

ChungHong Holdings Ltd – Mounting to Success

22 Apr 2008

Recommendation BUY

Bloomberg Code CHH SP
Share Price S\$ 0.21
Target Price S\$ 0.41
Upside Potential 95%

Report Type

Initiate Coverage

Company website

www.chunghong.com

Stock data

Sector : PCB
Share Cap : 220m shares
Market Cap: S\$ 46m

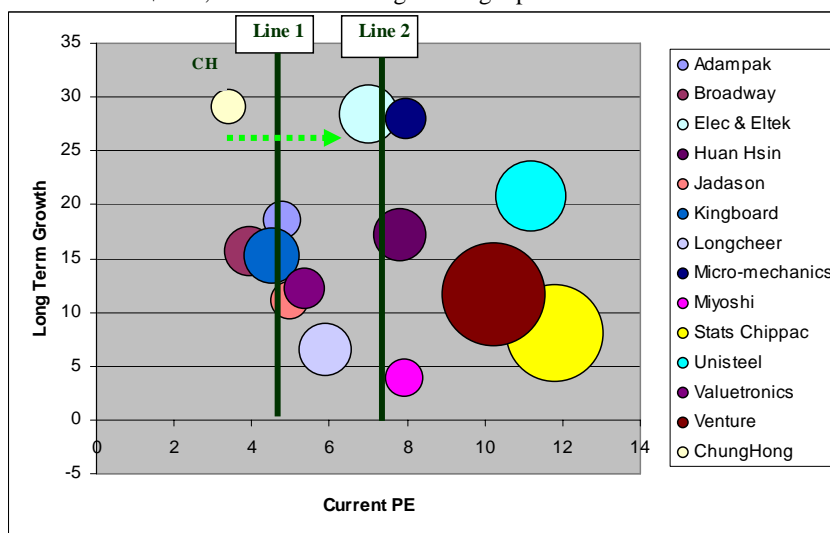
Major Shareholders:
ComWorld Inc. 72.21%
Fa-Lin 2.09%
Free float: 59.6m shares

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MICA (P) 213/09/2007

Initiate coverage with BUY recommendation and \$0.41 TP: We believe ChungHong (“CH”) is well positioned to grow remarkably within the most dynamic segments of the electronics consumer product industry. We project substantial revenue growth of 40% in FY08 and 35% in FY09, driving substantial cash flow and earnings. We are setting a 12-month target price of S\$0.41 for CH, based on a 6.5x FY08 PER. The multiple we peg to FY08 EPS is based on a valuation band that is constructed by using three key determinants - long-term growth, current PE and market capitalization - of a group of technology counters. We cross check our multiples method with discounted free cash flow to firm and derive TP of S\$0.47, further reaffirming our target price.



Note: Size of the circle represents market capitalization

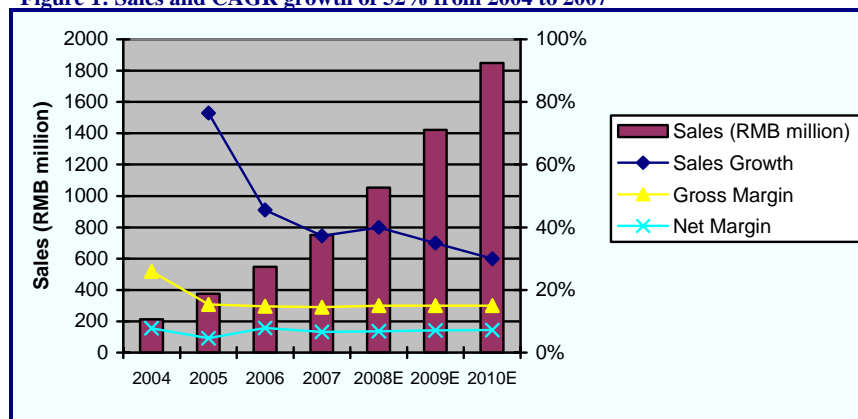
Source: Bloomberg, Westcomb Securities

Growth catalyst:

- Poland Investment as a Gateway to Europe Market:** LCD TV demand growth is particularly strong in Europe, already the world’s largest LCD TV market, and is expected to expand from almost 16 million units in 2006 to approximately 33 million units in 2009. Having a foothold in Eastern Europe would give CH a competitive edge to maintain control and bargaining power in the supply chain as well as to shorten response time to its customers. In addition, our breakeven analysis shows the Poland investment to turn profitable by 1H08.
- Booming LCD Industry:** LCD TV has been increasing in terms of LCD market shares against other applications like monitor and notebook PC. Demand for LCD products is expected to remain robust at least until 2010 due to CRT replacement and rising middle class income population. According to DisplaySearch forecast, LCD panel shipments will record 467 million units in 2010 from 257 million in 2006, representing 16% CAGR.
- Partner with First-Tier Customers:** Samsung and LG are CH’s major customers. They are top leaders in LCD TV industry in terms of market share, accounting for 15.0% and 11.7% respectively in 4Q2007. From the growth perspective, Samsung and LG experienced the highest year on year growth, registering 37% and 32% respectively in 4Q2007, much above industry average of 5%. Based on exponential growth rate by its customers and their dominance in TV industry, it would not be surprised to see CH perform remarkably in near future

Financial Highlights:

- Remarkable Growth:** We estimate CH's revenue to grow at 40% in FY08 and maintain the gross margin at 15%. Our estimate is based on (i) historical performance of 52% CAGR in revenue from 2004 to 2007, (ii) revenue contribution from Poland Investment, (iii) new customers adding into top line performance, and (iv) its customers' prospects.

Figure 1: Sales and CAGR growth of 52% from 2004 to 2007

Source: CH, Westcomb Securities

- Stable Gross Margin:** We estimate gross margin would be 15.0%, 14.5%, and 14.0% for FY08, FY09, and FY10, as compared to 14.5% in FY07. The increase in estimated margin in FY08 is due mainly to production on new products that command higher margin.

