

Valuation of a Holding Company:

The Case of SK C&C IPO

Seoungpil Ahn (Corresponding author)

Sogang Business School, Sogang University

PA706, 35 Baekbeom-ro, Mapo-gu, Seoul 121-742, Korea

E-mail: spahn@sogang.ac.kr

Gwangheon Hong

Sogang Business School, Sogang University

PA711, 35 Baekbeom-ro, Mapo-gu, Seoul 121-742, Korea

E-mail: ghong@sogang.ac.kr

Doseong Kim

Sogang Business School, Sogang University

MA311, 35 Baekbeom-ro, Mapo-gu, Seoul 121-742, Korea

E-mail: doseong@sogang.ac.kr

Young-Seok Park

Sogang Business School, Sogang University

PA811, 35 Baekbeom-ro, Mapo-gu, Seoul 121-742, Korea

E-mail: yspark@sogang.ac.kr

Received: Oct. 25, 2012 Accepted: November 6, 2012 Published: December 1, 2012

doi:10.5296/ajfa.v4i2.2558 URL: <http://dx.doi.org/10.5296/ajfa.v4i2.2558>

Abstract

We examine the IPO of SK C&C. Facing the recent regulation change to improve corporate governance structure, Korean conglomerates resolve the issue of cross-holdings across

affiliated companies. The establishment of a holding company and the IPO of SK C&C streamline the ownership structure of SK group. Our analysis shows that the issue price of SK C&C is set at substantial discount. Given that the priority of SK group was to improve corporate governance structure, it appears that managers of SK C&C are less interested in selling their shares at the highest possible price. The IPO of SK C&C achieved the intended goal of dismantling cross-holdings and streamlining ownership structure of SK group. This drives higher market valuation for shareholders of SK C&C and affiliated companies in SK group as well.

Keywords: IPO; Valuation; Holding Company; Ownership Structure; Governance Structure

JEL Classification: G30, G32, G34

1. Introduction

On November 3, 2009, SK Group (“SK”, hereafter) has announced the initial public offering (IPO) of SK C&C that would complete a holding company structure for SK. Through the IPO of SK C&C, SK group, one of the biggest Korean conglomerates known as *Chaebul*, resolves cross-holdings across its core subsidiaries and transforms into a formal holding company structure. The completion of this transition is targeted for the early next year.

The transition of SK to a holding company has been planned since July of 2007 when President Choi unveiled the plan emphasizing “... to meet with expectations from the market and policy makers and to expedite on global management, corporate governance structure of SK shall be improved to meet the global standard”. As he argues, resolving cross-holdings among subsidiary companies has important implication for the company’s market valuation. The UK’s Cadbury report in 1992 and the US Sarbanes-Oxley Act of 2002 require significant improvement in corporate governance practices. These rules are followed by similar regulations in other countries including Korea in the effort to increase transparency and effectiveness of corporate governance structure within a company. In academia, many scholars including Gompers, Ishii, and Metrick (2003), Boone, Field, Karpoff, and Raheja (2007), and Yermack (1996) document that corporate governance structure has an important impact on firm value. Fundamental weaknesses in governance may have crippling consequences for a company’s future growth perspectives and hence constrain firm value.

We show how the IPO is related to the corporate governance reform. Using the IPO of SK C&C, we illustrate the importance of corporate governance for the firm’s decision makings. The IPO of SK C&C enhances transparency of the SK group, improves corporate governance structure, and thus eliminates the value discount associated with its poor governance structure.

Fundamental analysis on the value of SK C&C shows that the IPO price of SK C&C is set at a significantly discounted value. Contrary to the average IPO performance as reported in Ritter (1991), we find a significant out-performance of SK C&C in the two years after the IPO. We also explain other consideration factors that lead to the discount in the IPO price.

