etc.

In the first half of 2012 private equity managers again invested across a broad range of sectors.

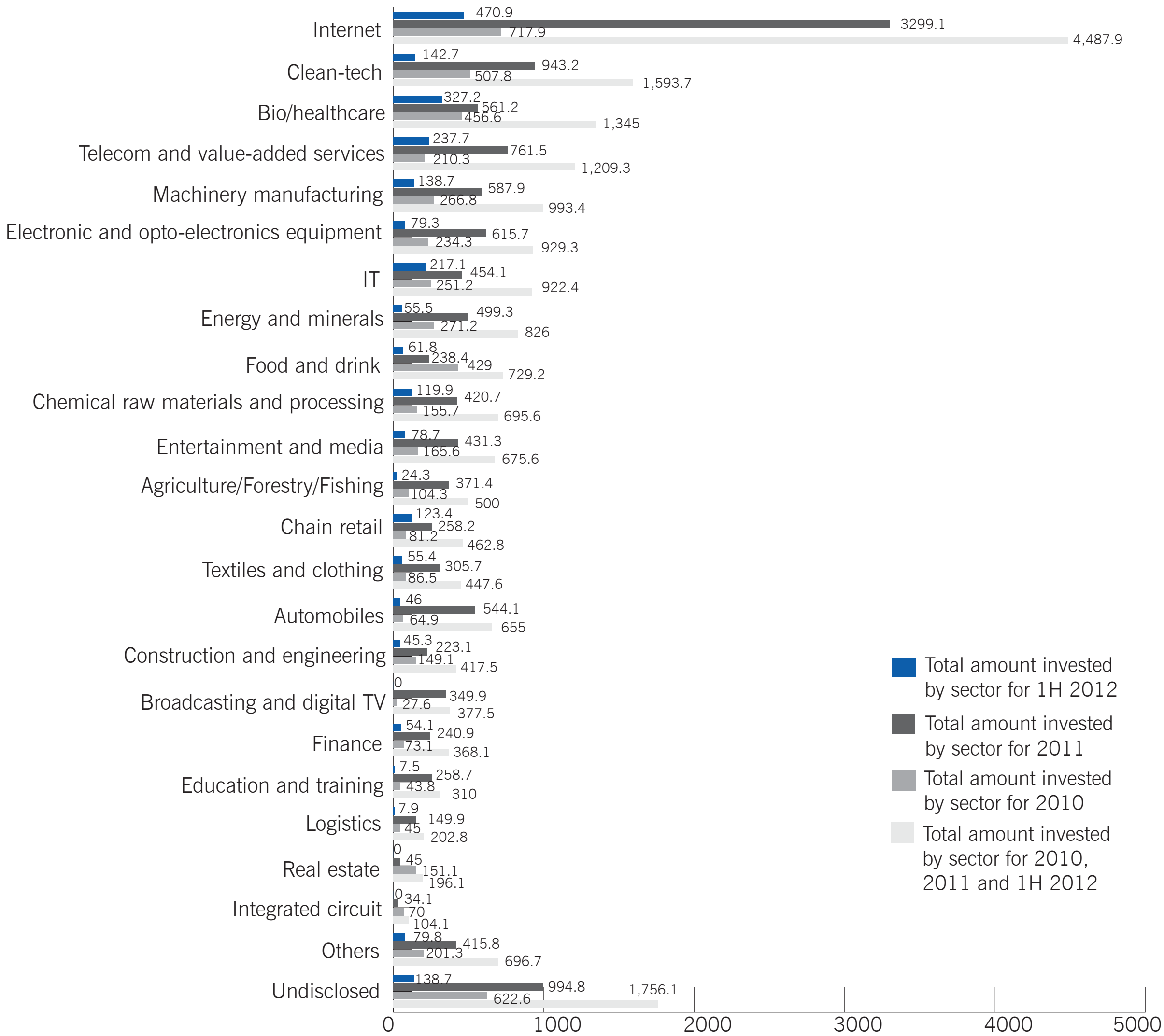
With $1,363m, the finance sector received the highest allocation. $853m alone came from the co-investment by CITIC Capital and foreign financial institutions in China Cinda Asset Management Company Ltd. Real estate ranked second with an allocation of $1,077m.