Year End: 31 Dec (RMB mil)	2005	2006	2007	2008E	2009E	2010E
Revenue	376.5	547.8	752.1	1053.9	1422.2	1838.9
Revenue Growth	76.5%	45.5%	37.3%	40.1%	34.9%	29.3%
Gross Profit	57.8	81.2	109.1	158.1	206.2	257.4
Gross Margin	15.4%	14.8%	14.5%	15.0%	14.5%	14.0%
Net Profit	17.3	43.4	49.9	69.4	88.5	107.8
Net Margin	4.6%	7.9%	6.6%	6.6%	6.2%	5.9%
EPS (cts)	10.5	26.3	29.3	31.6	40.3	49.1
EPS Growth	3.4%	150.7%	11.6%	7.6%	27.4%	21.9%

Table of Content

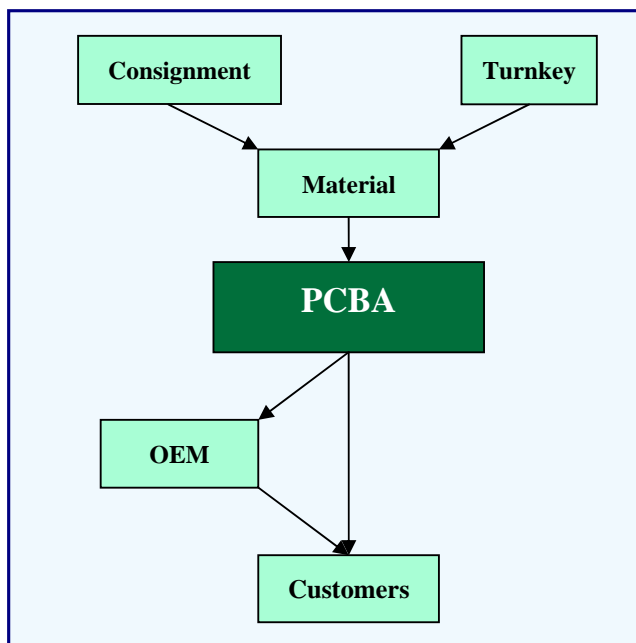
A) Company Profile.....	4
I. Introduction.....	4
CORE BUSINESS	4
BUSINESS MODEL.....	5
MAJOR SUPPLIERS.....	7
MAJOR CUSTOMERS	7
PRINCIPALS PRODUCTS:.....	8
PRODUCTION FACILITIES AND CAPABILITIES	9
COST BREAKDOWN	9
II. History.....	10
III. Group Structure.....	11
IV. Management	12
V. Awards and Certifications	12
B) Investment Positive.....	13
I. Increasing PCBA outsourcing	13
II. Better PCB Outlook with a Less US-Centric Economy	14
III. Robust LCD Industry	16
IV. Poland Investment: Gateway to Europe Market	18
V. Riding with First Tier Customers	20
C) Competition Analysis	22
D) Risks.....	25
E) Valuation Analysis.....	27
F) Financial Tables.....	31

A) Company Profile

I. Introduction

CORE BUSINESS

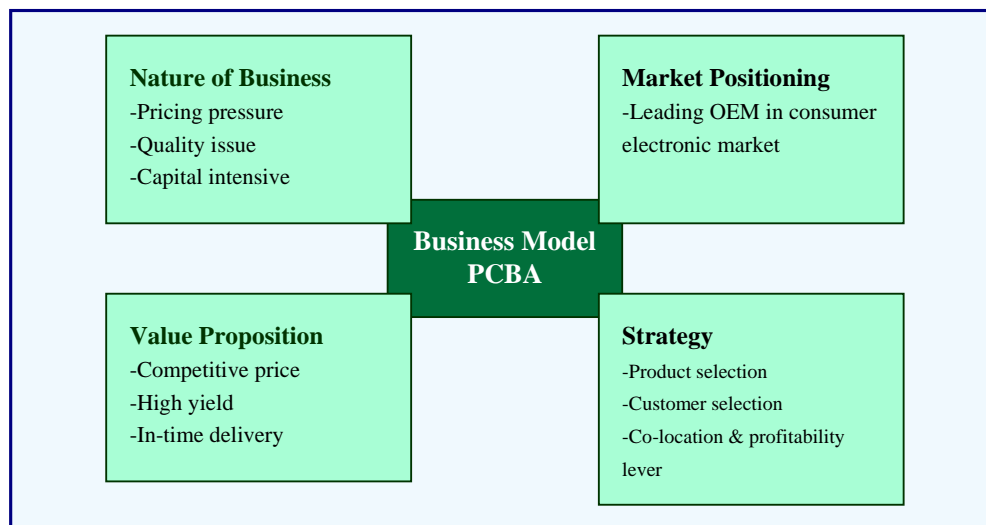
CH provides printed circuit board assembly (PCBA) and original equipment manufacturing (OEM) services. PCBA is the process of assembling electronic components onto a PCB through three techniques, namely auto insertion (AI), manual insertion (MI) and surface mount technology (SMT). OEM services involve the assembly of completed PCBs with other components into final completed products. CH takes orders on either turnkey or consignment basis. For turnkey, CH is responsible to source all the parts and components required by PCBA process whereas for consignment orders, the parts and components are supplied by the customers.



Source: CH

PCBA is a very competitive and fragmented industry, with hundreds, if not thousands of players. One of the major distinctions between CH and other typical electronic manufacturing services (“EMS”) companies is the range of services provided. Many EMS players offer PCBA service as a complementary to their wide range of other electronic manufacturing services, whereas CH’s core business is mainly in PCBA. As such, specialization and economies of scale enable CH to generate much better margin than most EMS companies. The management is comfortable that the company can maintain gross margin of 12% to 14% and net margin of 6 to 7%.

There are a lot of casualties in PCBA business with many making losses. Some are forced to move to other business line while some still remain profitable as they are able to find a niche position in high end equipment market in which their strategy is high mix low volume. Nonetheless, this kind of companies usually has slower growth because of smaller quantity being produced and also tends to be succumbed to cyclical capital industry. We hardly see a specialized PCBA company serving consumer market that is characterized by high pricing pressure and robust growth. CH managed to deliver a robust CAGR revenue growth of 52% within the period of 2004 to 2007 and a promising return despite tough business context. Remarkably, the astonishing growth is only contributed from organic expansion. Therefore, we believe CH’s consistent success is attributable to its proven business model.