This research contributes to the literature in three significant ways. First, while prior academic studies are mostly focused on the average performance of IPOs and sort out factors that are common for the IPO firms, we focus on an individual IPO and extract some unnoticed reasons for the IPO: the issue of corporate governance can be another important factor that affects the IPO decision. Second, we demonstrate that the corporate governance driven IPO of SK C&C outperforms the market in two-years after the IPO, which deviates from the typical pattern of IPO underperformance. Finally, this study can be used in graduate programs to examine various circumstantial factors to be considers in the IPO and provide practical view on the IPO pricing. The reminder of the paper is organized as follows. In section 2, we discuss background information on SK C&C IPO. Section 3 shows financial data and explains our methodology to compute fundamental value of SK C&C stocks. Section 4 reports the results of our analysis and additional factors to be considers. Section 5 concludes.

2. Background Information on SK C&C IPO

2.1. The Plan for IPO and Ownership Structure Change

SK C&C will be listed in Korean stock exchange on Nov. 11, 2009 and the subscription by institutions and public investors starts from 3rd and 4th of November, 2009. The issue price is set to be 30,000 Korean Won (KRW) per share.

SK plans to sell 18 million shares of SK C&C to investors, which represents 36% of total shares of SK C&C. Before IPO, the stakes of SK C&C are held by President Choi (44.5% of stakes), *SK Telecom Co.* (30.0% or, 14.5 million shares) and *SK Network Co.* (15.0% or 7.5 million shares). In the process of IPO, both *SK Telecom* and *SK Network* will tender their entire stakes (22.5M shares) in SK C&C and from these shares, 18 million shares will be sold to outside investors. The remaining shares of these two companies will either keep as investment stocks or be sold to other institutional investors in block deals after six month of lock-up period.

An insider at *Woori Investment Securities*, a leading underwriter, says “initially we targeted for 1.5M shares. After receiving the intentions from 150 or so domestic and international institutions to oversubscribe by more than KRW2,000 billion, we decide to increase the number of shares selling”. Through the IPO of SK C&C, *SK Telecom* and *SK Network* can raise KRW540 billion (about US\$500 million) to be used for the investment to strengthen their global positions.

The transition to a holding company has a special meaning for SK. In 1970's, SK has completed vertical integration from the oil to fable thorough the acquisition of Korean Oil Company (Yu-Kong, currently *SK Energy Co.*). Following new business venture in telecommunication industry through the acquisition of Korean Mobile Telecomm (currently, *SK Telecom*) in 1990's, this will be an opportunity for SK preparing another big jump.

SK can completely resolve cross-holding issue that has prevented SK from becoming a holding company according to the regulation of Korea Fair-Trade Commission. The Commission sets forth the regulation that prohibits cross-holdings among subsidiaries and encourages vertical integration of ownership structure for a business group in Korea, *Chaebol*. The link of cross-holdings for *SK Network* will break once and for all through the sales of *SK Network's* entire stake at the time of SK C&C's IPO. In the case of *SK Telecom*, the remaining stakes will be sold by April of 2010. Currently, Fair Trade Act prohibits a holding company from owning a financial subsidiary, but this law will be abandoned soon since the amendment is under the way in the congress. Graph 1 summarizes the planned ownership restructuring of SK group after the IPO of SK C&C.

2.2. Corporate Governance and the Vision for Global SK

The optimal corporate governance structure for an individual corporation is far from simple regulations such as having smaller board, higher proportion of outside directors, or higher ownership by managers. Coles, Daniel, and Naveen (2008), Chi and Lee (2010), Rose (2009), Duchin, Matsusaka, and Ozbas (2010) argue that the optimal governance structure depends on firm characteristics such as firm size, growth opportunities, leverage, and the complexity

of the operations. Klein (1998), Bhagat and Black (2001), and Boone et al. (2007) also find that the effectiveness of board monitoring is conditional on firm characteristics.

Other research show that the impact of certain governance structure depended on outside environment as well. For example, Cremers and Nair (2005) contend that internal governance mechanism such as insider ownership interacts with external governance mechanisms such as industry competition and institutional holdings.

Considering these argument, SK group shall find the right governance system that fits for the company's characteristics. The transition to a holding company structure and the adoption of independent directors are the solution of SK group to improve its governance structure.