Venture capital investments and deals

Capital allocations by venture capital managers tend to target the new economy sectors and thus greatly contributed to the further modernisation and development of the Chinese economy (see chart 3).

With $4,488m, by far the highest amount of investment went into the internet sector.

Chart 3: Industry breakdown of Chinese venture capital investments by investment amount 2010-1H 2012 (US$m)



Source: Zero2IPO Research Center, July 2011 www.zdbchina.com

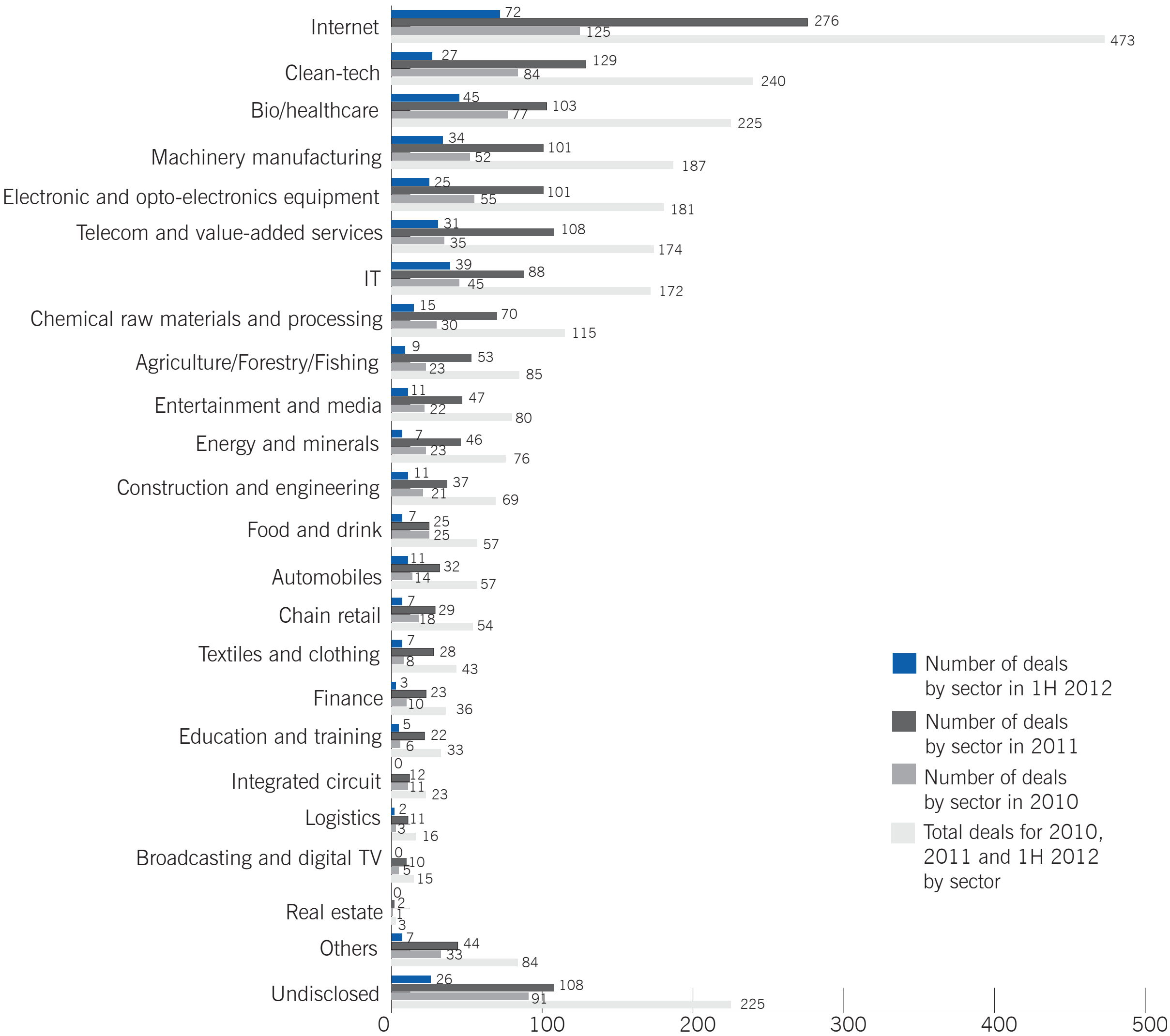
Note: The total amount of investment was $20,901.7m, of which $5,386.9m was invested in 2010, $13,003.5m in 2011, and $2,511.2m in H1 2012. Others includes printing, consulting, packaging, tobacco, daily articles, papermaking, transportation, tourism, etc.