BUSINESS MODEL

Source: CH, Westcomb Securities

Low Risk Expansion:

There are two kinds of organic expansion, one is horizontal and the other is vertical. Horizontal expansion is defined as building up business through duplication of same manufacturing capabilities whereas vertical expansion focuses on acquisition of a wide range of new capabilities. Typical EMS companies are in the mixture of vertical and horizontal business while CH tends to be more horizontal kind of business due to its main focus on PCBA. Horizontal expansion is naturally lower risk for the reasons: (i) proven business model which is easier to duplicate, (ii) predictable return on invested capital and (iii) lower overheads as R&D is not required.

Market Positioning:

CH targets customers who are the leading OEMs in electronic consumer market in which product consumption is robust due to swelling middle income population from emerging markets, insatiable demand for better functionality and continuous innovation in electronic products. CH strengthens its position in competitive landscape through its strategy laid out for growth and profitability.

Value Proposition:

CH is in the list of preferred vendors due mainly to its three principal competitive edges, namely (i) pricing, (ii) high yield rate and (iii) in-time delivery. CH has an edge in pricing as it is able to leverage its profitability levers to its utmost. The defect CH made in average is less than 20 pieces per million (PPM), translating to yield rate of more than 99.998%. CH currently operates in more than 6 different locations, ensuring in-time delivery to customers' plant.

Strategy:

CH has proven its ability to grow the company at a rate of 52% CAGR with at least 14% of gross margin. The success lies on its strategy to choose the right customers, right product segment and the value propositions it provides to customers.

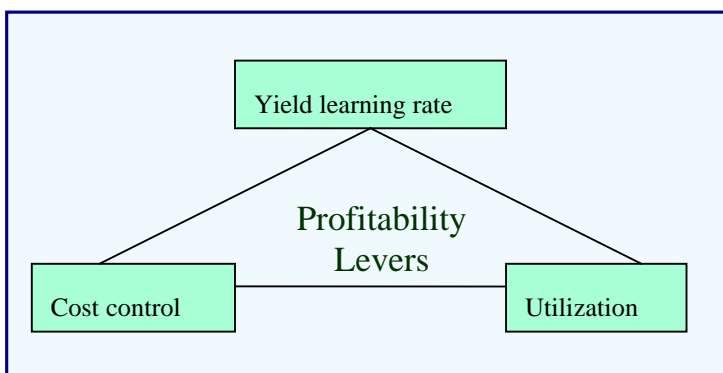
CH has its own set of criteria when comes to customer selection. The criteria of customer includes but not limited to, (i) top 3 in market share, (ii) high growth, and (iii) clear product roadmap that offer high valued products. Among its pool of customers, Samsung, LG and LogiTech are market

leader for LCD TV and computer mouse.

On top of customer selection, CH views that product selection is critical to secure its growth and margin. CH prefers those products at the infant or growing stage whereby there are high odds of continuing product improvement. The reason is that these products would always have newer version which command higher ASP to replace the older one. Higher ASP usually results in better margin for CH. A very good example is LCD TV with various size of screen such as 32”, 42”, 52”, etc, which are sold at much higher premium as screen size increases. In contrast, DVD player is the mature products and thus its ASP is capped at a limit. In view of importance of customer and product selection, CH always follows closely with its customers’ development and future prospects in terms of product roadmap, ensuring sustainable growth and profitable margin.

Profitability Lever

As mentioned, there are a lot of PCBA companies making losses. However, only those companies with top management system, strong business acumen, and responsiveness to customers’ needs would remain profitable and keep growing in market share for an extensive period. CH’s historical performance is a testament to its ability to sail swiftly through the industry where there are so many casualties. We believe CH’s success attributes to its ability and know-how to manoeuvre its profitability levers, namely yield learning rate, utilization and cost control. With that, CH will be able to offer competitive price yet maintaining its margin at comfortable level.

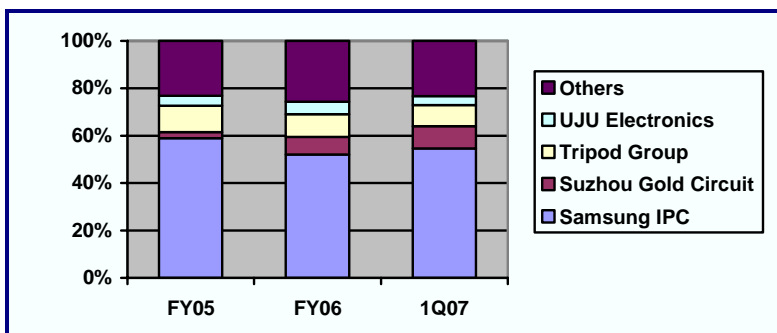


Source: CH, Westcomb Securities

Control cost effectively and efficiently is essential for a manufacturing company with its plant scattering throughout the world. CH is using ERP system for raw materials sourcing, testing and inspection, information management, production, packing and export to reduce its management and logistic costs. Yield rate for PCBA is at least 99.998% or less than 20 PPM while that for OEM is not less than 99.90% or not more than 1000 PPM. OEM has higher defects because additional processes such as packaging, assembly, etc are required, entailing more chances for mistakes to come into the way. Nevertheless, the above yield rate is deemed as outstanding one in industry. CH is prudent when comes to operation expansion, of which could be well explained from its investment in Poland. The expansion decision made is on the request of customers and after meticulous examination on the market potential and investment benefits.

MAJOR SUPPLIERS

Figure 2: Major Suppliers

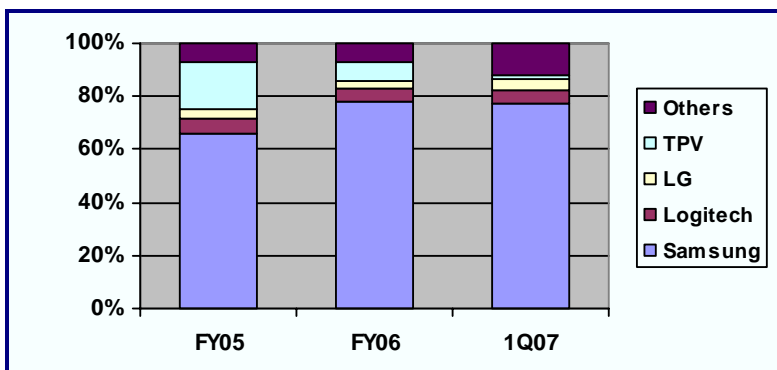


Source: CH

The main raw materials needed for PCBA include ASIC, PCB, IC, connector and soldering paste. Most materials are supplied by Samsung IPC because of the strategic business relationship and also specification requirement on PCB. For 1Q07, Samsung IPC contributed 54.7% as a percentage of total purchases while Suzhou Gold Circuit, Tripod and UJU Electronics contributed 9.3%, 8.9% and 3.8% respectively. There is abundance of players providing PCB and its related materials, therefore we view risk from suppliers is negligible.