SK pursues "big leaps" on the ground of a stable holding company structure through new business ventures and enforcement on global businesses. An insider of the company says "debates on corporate governance structure will inevitably cause unnecessary costs, direct and indirect, to the company" and "clear governance structure *via* the holding company as a control tower can intensify the business capability of the group".

Recent merger of *SK Network* with *Sheraton Workhill* and the inclusion of *SK Construction* as a subsidiary is a part of the internal restructuring plan to be aligned with the new governance system. Mr. Kyun Oh-Yong, a vice president in SK Brand Management Division, argues "clear governance structure will enhance reputation of the company which will create a synergy effect with the global business strategies in SK" and "a transition to a holding company will definitely become a big opportunity for SK".

This emphasis on corporate governance came only after the painful lesson by President Choi. Previously, SK Global has been involved with fraud in accounting. Regulator has been investigated the stock exchange between *Workhill* and *SK Holdings* and a secret deal between SK and JP Morgan. President Choi has been convicted for these misdemeanors. As of August 15, 2008, President Choi has been released. Since then he accepts more than 50% of outside directors in the board to ensure internal monitoring. Currently, there are no legal actions taken against the management of SK C&C and SK group.

3. Data and Methodology

We separately analyze the value of main business of SK C&C and the value of share holdings in subsidiary companies. We then sum these two parts' values to compute the equity value of SK C&C and per share value.

3.1. The value of SK C&C IT Business

Main business of SK C&C is an information technology (IT) service. The company has founded in April 1991. SK C&C envisions "Global U-Service Leader" in the digital convergence areas. In particular, the company has business areas in IT strategic consulting, IT outsourcing, System Integration (SI), and solutions for Ubiquitous environment. System Integration includes planning, development, construction, and operation of an information system customized for each customer. In 2008 and 2009, SI services represented about 65% of SK C&C's sales revenues followed by 33% of sales in Operation System Management

Services and the remaining 2% is from other businesses. The majority of revenues in 2008 is generated in the domestic market (almost 98% of sales).

From Table 1, the market for IT service business in Korea is expected to grow at average 5.6% for the next three years and the market shares for the top three players are likely to remain similar over the period. SK C&C has its strength in financial sectors and there could be higher market growth due to early introduction of new International Financial Reporting Standards (IFRS) accounting rules by financial companies in Korea. In year 2009, SK C&C expects KRW230 billion (about US\$200 million) sales in the financial services sector, which is a substantial increase from KRW180 billion (about US\$150 million) in 2008.

The company has actively implemented globalization plan since year 2007. The proportion of international business represents 2.1 percent in 2007 and expected to grow to 5.1 percent by 2009. Mr. Oh, a financial Analyst at *KTB Investment Securities*, forecasted that the proportion of global sales is expected to increase up to 12.1 percent by the end of 2013 and then 20 percent in the much longer run. The company is expected to achieve global sales of KRW100 billion (about US\$90 million) by 2010 through the establishment of a global network in China, India, and the United States. SK C&C has constructed mobile banking service systems in Singapore, Philippines, China, Thailand, and Malaysia. An insider of the company mentioned “we will focus on mobile financial market in the US as well as emerging markets”.

In SK C&C, the operating income KRW 50 billion till 2003 and jumped to KRW90-100 billion in recent years. Table 2 illustrates the recent improvement of accounting performance. It is however possible that SK C&C charged higher rates for the services provided to SK's subsidiaries to inflate the operating margin and net income. It is well known that a firm manages earnings for years before IPOs. If the recent operating performance is inflated, we need to adjust the forecast downward.

The globalized SI firms are expected to grow much faster: earnings growth rate of 13.4% as shown in Table 3. Much of this growth expectation can be achieved from emerging capital markets including China, India, and South American countries. If SK C&C is successful in its globalization plan, the company can tap on the higher growth potential, which is above the domestic growth rate estimate.