This was based on 473 different deals between 2010 and H1 2012 (see chart 4).

Clean-tech, with $1,594m, bio/healthcare, with $1,345m, and telecom, with $1,209m, were the next most important sectors in terms of investment amount.

Overall, the internet sector received the most capital. Together with the $3,785m invested by private equity managers, $8,273m was allocated to the internet sector by the industry in total. Second was finance with $7,409m; next came bio/healthcare with $6,399m; followed by real estate with $4,166m; and energy and minerals with $3,832m.

Chart 4: Industry breakdown of Chinese venture capital investments by number of deals 2010-1H 2012



Source: Zero2IPO Research Center, January 2011 www.zdbchina.com

Note: The total number of deals was 2,723, of which 817 were in 2010, 1,505 were in 2011, and 401 were in H1 2012. Others includes printing, consulting, packaging, tobacco, daily articles, papermaking, transportation, tourism, etc

The rise of RMB vs. USD funds

Since 2009, RMB funds have witnessed a surge of fundraising, contributing to a wider exit channel on the domestic capital market. This development helped RMB funds become a new force on the Chinese venture capital and private equity market. Both the number of investment deals and amount of investment in RMB increased significantly and, also, when compared with USD funds.

The number of RMB denominated deals was significantly higher than for USD investments, indicating a generally smaller deal size (see Table 1).

In 2009, RMB investments of private equity funds amounted to $1,411m (44 deals), which corresponded to only 16.3% of total investments. This share had risen sharply in 2010, to 54.3%, with investments of $5,637m (238 deals). At the same time USD investments fell significantly to $4,690m, from $7,128m the year before.

In 2011, characterised by very high overall investments ($27,597m), RMB held its position with 54.2% of total investments. This share further increased to 59.4% in the H1 2012 with investments of $4,351m. During 2009 and 2011 RMB investments of venture capital managers counted for about 50% of total investments. That increased to 56.2 % in H1 2012. Since 2006, RMB funds have played an increasingly important role.

Table 1: Distribution of private equity and venture capital investments by currency in 2009-H1 2012

Year	Currency	No. of PE deals	% of Total	Inv. amount (US$m)	% of Total	No. of VC deals	% of Total	Inv. amount (US$m)	% of Total
2009	RMB	44	37.6	1,411	16.3	297	62.3	1,369	50.7
	Foreign Currency	58	49.6	7,128	82.4	169	35.4	1,331	49.3
	Undisclosed	15	12.8	112	1.3	11	2.3	-	-
	Total	**117**	**100**	**8,651**	**100**	**477**	**100**	**2,700**	**100**
2010	RMB	238	65.6	5,637	54.3	525	64.3	2,776	51.5
	Foreign currency	111	30.6	4,690	45.2	245	30	2,610	48.5
	Undisclosed	14	3.9	53.02	0.5	47	5.8	-	-
	Total	**363**	**100**	**10,380**	**100**	**817**	**100**	**5,386**	**100**
2011	RMB	534	76.8	14,952	54.2	959	63.7	6,997	53.8
	Foreign currency	156	22.4	12,644	45.8	518	34.4	6,006	46.2
	Undisclosed	5	0.7	-	-	28	1.9	-	-
	Total	**695**	**100**	**27,597**	**100**	**1,505**	**100**	**13,003**	**100**
1H 2012	RMB	198	78.6	4,351	59.4	280	22.4	1,412	56.2
	Foreign currency	52	20.6	2,969	40.6	90	69.8	1,099	43.8
	Undisclosed	2	0.8	-	-	31	7.7	-	-
	Total	**252**	**100**	**7,320**	**100**	**401**	**100**	**2,511**	**100**

Source: Zero2IPO Research Center, September 2012 *www.zdbchina.com*

Note: In China's venture capital and private equity market USD and RMB funds mainly make investments in RMB and USD respectively. "Cross" investments do happen, but only in a minority of cases, due to the inconvenience; that is to say, USD funds looking to make investment in RMB have to obtain approval from China's foreign exchange and commerce regulators or get a QFLP licence.