MAJOR CUSTOMERS

Figure 3: Major Customers



Source: CH

CH’s repeating customers such as Samsung Group, Logitech, LG Group and TPV contribute more than 85% of its revenue. Revenue contribution from Samsung is inflated because Samsung order is in turnkey basis. Turnkey boosts up revenue as CH will charge raw material costs on top of its PCBA service it renders, but it would command lower margin as compared to consignment basis. Therefore, the earnings’ contribution among the customers is quite balanced out as most customers except Samsung place order on consignment basis. Most customers are first-tier customers whose brands are well known worldwide. Some advantages of having first-tiers customers consist of (i) high credit worthiness, (ii) large volumes leading to economies of scales, and (iii) platform for consistent growth.

PRINCIPALS PRODUCTS:

CH provides PCBA and OEM services mainly for the products listed in the following segments:

Computer Peripherals	TV and Home Appliances	Mobile Displays, Devices and Others
-Monitor (CRT/LCD) -Mouse -Keyboard -Computer power supply	-CRT TV -Flat panel display TV (LCD/Plasma) -DVD player	-Digital camera -Mobile phone -Digital photo frame

Among the principal products that CH provides PCBA services, LCD related products contribute the most. CH has been focusing on provision of PCBA and OEM services to be used in LCD products such as the sourcing board and the inverter of the backlight of LCD modules.

Table 2: Segmental Revenue Breakdown

	2004	2005	2006	2007
PC peripherals	163,922	329,420	473,906	594,060
TV & Home Appliance	36,121	45,767	60,058	105,628
Mobile Display	13,212	1,279	13,880	52,346
Total Sales	213,255	376,466	547,844	752,034

Table 3: Segmental Gross Profit Breakdown

	2004	2005	2006	2007
PC peripherals	39,131	41,777	54,142	62,799
TV & Home Appliance	16,638	15,615	21,002	36,468
Mobile Display	-631	452	6,054	9,785
Total Sales	55,138	57,844	81,198	109,052

Table 4: Segmental Gross Profit Margin

LCD	2004	2005	2006	2007
PC segment	24%	13%	11%	11%
TV & Home Appliance	46%	34%	35%	35%
Mobile Display	-5%	35%	44%	19%
Total	26%	15%	15%	15%

From table above, we can see segmental gross margin is quite different from one another. As mentioned, CH takes order in turnkey or consignment basis. Turnkey basis usually has much lower margin as compared to consignment. For PC segment, bulk of it comes from turnkey, implying lower gross profit margin for this particular segment.

PRODUCTION FACILITIES AND CAPABILITIES

Source: CH

Currently, CH has seven production facilities, located in Suzhou, Shenyang, Tianjin, Qingdao and Yantai and Poland. As at 31 December 2007, CH have 60 fully automated PCBA process lines in operation.

Table 5: SMT Lines

	2004	2005	2006	2007	2008E
CHSZ	17	19	26	31	31
CHTJ	7	5	5	6	6
CHSY			4	4	4
CHQD		4	4	7	7
CHHD	-	-	-	-	-
CHYT			3	7	7
CHPL				5	9
Total	24	28	42	60	64

Source: CH

COST BREAKDOWN

Table 6: Cost Breakdown

COGS	Items	FY07	%
Raw Material	Direct	495,030	77%
	Indirect	20,117	3%
Labor Cost	Direct	65,419	10%
Production Overhead	Depreciation	34,627	5%
	Others	27,789	4%
TOTAL		642,982	100%

Source: CH

Direct Material Costs: Direct material costs are only applicable for turnkey orders where CH purchases direct materials on behalf of customers. Whereas for consignment orders, direct materials are supplied by CH's customers. Key direct materials are PCBs and electronic components such as ICs, connectors, inductors, capacitors, electrical wiring, cords and resistors. These electronic components are mounted or subassembled onto the PCB using AI, SMT and/or MI.

Indirect Material Costs: Indirect materials costs comprise mainly costs for auxiliary materials used for soldering and other assembly processes and are applicable to both turnkey and

consignment orders.

Minimal Impact on Rising Raw Material Cost: Rising copper and crude oil price in recent months are affecting many manufacturers' profitability. Copper is key component used in PCB and many other components. It is also used in soldering during PCBA process. While 3% indirect material cost is of insignificance as a percentage of COGS, direct material cost which weighs much of COGS might suffer from rising commodity price. Nonetheless, worth noting that as most raw materials are specifically required by its customers, therefore, CH would have the support of its customers to bargain with vendors for lower price. On top of that, CH's customer will revise its pricing if rising raw material cost eats up CH margin. By and large, rising material cost only affect its indirect raw material portion. Expressed in number, every 1% increase in raw material cost could lead to 0.026% increase in COGS as a percentage of sales, or 0.026% decrease in gross margin.

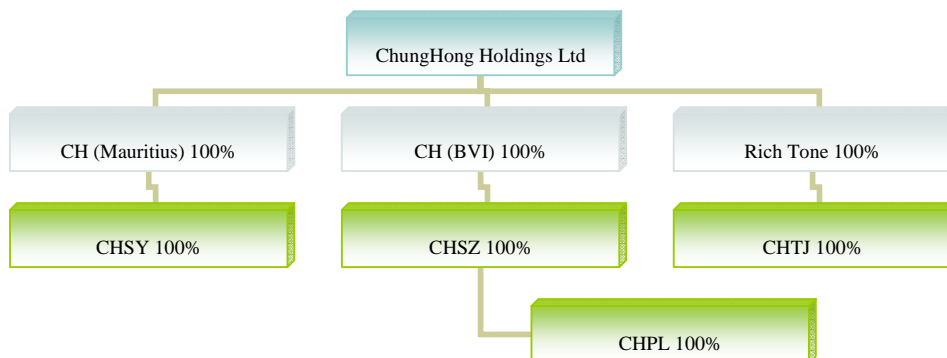
Rising Labor Cost: In PRC, labor shortages and government enforcement for better labor welfare are boosting wages, squeezing corporation margins. CH foresees 5 to 10% increase in labor cost. For worst case scenario of 10% increase, gross margin will shrink by 0.85%.