We use relative valuation approach to estimate the value of IT business of SK C&C. In relative valuation, PE of other companies can be used to determine IPO price of SK C&C. In the IPO process, PE multiple approach is widely used to back up the estimated intrinsic value with discounted cash flow approach. Panel B of Table 2 is PE ratios for comparable firms in Korea, the US, and India. Although *Samsung SDI* and *LG CNS* are not traded in the public market, their target PE is estimated along with PEs of two other listed Korean firms. *Ssangyong I&C* and *Shinsegae I&C* are listed firms, but their size in sales and assets are far below those of SK C&C and thus they may be not suitable for making direct comparison with SK C&C. Industry average PE multiple for the global IT firms is 19.62 as shown in Panel A of Table 3.

3.2. *The value of share holdings*

SK C&C holds shares of SK holdings, which is a holding company itself of other subsidiaries of SK group. Thus, there is a double layer of holding companies. The question is whether the stake in *SK Holdings* should be discounted or not. The reason is that the stakes of *SK Holdings* in other subsidiaries are already discounted in *SK Holdings'* valuation. Therefore, it seems inappropriate to apply double discount on SK C&C's stake on SK. For instance, currently market price of *SK Holdings* is around KRW 9,200 per share (US\$8) and this value is already 60% discounted from *SK Holdings'* net asset value. In 2004 when Sovereign Asset Management engaged in the share competition with President Choi, the share price went up to KRW 120,000 (US\$100) and over KRW 250,000 (US\$220) in 2007. It thus appears that the current price of *SK Holdings* is already substantially discounted. From Table 3, usual discount for holding companies in Korea ranges from 30% to 60% from their net asset value.

The observed discount on holding companies is attributable to possible appropriation of minority shareholders' interests. The following argument presents some of this concern as addressed in Fitch's report on Industrial Investment Holding Companies (IIHC).¹

IIHCs are defined as groups where a parent company controls subsidiaries' operations with a majority ownership that exceeds 50% and associated companies with ownership ranges between 20% and 50%. Because the parent company is not able to directly extract cash flows from subsidiaries and associated companies, majority of cash flows of the parent firm consists of non-operational cash flows in the form of brand royalty and dividends, inter-company loan interest, and/or management fees. Thus, this practice causes complexity in valuing the parent firm. Equity investors therefore concern about the governance issues caused by the complexity. Specifically, they concern that a main shareholder (managers of parent firm) do not necessarily act for the best interests of minority shareholders who have less complete information about the overall group. As a result, publicly listed IIHCs tend to trade at a discount, often by 20%-30% or more. In Korea, the holding company discount is more substantial than 30%. Table 4 illustrates holding company discount. The discount ranges from 28.10% to 59.70%. Higher the discount reflects higher risk of deprivation of minority shareholder interests.

3.3. *Other majority share holdings*

SK C&C also hold one-hundred percent ownerships in two private companies: *SK Lubricants* and *Infosec*. *SK Lubricants* has been established in 1968 and has been expanding lubricants business since the introduction of ZIC brand in 1995. *Infosec* is a cyber-security service provider established in 2000. The book value of assets of these two companies is KRW0.663Billion. In addition, SK C&C has 32.50% of share ownership in SK E&S. SK E&S is a private utility company that provides gas services and operates LNG power plant. The book value of asset of SK E&S is KRW 0.961 Billion with EBIT of KRW52 Million as of 12/31/2009. The market value of these private companies may be estimated through multiple approach by referring to the industry benchmark. Nonetheless, since the market value of these share holdings is small compared to the operating value of SK C&C, book value of assets might be used instead for the sake of brevity.

4. Valuation Results

4.1. Fundamental value of SK C&C

Based on the net income number in year 2008 (KRW 145.7 billion) and industry PE multiples, we estimate the value of IT business of SK C&C. From table 3, current PER of global information services industry is 19.62. Thus, total market value of IT business of SK C&C is KRW 2,858.63 billion (=19.62×KRW145.7 billion, or about US\$130 million). With Korean industry average PER of 12.5, the number is KRW 1,821.25 billion (about US\$1.6 billion). We thus predict that the value of IT business of SK C&C ranges between the two estimates.