Following the outbreak of the financial crisis in 2008, the number of new funds has surged, and the fund-raising of RMB funds surpassed that of US$ funds. According to Zero2IPO Research, RMB funds have the following competitive advantages:
1. The rapid progress of the Chinese economy laid a sound foundation for the development of RMB equity investment funds;
2. Local governments in Beijing, Shanghai, Tianjin and Chongqing provided preferable policies for the establishment of RMB funds;
3. Government guidance funds sprang up nationwide; high net worth individuals entered the local market; securities' companies gained access, insurance funding was permitted; and, in addition, the number of LPs increased rapidly.
4. The industries invested by RMB equity investment funds were not restricted by the Foreign Investors' Investments Catalogue.
5. SMEB and ChiNext expanded rapidly, the new third board's expansion plan is imminent. Therefore, the RMB equity investment funds' exit channel has improved.
6. Domestic capital markets' high price/earnings ratio led to higher expectations of a return on investment.

Single and co-investments

With respect to the question of whether a private equity manager invests exclusively on his own or co-invests with other managers, the research shows that, from 2010 to H1 2012, co-investments have risen in importance and increased their share from 38.6% to 45.8% (see Table 2).

The Zero2IPO Research Center observed that this is mainly due to the overvaluation and fierce competition in the market, leading to more institutions choosing co-investments with a view to sharing risks and interests. As expected co-investments are higher on average. The research shows a similar result for the activities of venture capital managers, though a high percentage of deals was still undisclosed.

Table 2: Distribution of private equity and venture capital investments by investment type 2010-H1 2012

Year	Investment type	No. of PE deals	% of Total	Inv. amount (US$m)	% of Total	No. of VC deals	% of Total	Inv. amount (US$m)	% of Total
2010	Sole investment	215	59.2	6,069	58.5	294	36	1,839	34.1
	Co-investment	110	30.3	4,003	38.6	228	27.9	1,986	36.9
	Undisclosed	38	10.5	307	2.9	295	36.1	1,561	29.0
	Total	**363**	**100**	**10,380**	**100**	**817**	**100**	**5,386**	**100**
2011	Sole investment	405	58.3	13,735	49.8	505	33.6	3,928	30.2
	Co-investment	261	37.6	12,733	46.1	487	32.4	5,774	44.4
	Undisclosed	29	4.2	1,128	4.1	513	34.1	3,300	25.4
	Total	**695**	**100**	**27,597**	**100**	**1,505**	**100**	**13,003**	**100**
1H 2012	Sole investment	164	65.1	3,622	49.5	239	59.6	1,287	51.3
	Co-investment	77	30.6	3,351	45.8	93	23.2	927	36.9
	Undisclosed	11	4.4	346	4.7	69	17.2	296	11.8
	Total	**252**	**100**	**7,320**	**100**	**401**	**100**	**2,511**	**100**

Source: Zero2IPO Research Center, September 2012 *www.zdbchina.com*

P/E-multiples paid at Chinese stock exchanges

According to the statistics of Zero2IPO Research Center, at Chinese stock exchanges, venture capital and private equity-backed IPOs outperformed those without venture capital and private equity investments in terms of average issue price/earnings multiple generally in all sectors, suggesting private equity investments also add leverage to the valuation of portfolio companies (see Table 3).

In 2010, the 149 domestic IPOs of venture capital and private equity-backed Chinese enterprises gained an average IPO price/earnings multiple of 60.8 times, an increase from 54.3 times in 2009. Internet and integrated circuit industries reaped the highest average IPO price/earnings multiple, with 92.3 and 85.5 times respectively.