II. History

Year	Events
1996	<ul style="list-style-type: none"> ~ Dick Lin (Non-executive Director) established CHSZ. ~ Brave Yu was recruited to be the overall in-charge responsible for setting up the operations of CHSZ. ~ CHSZ secured its first orders from BenQ and Philips Consumer Electronics Company of Suzhou, Limited.
2000	<ul style="list-style-type: none"> ~ CHSZ established a branch in Shenyang and secured its first order from the LG Group for CRT TVs.
2001	<ul style="list-style-type: none"> ~ Brave Yu (Executive Chairman and CEO) took a 48% stake in an equity joint venture known as Suzhou Sheng Hong Electronics Co., Ltd., a provider of MI-based PCBA services. ~ Subsequently, Brave Yu acquired the remaining stake and held 100% interest in Suzhou Sheng Hong Electronics Co.,Ltd. ~ CHSZ successfully expanded its customer base to include Logitech.
2002	<ul style="list-style-type: none"> ~ Lead Data acquired 85% interest in each of CHSZ, Suzhou Sheng Hong Electronics Co., Ltd. and Kinghong Electronics (Suzhou) Co., Ltd.
2003	<ul style="list-style-type: none"> ~ CHSZ secured first order from the Samsung Group. ~ CHSZ established a branch in Tianjin to provide AI-based PCBA services. ~ With the Enterprise Resource Planning (ERP) system in place, CHSZ began taking orders on a consignment as well as a turnkey basis.
2004	<ul style="list-style-type: none"> ~ A new plant in Suzhou was commissioned and the factory space of CHSZ increased from approximately 14,000 sq m to 41,202 sq m in 2005. ~ ComWorld Inc., acting for Lead Data, acquired an indirect interest of 72.4% of the issued and paid-up share capital of CHTJ through Rich Tone. ~ CHTJ established CHQD as a branch in Qingdao to provide PCBA (SMT and AI) services in Qingdao.
2005	<ul style="list-style-type: none"> ~ CHSZ was certified to be ISO 9001:2000 compliant and was awarded the QS-9000:1998 accreditation, in recognition of its quality management system. ~ CHSZ established CHSY, which took over the business operations conducted by the Shenyang branch of CHSZ.

	~ CHSZ set up CHHD, as a branch in Qingdao Economic and Technology Development Zone.
2006	~ After passing the stringent UAT 534 Certification Assessment conducted by Philips Electronics Industries (Taiwan) Ltd, the company was awarded the contract to provide PCBA and OEM services for the manufacture of Philips Electronics Industries (Taiwan) Ltd's digital photo frame. ~ Commenced the construction of a new plant in Shenyang of approximately 8,131 sq m
2007	~Completion of construction of the new plant in Shenyang ~Incorporated ChungHong Electronics Poland Sp. z o.o. ("CHPL") in Poland as a subsidiary of CHSZ

III. Group Structure



CH (Mauritius): ChungHong Electronics Shenyang (Mauritius) Co., Ltd.

CHSY: ChungHong Electronics (Shenyang) Co., Ltd.

CH (BVI): ChungHong Electronics (BVI) Co., Ltd.

CHSZ: ChungHong Electronics (Suzhou) Co., Ltd.

CHPL: ChungHong Electronics Poland Sp. z o.o.

Rich Tone: Rich Tone Co., Ltd.

CHTJ: Tianjin ChungHong Electronics Co., Ltd.

IV. Management

Name	Position	Description
Brave Yu	Executive Chairman, CEO	- Factory Director at Top-World Electronics Co. Ltd - General Manager at CHSZ - College qualification in aerial admin
C.K. Liang	Executive Director of Process Engineering	- Manufacturing manager at Trans-World Electronics Co. Ltd. - President at Liu Zhuang Electronics Co. Ltd. - President at Hengda Electronics Co. Ltd. - Factory director at Xinya Electronics Co. Ltd. - Founder of Kinghong Electronics Co. Ltd. - Junior college
Vincent Liu	Executive Director, Group Finance, Chief Treasury Officer	- Finance and accounting manager at CHSZ - Investment manager at Libon Capital Management Co. - Assistant Manager in Tai-Yu Security - Bachelor of Science - Master in Business and Admin
Stephen Yin	General Manager, CHSZ	- Plant director at Jean Technology Co. Ltd - Senior quality assurance director at Philips Consumer Electronics Co. Ltd - Bachelor of Project Management - Master in Business and Admin
Seo Hyun Seung	General Manager, CHSY and CHTJ	- General Manager at Haengsung Electronics Co. Ltd. - Manager at Huarong Electronics Co. Ltd. - Manager at Korea Data Systems - Associate Degree in Electronic Engineering
Yap Koon Long	CFO	- Assistant Finance Manager at Ezyhealth Asia Pacific Ltd. - Accountant at Breadtalk Pte. Ltd - Graduate Diploma in Accounting - Master in Business in Professional Accounting

V. Awards and Certifications

CH has received numerous customer awards such as from the Samsung Group and the LG Group. CH has also achieved ISO9001, QS-9000 and ISO14001 certifications in recognition of their quality management systems.



Source: CH

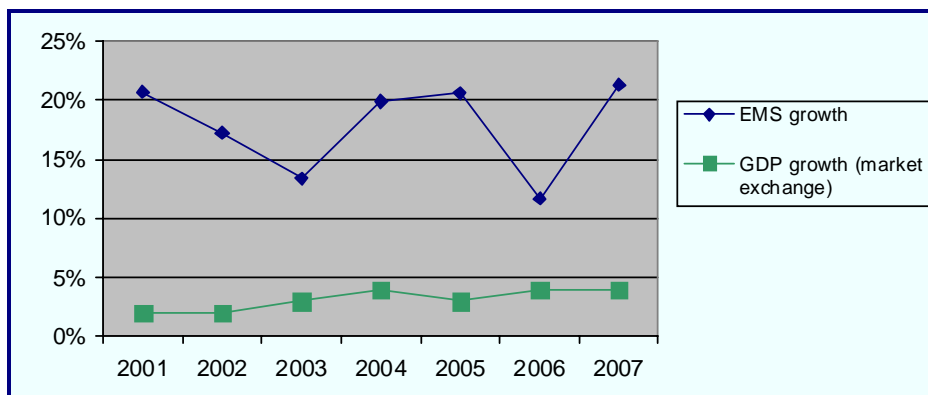
B) Investment Positive

I. Increasing PCBA outsourcing

As most PCBA service providers are small in terms of size and run by family, there are limited samples can be used to examine the outsourcing trend of PCBA. Nonetheless, we believe that the growth of PCBA industry is highly correlated to the EMS industry growth based on two factors. Firstly, PCBA is one of the important services rendered by EMS companies. For instance, PCB accounts for about 4% of sales for both Flextronics and Sanmina-SCI. Secondly, almost every electronic device, if not all, requires PCB to perform tasks and functions. Thus, we would like to use revenue growth of top EMS companies in the word as the proxy of the PCBA outsourcing trend.