Next, our baseline valuation for share holdings is estimated based on the 31.8% ownership of SK C&C on SK holdings and the market capitalization of SK holdings. The market capitalization of *SK Holdings* is KRW 4,320 billion at the end of September, 2009. Thus, the baseline estimated value of ownership stake in *SK Holdings* is KRW 1,373.76 billion. Note however that the market capitalization of SK holdings is substantially discounted from its net asset value of ownership in other subsidiary companies. From Table 4, the net asset value of SK Holdings is KRW 9,299 billion. We apply the 30% of the holding company discount to compute the intrinsic value of the share holdings. With this number, the estimated ownership value for SK Holdings is KRW 2,070 billion (=KRW9,299B×(1-30%)×31.8%). This assumes that SK C&C improves its corporate governance system and thereby the excess discount for the Korean holding company will be resolved in the long-run.

The value of holdings in *SK Lubricants*, *Infosec*, and *SK E&S* is estimated with their book value, KRW 1.624 billion (= KRW 0.663 billion + KRW0.961 billion). Again, this may underestimate the true value of these three companies, but we consider that these companies' value is relatively small and thus the marginal effect of any bias on the final valuation of SK C&C would be minimal

Finally, summing all these parts' value together, our estimation for the total equity value of SK C&C ranges from KRW 3,196.634 billion (=KRW 1,821.25B + KRW 1,373.76B + KRW 1.624B) to KRW 4,930.254 billion (=KRW 2,858.63B + KRW 2,070B + KRW 1.624B):

Equity Value of SK C&C = Business value of IT Services

+ Ownership Value in SK Holdings

+ Majority Holdings in other subsidiaries

Using the number of shares outstanding (50 million shares), we compute the per share value of SK C&C to be in the range between KRW 63,932 (=KRW 3,196.634B/ 50M share) and KRW 98,605 (=KRW 4,930.254B/ 50M share). The intrinsic value range is two to three times higher than the IPO price of KRW 30,000. Considering IPO underpricing by maximum 30%, the result indicates that the IPO price of SK C&C is significantly underpriced at the time of the issuance. In the next section, we consider several factors that may have influence on the observed underpricing.

4.2. Other consideration factors

There are several factors we further consider to have a finite adjustment on the final valuation. First, we compute the operating assets value for IT business of SK C&C separately. It means that there is no need to further adjust for the consolidated debt. That is, if the initial valuation is for cash flows from consolidated assets, then consolidated debt shall be subtracted.

Second, there is possible merger between SK C&C and *SK Holdings*. Current ownership structure is awkward in a sense that there is a double layer of holding companies. *SK Holdings* is a pure holding company with less of operating assets and most of its income consists of brand royalty corrected from subsidiaries. President Choi and his family hold about 20% stakes in *SK Holdings* and 50% in SK C&C, respectively. The market capitalization of *SK Holdings* is KRW 4,320 billion at the end of September, 2009. The merger between *SK Holdings* and SK C&C might dilute the share ownership of President Choi. President Choi has an incentive to increase the equity value of SK C&C's operating assets to maintain his ownership in the merged firm to at least 50%. This intention for future merger will increase the stock price of SK C&C relative to that of SK holdings.

Third, following the employee stock plan in SK C&C, employees of SK C&C are entitled to subscribe IPO shares at the issue price of KRW 30,000. Employees can buy shares at the issue price and thus these shares are considered as benefits to employees.

Forth, as shown in the table 5, the market timing of SK C&C's IPO is during bear market. The stock market performance of recent IPOs is poor and subsequently some of IPOs scheduled in October are postponed for later date. This suggests the offer price of SK C&C is less likely to be overpriced. The implementation of global visions and clean the governance structure is foremost priority of SK Group and, therefore, the discount of issue price is less of concern for the company, especially when the company launches its long-term strategic plan.

Finally, we trace the stock market performance of SK C&C since the IPO. Given the substantial discount in the IPO price, we expect that the company would not underperform. This would be a different pattern from the typical long-run underperformance of IPO stocks as reported in Ritter (1991). For the past three years since the IPO, SK C&C has been traded in the range of KRW35,650 to KRW163,500. As reported in graph 2, the stock price continues to increase from KRW35,650, which is the opening price on the first day of trading. The two-year holding period return for SK C&C is 163.50%, outperforming the market average return of 21.80% in the Korean Stock Market Index (KOSPI). The result confirms that our valuation correctly estimates the intrinsic value of SK C&C.