Only the finance industry gained a lower average IPO price/earnings multiple of 30.6 times. The high average

Table 3: Industry breakdown of private equity and venture capital IPO price/earnings multiples at Chinese stock exchanges (2010-2011)

	2010			2011		
Industry	VC/PE-backed IPOs	Non VC/PE-backed IPOs	All IPOs	VC/PE-backed IPOs	Non VC/PE-backed IPOs	All IPOs
Telecom and value-added services	65.8	76	71.3	73.1	45.3	50.9
Integrated circuit	85.5	66.6	80.8	68.9	28.3	48.7
Entertainment and media	63.1	63.2	63.2	63.4	46.2	51.9
IT	62.2	63.7	63	58.9	55.7	57.3
Bio/healthcare	66.9	65.4	66.1	56.1	49.9	52.5
Energy and minerals	48.7	58.3	52.6	55.8	47.6	51.7
Construction/engineering	55.5	58.1	57	54.2	41.3	46.7
Chemical raw materials and processing	53.8	53.9	53.9	53.2	45.6	49.8
Broadcasting and digital TV	78.8	41.3	60.1	52.9	0	53
Agriculture/Forestry/Fishing	72.3	64.7	66.6	51.9	51.8	51.9
Internet	92.4	82.7	89.9	49.8	38.3	44
Machinery manufacturing	56.8	51.3	53.8	48.1	44.2	46.1
Food and drink	62	56.2	58.5	44.3	42.8	43.7
Electronic and opto-electronics equipment	62.4	63.3	62.9	44.3	49.4	46.1
Clean-tech	71.7	69.9	71.1	43.1	51.6	47.1
Automobiles	52.7	50.9	51.9	39.4	29.6	33.9
Textile and clothing	54.5	55	55	34.9	35.9	35.6
Logistics	44.2	28	32.1	32.4	0	32.4
Finance	30.7	15	21.3	27.9	0	27.9
Chain retail	55.3	53.6	54.1	0	43.6	43.6
Others	57.9	54.4	55.9	35.8	46	41.3
Average	**60.8**	**56.8**	**58.5**	**48.7**	**45.1**	**46.9**

Source: Zero2IPO Research Center, January 2012 *www.zdbchina.com*

Note: These figures are from Chinese exchanges, including the Shanghai stock exchange and Shenzhen Stock Exchange (SMEB, Small and Medium-Sized Enterprise Board and ChiNext, China's NASDAQ-style exchange), but not including the Hong Kong Stock Exchange. The IPO price/earnings multiples denote the offering price/trailing earnings of the respective year.

IPO price/earnings multiple of domestic markets showed a market valuation higher than the normal level, reflecting the high expectations of investors. The fierce competition among venture capital and private equity institutions also drove up the valuation of the respective companies.

In 2011, the 142 venture capital and private equity-backed Chinese domestic IPOs showed an average of 48.7, down 20% from 2010. With respect to the industry sector, the telecom and value-added services topped the list of average price/earnings multiples, at 73.1 times; the finance industry generated a relatively lower ratio of 27.9 times.

Venture capital and private equity firms kept expanding, capital markets competed for investment deals, and competition intensified among venture capital and private equity players. The valuation in the domestic markets stayed high on an international basis, but, nevertheless, saw a decline in offering price/earnings multiples from 2010. (See Table 4). In Q1 2012, all industries registered an average IPO price/earnings ratio of 34.1 times, greatly outperforming Chinese overseas IPOs, which were dragged down by the performance of Huili Resources Group. According to the industry breakdown, the entertainment and media sector ranked top, thanks primarily to Beijing Hualu Baina Film & TV Co. Ltd, which registered a ratio of 82.5 times.

In Q2 2012, the average price/earnings ratio of all sectors was 30.9 times, far higher than many overseas markets. The internet sector was in first place at 46.1 times, thanks to the contribution of People.com.cn.

Venture capital and private equity-backed IPO proceeds in H1 2012 were $6.7bn at Chinese stock exchanges, increasing from $3.1bn in Q1 to $3.6bn in Q2. The sectors which attracted most IPO proceeds were machinery manufacturing, with $1.6bn and clean-tech with $0.9bn.