There are 9 top EMS companies including Flextronics, Jabil, Hon Hai Precision, Samina-SCI, Elcoteq, Benchmark, Venture, Celestica and Plexus, used as the proxy. EMS companies are reliant on OEM customers like Nokia, Apple, Cisco, Dell, Samsung, LG, Sony, Philips etc for business while OEM customers are reliant on end-consumer spending for income. Therefore, GDP is a good indicator of the trend of consumer spending and therefore an appropriate comparator to determine if outsourcing trend grows faster or otherwise.

Figure 4: EMS growth vs GDP growth



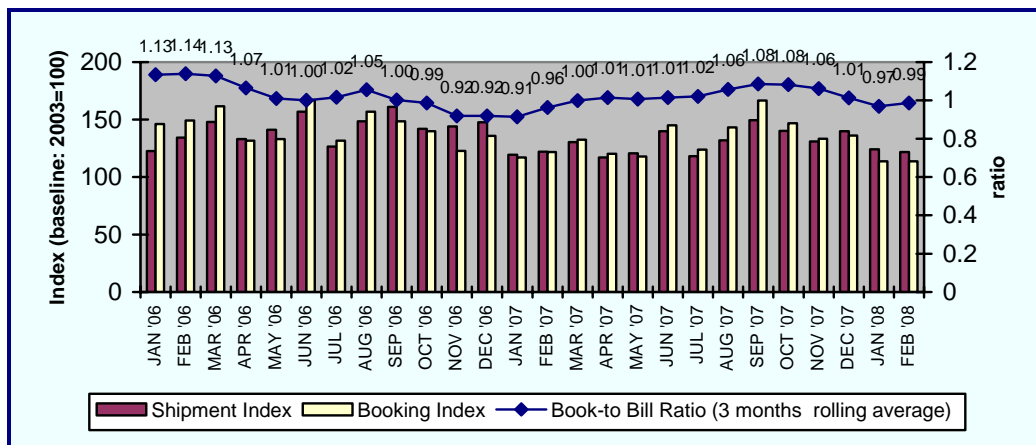
Source: IMF, Westcomb Securities

The figure shows the EMS revenue growth has been higher than GDP growth for the past few years. The high growth is mainly due to three factors. The first one is more OEMs are adopting outsourcing strategy or asset light strategy so as to focus on their own core competencies and lower procurement costs. The second factor is the industry consolidation whereby large EMS companies acquire smaller companies to achieve economies of scale. The last factor is that EMS companies acquire manufacturing assets from their customers.

We believe the PCBA outsourcing is also driven by increasingly challenging engineering expertise, ranging from process engineering expertise to electronics engineering expertise. As electronics devices are becoming commodity, pressure to keep the cost low is ever mounting. To achieve cost competitiveness, however, strong engineering capabilities and technological innovation are critical to optimize production process and efficiency. On view of that, OEM would prefer to outsource PCBA to sub-cons with specialized technical know how to produce high quality PCB yet at lower price.

II. Better PCB Outlook with a Less US-Centric Economy

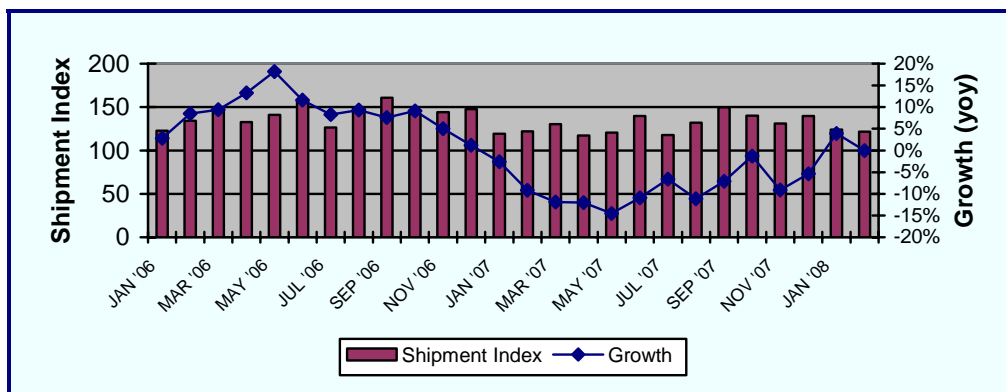
Figure 5: Trends in Book-to-Bill Ratio for All PCBs (Rigid and Flexible PCBs)



Source: IPC

The 3 month All PCBs book-to-bill ratio came in at 0.99x for Feb 08 compared to 0.97x in Jan 2008 and 1.01x in Dec 2007. The ratio was second month below parity in Feb 2008 after ten months of above parity. In other words, orders have been declining as manufacturers are unwilling to build up inventories as they remain cautious about economic outlook concerning US recession triggered by combination of subprime crisis, inflation and credit crunch. However, the pickup in ratio for Feb 08 indicates a reversal trend, implying that rising demand is catching up supply. Therefore, we believe book-to-bill ratio will be above parity again in 2Q08.

Figure 6 : Figure 3: All PCBs Shipments Year-on-Year Growth Rate



Source: IPC

The year-on-year growth for All PCBs shipment has entered into positive territory in Jan 08 after 12 months of negative growth. Nonetheless, growth for Feb 08 remains flat.