5. Conclusion and Summary

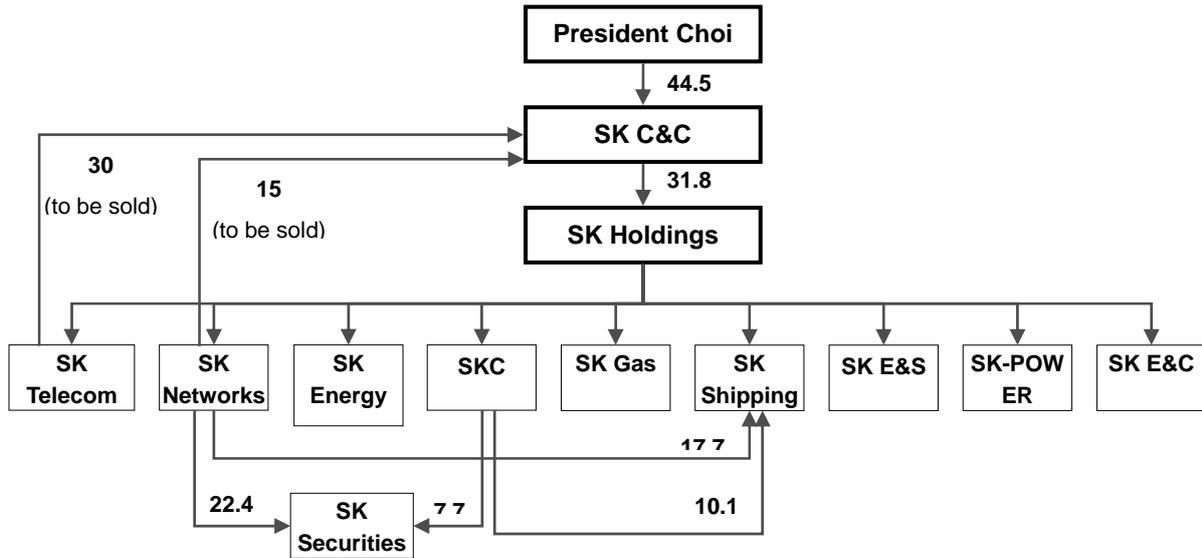
We examine the valuation of a holding company. The IPO of SK C&C provides unique test settings to examine various issues related to the IPO. This study illustrates multiple factors of IPO decision making that are often ignored in large sample tests. The key factor for the IPO of SK C&C is regulatory changes to improve corporate governance structure for SK group. Unique practice for Korean conglomerates is cross-holdings using resources of subsidiary companies. This severely weakens transparency of Korean conglomerates which often creates criticism by public investors and media. The establishment of a holding company and the IPO of SK C&C clarify the ownership structure of SK group and thus improve the transparency of

the entire affiliated companies in SK group. Our analysis shows that SK set the issue price at substantial discount. The post-issuance of the IPO confirms the underpricing and show a different pattern from the typical IPOs. It appears that managers of SK C&C are less interested in selling their shares at the highest possible price, which is typical incentive of managers to initiate IPOs. Given that the priority of SK group was to improve corporate governance structure, the IPO of SK C&C achieved the intended goal of dismantling cross-holdings and streamlining ownership structure of SK group. This drives higher market valuation for shareholders of SK C&C and affiliated companies in SK group as well.