Table 4: Industry breakdown of private equity and venture capital-backed IPO price/earnings multiples at Chinese stock exchanges (Q1-Q2 2012)

	2012 Q1			2012 Q2		
Industry	IPO proceeds (US$m)	No. of IPOs	IPO P/E-multiples	IPO proceeds (US$m)	No. of IPOs	IPO P/E multiples
Machinery manufacturing	998.1	8	32.8	606.2	6	28.8
IT	635.4	6	33.8	101.8	2	33.8
Electronic and opto-electronics equipment	357.3	4	31.5	372.5	4	31.8
Construction/engineering	270.9	2	26.4	-	-	-
Bio/healthcare	203.1	2	32.1	59.8	1	46
Food and drink	190.8	1	40.6	-	-	-
Chemical raw materials and processing	172.6	2	39.3	158.2	3	27.6
Automobiles	172.3	2	28.8	-	-	-
Telecom and value-added services	75.1	2	29.2	240.8	3	37.4
Entertainment and media	30	1	82.5	-	-	-
Textile and clothing	-	-	-	690	3	19.6
Internet	-	-	-	218.7	1	46.1
Logistics	-	-	-	79	1	27
Clean-tech	-	-	-	924	5	32.1
Energy and minerals	-	-	-	125.3	1	26.8
Total	**3,105**	**30**	**34.2**	**3,576.4**	**30**	**30.9**

Source: Zero2IPO Research Center, July 2012 *www.zdbchina.com*

Note: These figures are from Chinese exchanges, including the Shanghai stock exchange and Shenzhen Stock Exchange (SMEB, Small and Medium-Sized Enterprise Board and ChiNext, China's NASDAQ-style exchange), but not including the Hong Kong Stock Exchange. The IPO P/E-multiples denote the offering price/trailing earnings of the respective year.

Three approaches to determining value in China – an auditor's perspective

The main responsibility of auditors is to verify financial statements. Furthermore, auditors either value entities or review the valuations performed by other parties. The Institute of Public Auditors in Germany (IDW) has issued a standard on valuation, standard 1 (S1 – Principles for the Performance of Business Valuations).

In the following article we, as German public auditors with experience of China, comment on the differences in valuation in China in the light of our experience. The extent to which an auditor is involved in the valuation process differs from case to case. In Western countries, auditors are often involved in the valuation, whereas in China we are usually involved in verifying the financial information as the necessary basis for the valuation.

Valuing a business is a challenging task. This is especially true for prospective private equity and venture capital projects in China due to: limited information, limited historical risk and return data as well as the difficulty in determining current market value. Commonly, three valuation approaches are used in the valuation of a business enterprise, which are by no means unique to China.

The following will give an outline of the three commonly used business valuation methods but will also take into account characteristics of the Chinese business environment that might present a challenge to the valuation process.

1. Market approach – multiples
In the market approach, the value of a business is derived by comparing it to the values assessed by the market for similar or comparable businesses/transactions. Therefore, market values for a peer group or similar transactions are obtained and converted into standardised values relative to a key statistic; that is to say, a multiple. Widely used valuation multiples include the price/earnings ratio and the EBIT multiple.

Determining a suitable peer group may prove difficult as no two businesses are alike and a large variety of factors such as industry, geography, capital structure, size and business model must be taken into account. The selection of peer group companies is subject to bias and requires a certain amount of judgement.

The high volatility in markets and local economics are Chinese characteristics that might render older information useless. The process of conducting a transaction multiple approach is made more difficult by the fact that relevant data from comparable transactions are often not disclosed.

> In China often small- or micro-cap private companies are valued, and, when using a price/earnings multiple, the price is often based on much more liquid companies, traded on a major stock exchange, so additional adjustments (for example, a discount) have to be made to account for the illiquidity.