Demand from emerging markets mitigating the risk of US recession

Even if US recession sets in, we note that PCB demand continues to be positive on the view that Asia and other emerging markets have been rising significantly in terms of GDP weight while US is contracting. The trend indicates that world economies will be more evenly distributed and tend to be less US-centric. In 2007, emerging market's GDP weight replaced US as the top economies, mitigating the impact of US recession to worldwide GDP. The strong growth from emerging markets like China and India will be the continuing source of PCB demand. The demand side is

expanding due to lower price of electronic devices making it more affordable to people as well as swelling portion of middle income population from India and china.

Figure 7: World GDP Breakdown



Source: IMF World Economic Outlook Database (April 2008 Edition)

Other demand drivers

Beijing Olympics: The Beijing Olympics should drive consumer electronics consumption through 2008 because the country promotes digital broadcasting and people in PRC should upgrade their TVs ahead of long waited Olympics. Moreover, 3G related electronic products such as handsets and infrastructures would contribute to overall growth as Chinese officials have insisted the country will have 3G network up and running by 2008 Olympics.

PC replacement: Based on historical PC replacement once every four years, we expect 2008 is a PC replacement cycle. On top of that, the replacement may be partly assisted by the launching of Vista by Microsoft. Vista has been around for more than a year but not well received by the public due to more demanding hardware requirements, slower file operation, additional licensing cost and so on. Nonetheless, Microsoft has worked out most of the problems through ways like introducing Service Pack 1 to boost up the performance and reliability. In addition, mainstream ¹XP support which will expire in April 2009 and Microsoft's move to cut Vista's price would help to enhance PC replacement cycle.

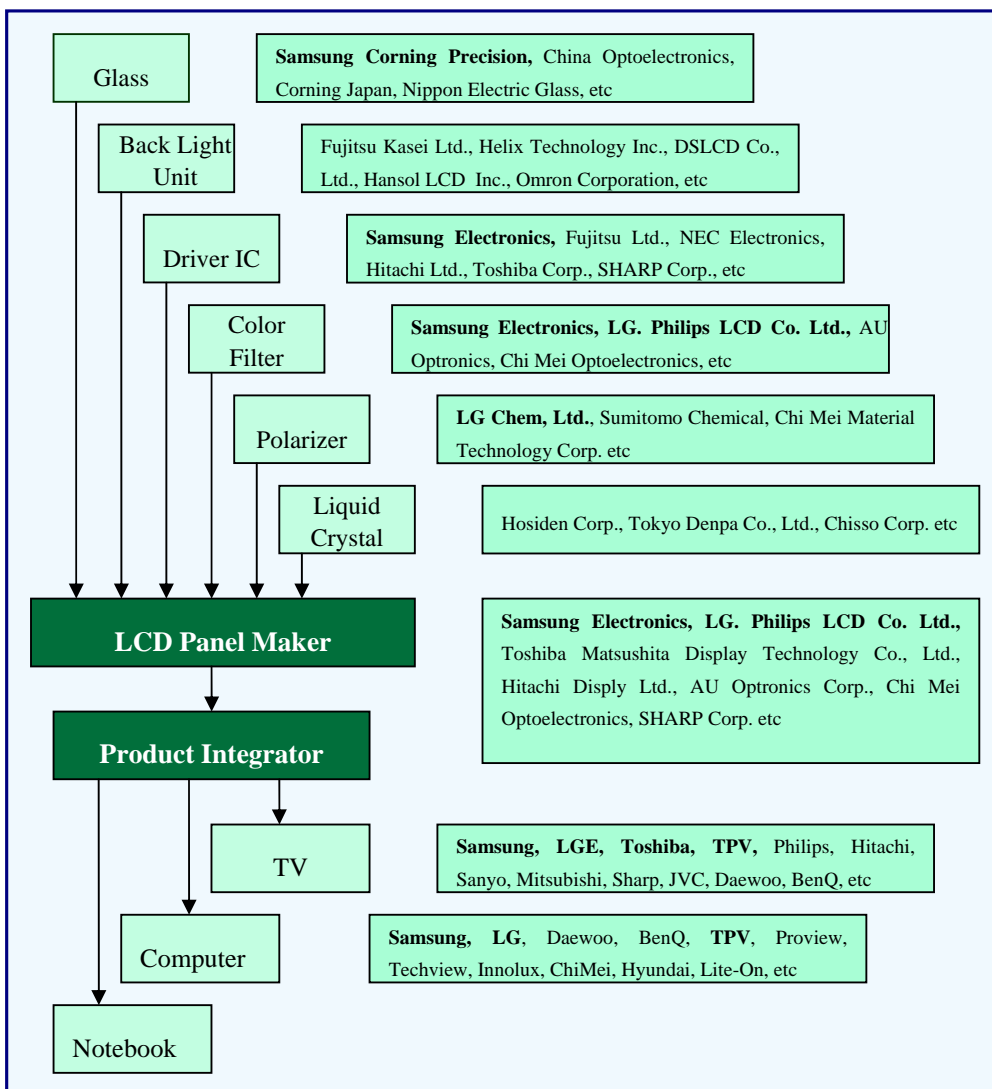
Function Improvement: Nowadays, more features and functions are embedded into electronics devices than ever before. Consequently, more functionality requires larger PCB space as more components are needed. However, using large PCB space would compromise product design and too bulky for handheld devices. Therefore, demand pressure on PCB space has driven PCB industry towards miniaturization. In other words, more functionality and smaller PCB space drive ²passive component manufacturer to produce components that are smaller and yet are able to perform better. As PCB space is getting more expensive from the OEMs' point of view, reduction in PCB space is correlative to ASP of PCB, implying better margin for PCB companies.

¹Windows XP Home, Pro and Media Center will receive "mainstream support" until April 2009, including feature requests, security updates, hot-fixes and support. When the mainstream support period expires, all three products will enter the five-year 'extended support' period. Security updates and paid support will be offered during the extended support period, along with a hot-fix support agreement that users can purchase. Official support for all three versions of Windows XP will end in 2014, 13 years after the first versions of the operating system were shipped. The five-year support clock started ticking at the time of Microsoft's Service Pack 2 for XP Home and Pro in August 2004.

²Passive components are capacitors, resistors, filters, etc.