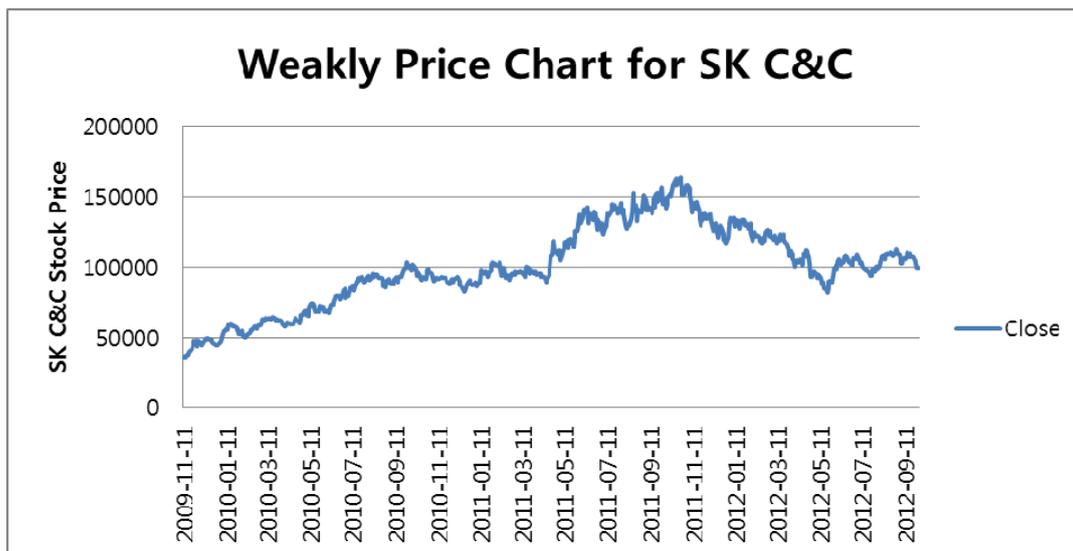
References

- Bhagat, S., & Black, B. (2001). The non-correlation between board independence and long-term firm performance, *Journal of Corporation Law*, 27, 231-274.
- Boone, A., Field, L., Karpoff, J., & Raheja, C. (2007). The determinants of corporate board size and composition: An empirical analysis, *Journal of Financial Economics*, 85, 66-101.
- Chi, J., & Lee, D. (2010). The conditional nature of the value of corporate governance, *Journal of Banking and Finance*, 34, 350-361.
- Coles, J., Daniel, N., & Naveen, L. (2008). Boards: Does one size fit all?, *Journal of Financial Economics*, 87, 329-356.
- Cremers, K., & Nair, V. (2005). Governance mechanism and equity prices, *Journal of Finance*, 60, 2859-2894.
- Damodaran, A. (2006). *Damodaran on valuation* (2nd ed.), John Wiley & Sons Inc., New York: New Jersey. PMCID:1635410
- Duchin, R., Matsusaka, J. & Ozbas, O. (2010). When are outside directors effective?, *Journal of Financial Economics*, 96, 195-214. <http://dx.doi.org/10.1016/j.jfineco.2009.12.004>
- Fitch Ratings (2008), *Global Corporate Finance Criteria Report*.
- Gompers, P., Ishii, J., & Metrick, A. (2003). Corporate governance and equity prices, *Quarterly Journal of Economics*, 118, 107-155. <http://dx.doi.org/10.1162/00335530360535162>
- Klein, A. (1998). Firm performance and board committee structure, *Journal of Law and Economics*, 41, 275–303. <http://dx.doi.org/10.1086/467391>
- Ritter, J. (1991). The Long-Run Performance of Initial Public Offerings, *Journal of Finance*, 46, 3-27. <http://dx.doi.org/10.1111/j.1540-6261.1991.tb03743.x>
- Rose, M. (2009). Heterogeneous impacts of staggered boards by ownership concentration, *Journal of Corporate Finance*, 15, 113-128. <http://dx.doi.org/10.1016/j.jcorpfin.2008.09.008>
- Yermack, D. (1996). Higher market valuation of companies with a small board of directors, *Journal of Financial Economics*, 40, 185-211. [http://dx.doi.org/10.1016/0304-405X\(95\)00844-5](http://dx.doi.org/10.1016/0304-405X(95)00844-5)

Appendix



Graph 1. Ownership structure of SK Group



Graph 2. Weekly Price Chart for SK C&C (2009/11/01-2012/10/01)

Table 1. Expected Sales Growth Forecasts for IT Service market in Korea

<i>(in KRW billion)</i>	2007	2008	2009E	2010E	2011E	2012E	Average Growth Rate
Consulting / SI	2,493.50	2,736.80	2,849.40	3,049.00	3,197.40	3,325.50	5.90%
Outsourcing	2,012.70	2,214.50	2,343.90	2,493.80	2,643.90	2,796.20	6.80%
Support & Training	1,058.70	1,097.80	1,120.60	1,148.90	1,173.00	1,196.10	2.50%
IT Services in Total	5,564.90	6,049.10	6,313.90	6,691.70	7,014.30	7,317.80	5.60%

Source: estimates from IDC, SK C&C, and Solomon Investment Securities Co.