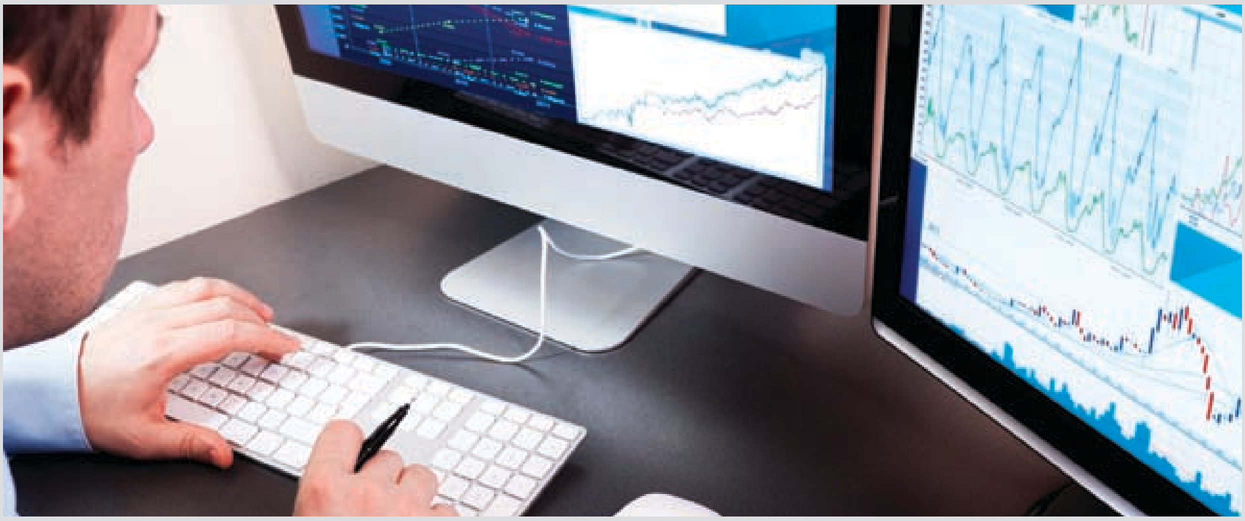
When applying earnings multiples it is important that the earnings figure can be relied upon and is maintainable. The basis for applying the multiple can be audited or unaudited historical figures as well as forecast figures.

China presents the challenge that reliable and accurate historical financial information of target businesses may not be easily available, especially in the case of non-public companies targeted by private equity and venture capital funds. Chinese financial statements – also in the case of audited financial statements – might not be transparent and could be questionable in terms of accuracy due to accounting methodologies and accountants' professional standards.

Furthermore, potential differences from Chinese Accounting Standards to IFRS or other GAAP might influence the buyer's valuation and decision making.

The importance of an experienced and reputable auditor has to be emphasised. Whichever basis is chosen for multiple valuations, adjustments to the earnings are required for exceptional or non-recurring items, the impact of discontinued activities or material changes in the business model.

In addition, maintainable earnings should consider compliance-related



factors such as off-balance sheet transactions, related party transactions – many on a non-arm's-length basis, or underpayment of social security and taxes. These compliance-related factors – off-balance sheet transactions, related party transactions and underpayment of social security and taxes – can be considered common challenges in China, and these transactions and underpayments need to be accurately determined and normalised. Our experience in China shows that underpayment of social security and taxes are common for small and midsized firms.

Often good relationships of company owners with the relevant authorities help to reduce social security and tax payments and discussions arise whether this preferential treatment can be continued after a foreign investor invests in an entity.

From a Western perspective it is crucial to correct historical financial data in a way as if the entity had always paid the respective amounts properly. If the situation arises that the accounting data cannot be relied upon, cash multiples or sales' multiples can be used.

In China small- or micro-cap private companies are often valued, and, when using a price/earnings multiple, the price is often based on much more liquid companies, traded on a major stock exchange, so additional adjustments (for example a discount) have to be made to account for the illiquidity.

2. Income approach – discounted cash flow

The income approach derives the value of a business by calculating the present value of forecasted future cash flows of the target by discounting those cash flows using rates of return from alternative investment of similar type and quality.

A proper business valuation based on forecasted future cash flows requires forecast balance sheets, statements of income and finance forecasts which are consistent with one another. Such a financial model requires substantial subjective judgements and the resulting cash flows and present values are often very sensitive to changes in the planning assumptions made.

Complexity is the biggest disadvantage of the income approach. In China forecast financial information is not always regularly prepared, if at all. Furthermore, financial model developers in China have often received little or no formal training in financial modelling principles and practices; also, the use of judgement is frequently difficult for inexperienced staff. Our experience is that in many cases the financial forecast is prepared for the first time with the sole purpose of the due diligence prior to the transaction.