Table 2. Historical Income Statement of SK C&C

<i>(in KRW100 million)</i>	2006	2007	2008	2009.6
Sales (Net)	11,079	11,609	12,752	5,216
Cost of Goods Sold	7,055	7,652	8,099	
Gross Sales Margin	4,024	3,958	4,653	5,216
Selling, General, & Admin. Expense	2,891	3,162	3,761	4,684
EBIT	1,134	796	892	533
EBITDA	1,539	1,118	1,232	706
Non-operating Income(Expense)	1,558	1,959	441	944
EBT	2,692	2,755	1,333	1,476
Corporate Tax	754	796	-125	347
Net Income	1,938	1,959	1,458	1,129

Sources: Bloomberg, Fn Guide

Table 3. Industry growth estimates and PE ratios

A. Average PE multiple for the global Information Services firms

<i>Industry Name</i>	<i>Number of Firms</i>	<i>Price/Current EPS</i>	<i>Price/Trailing EPS</i>	<i>Price/Forward PE</i>	<i>Expected Growth</i>	<i>Payout Ratio</i>
Information Services	29	19.62	22.31	21.14	13.37%	38.17%

Source: Damodaran (2006) Online (<http://pages.stern.nyu.edu/~adamodr/>)

B. PE for comparable companies

<i>Company</i>	<i>Country</i>	<i>Target PE</i>	<i>Industry Average PE (local)</i>	<i>Country Average PE</i>
Samsung SDS	Korea	15.2	12.5	10
LG CNS	Korea	30.1		
Ssangyong I&C	Korea	15.4		
Shinsegae I&C	Korea	7.1		
EDS Corporation	USA	12.5	13.8	13.8
Wipro Limited	India	16.5	16.1	13.6
Infosys	India	17		

Sources: Bloomberg, Fn Guide

Table 4. Comparison of six largest holding companies in Korea

<i>(in KRW100 million, if not otherwise indicated)</i>	<i>LG</i>	<i>SK Holdings</i>	<i>GS</i>	<i>Doosan</i>	<i>Hanhwa</i>	<i>CJ</i>
Market value of cross holdings	140,290	98,810	41,210	31,150	44,780	21,550
Net Asset Value*	163,290	92,990	46,110	36,750	38,780	22,980
Net Assets Value per share (in KRW)	92,367	226,876	48,698	158,448	55,750	82,351
Stock Price on Nov. 5th, 2009 (KRW)	66,400	91,400	28,450	74,300	38,400	47,250
Discount**	28.10%	59.70%	41.60%	53.10%	31.10%	42.60%

*: Net asset value = Market value of cross holdings in subsidiaries + Real estate + Brand royalty - Net borrowings

** : Discount = (Net Asset Value per share - Stock Price)/Net Asset Value per share

Sources: Daewoo Securities Co., Shinhan Finance & Investment, 2009

Table 5. Performance of recent IPOs

<i>Company</i>	<i>Bidding date (MM.DD)</i>	<i>Offer Price (krw)</i>	<i>IPO date</i>	<i>Current Price (krw)</i>	<i>Changes</i>
I&C Technologies	9.24	16,000	10.6	11,500	-28.13%
NeowizBugs	9.25	9,000	10.6	6,680	-25.78%
DongYang Life Insurance	9.3	17,000	10.8	15,000	-11.76%
Hans Bio-Med	9.3	5,500	10.9	5,970	8.55%
Jinro	10.9	41,000	10.19	43,000	4.88%

Sources: Fn Guide

¹ Fitch Ratings, Global Corporate Finance Criteria Report, May 22, 2008.