This might lead to simplified high-level planning with only limited input from relevant departments such as sales or operations management. Oversimplification, inconsistency, historically irreconcilable assumptions, and no clear concept of how targeted figures will be achieved, are common in financial forecasts.

An over-optimistic "hockey-stick" planning approach, where stagnating or declining results of the past are followed by thriving business in the planning period, is often the outcome, but this cannot be considered a reasonable basis for a valuation. As the quality of an income approach valuation is affected by the financial model and the data within it, a thorough due diligence of the planning process and its underlying assumptions is paramount.

Nevertheless, in practice, we have seen a number of cases where Chinese investors acquired businesses while conducting a due diligence that was less than sophisticated from a technical point of view, but instead was more reliant on personal views and established relationships.

In ascertaining the weighted average cost of capital, which is used

Key auditing challenges in China

The CAPM approach is complex and might not be adequate in China, due to newly established capital markets, government influence and a large number of newly listed entities.	Audited financial information, a prerequisite for a proper valuation, is often not available or produced purely for the transaction. This can create uncertainty about the validity of the financial information.
It is common practice to mix private and business investments in China. Hidden debt and loans to and from friends and family might exist.	Soft factors such as a sound network and personal relationships are crucial in China, but not so relevant for Western valuation approaches.

to discount the future cash flows in the discounted cash flow method, the capital asset pricing model approach (CAPM) has often been employed.

On account of the high volatility, immaturity and government intervention in the Chinese stock market, however, factors such as risk free rate, beta and market rate of return are determined differently than in developed markets. For instance, in the calculation of the market rate of return, A Shares are commonly considered as B and H Shares, which, because they are limitedly tradable, might not fully represent the liquidity and performance of the stock market.

Beta values vary widely by using different reference indices when obtaining an expected market rate of return. Therefore, choosing the relevant indices is imperative. Furthermore, CAPM assumes that through fully diversified portfolios the unsystematic risk can be eliminated.

However, in emerging markets portfolio diversification is deemed to be imperfect, so that unsystematic risks might still occur. Consequently an additional country specific risk premium should be taken into account when valuing businesses in China.

3. Asset approach

The asset approach involves deriving the value of a business by reference to the sum of the value of its assets minus the sum of the value of its liabilities. One of the benefits of this approach is its applicability for valuing investments in loss-making companies. Disadvantages lie in the fact that risks from not receiving any future returns from ownership of these assets are not adequately reflected.

In China, common problems complicating the asset approach lie in possible issues regarding ownership of assets. Many businesses in China are family-run and in these businesses it is not uncommon to find assets in the books that do not serve a business purpose; that is to say, the owner/CEO does not properly separate business and personal assets.

By contrast, it might also be the case that assets that are essential for the business are not recorded in the books, as they are owned by the owner/CEO, personally, or by an external third-party. Furthermore, assets might be included in the transaction to which the target might not have established clear title. This could be the case for land use rights that might not have been paid for or might not have been properly legally registered.

We have seen land use rights awarded by local governments in a situation when the local government did not have the right to award such title. This makes Identifying core business assets and clarifying legal status of ownership key in any due diligence process prior to valuation.

In the previous section we outlined which three valuation approaches are commonly used and which challenges relate specifically to China. In our experience the market approach using multiples is perhaps the most common. The main reason for this is that this valuation method is easy to handle and reliable, considering the opaque business environment in China.

The common form of exiting from a private equity and venture capital investment is an initial public offering (IPO). The IPO market has seen a tremendous slowdown over the past two years and has only recently shown signs of improvement. This has driven price/earnings ratios down. In the past Chinese capital markets have achieved price/earnings ratios of 50 to 60. These are now at levels of around 30. European capital markets have achieved price/earnings ratios of 20, but this has been reduced to a level of around 10.

A crucial aspect not to be underestimated is the risk that sophisticated valuation models commonly used in the Western world are applied to Chinese entities without the necessary caution. The difficulty here is that complex valuation models can only achieve reliable results if the underlying data are accurate.

In China, as well as in other emerging markets, obtaining reliable financial information is key. Only then can valuation methods be used effectively. This is perhaps the biggest challenge facing auditors during the valuation process in China.

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