III. Robust LCD Industry

Figure 8: LVD Value Chain



Source: Witsview

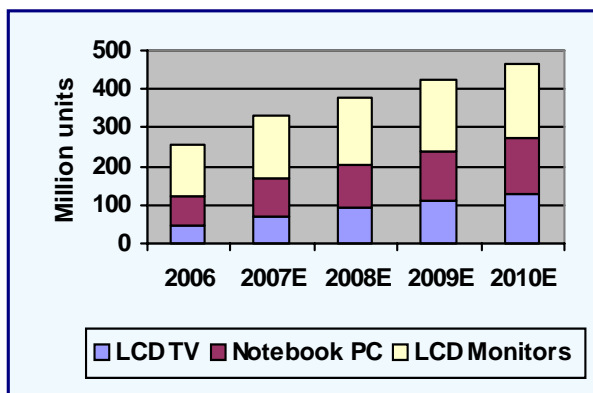
CH has been focusing on PCBA services to be used in LCD related products such as LCD monitor, LCD TV and digital photo frame. As a result, its growth prospects are somewhat correlated to the LCD industry, especially LCD TV. The figure above shows the LCD value chain with its corresponding players. Note that both CH's customers, Samsung and LG Group, are active in the whole value chain. The upstream of the value chain consists of raw material manufacturers whose products will be used to make LCD panel. Thereafter, the panel will be dispatched to downstream player or OEM, product integrators whose finished goods are consumer products such as TV, computer, notebook and other applications.

The table 7 shows that LCD TV has been increasing in terms of LCD market shares against other application like monitor and notebook PC. The increase is encouraging to CH as it is able to ride on its customers' growth, particularly LG Group and Samsung.

Table 7: Q4'07 Large-Area LCD (10"+) Unit Volume Shipment Share

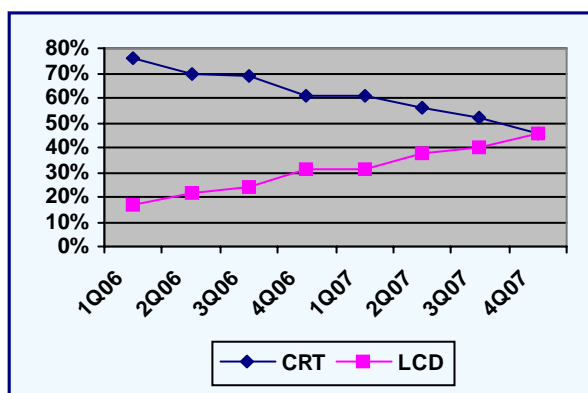
Application	Q1 2007	Q2 2007	Q3 2007	Q4 2007
Monitor	48.6%	48.4%	45.8%	43.5%
Notebook PC	29.0%	28.2%	29.3%	28.5%
TV	18.8%	20.4%	21.8%	24.7%
Others	3.6%	3.0%	3.2%	3.3%
Total	100%	100%	100%	100%

Figure 9: LCD Panel Shipments Forecast



Source: DisplaySearch Q1 '07 Quarterly Report

Figure 10: Worldwide CRT vs LCD TV Unit Share



Source: DisplaySearch, Feb 2008

Demand for LCD products is expected to remain robust up to 2010 due to CRT replacement and rising middle class income population. According to DisplaySearch forecast, LCD panel shipments will record 467 million units in 2010 from 257 million in 2006, representing 16% CAGR. CRT replacement trend for PC and TV is getting more prominent. The demand for LCD is mainly driven by better quality, less space consumption and falling price. In terms of screen size, LCD offers much larger screen while CRT television is limited to about 40 inches due to the size requirements of cathode ray tube. A larger screen size requires longer tube, making a CRT television with a large screen unrealistic. From the space point of view, LCD has a great advantage of being slim and also can be wall-mounted. On top of that, it is lighter and less bulky compared to CRT.

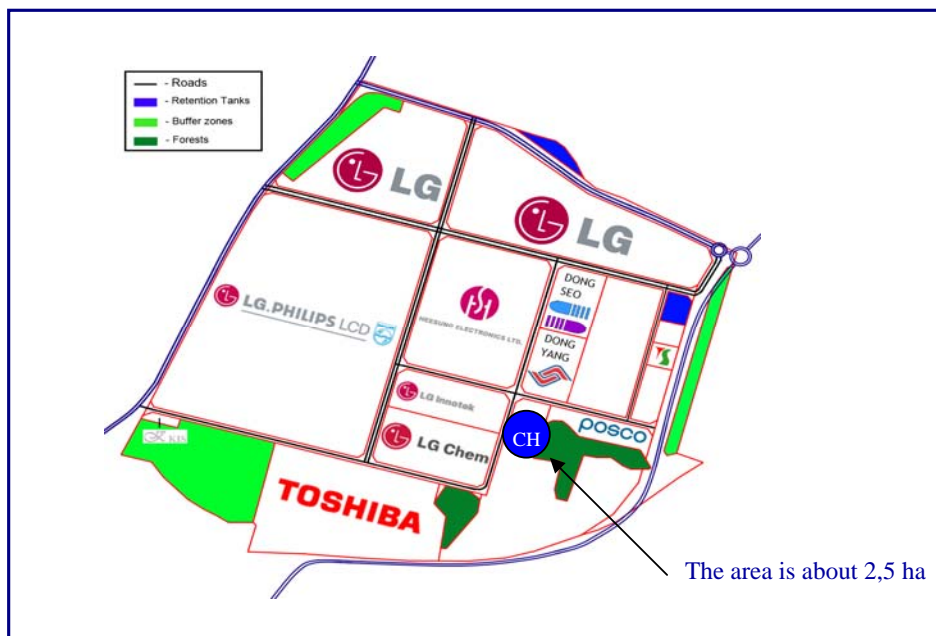
DisplaySearch reported that LCD TV shipments worldwide overtook CRT TV shipments for the first time, after rising 56% year on year to a record of more than 28.5 million units or 47% of the world TV market, further validating the pronouncement of CRT replacement trend.

IV. Poland Investment: Gateway to Europe Market

Story: LG Innotek, part of the LG Group and established in Poland in 2005, has an understanding with CH that it would require PCBA (SMT) service. This is a valuable opportunity for CH to gain a foothold into Europe Market. Therefore, CH incorporated a wholly owned subsidiary, Chung Hong Electronics Poland Sp. Z.o.o. at Poland on July 6, 2007 with an initial paid up capital of US\$2.8 million or PLN 7.7 million. The decision came after studying its prospects in Poland as well as assessing investment risks (more details on Poland's business environment at Appendix A). Following the issue of new shares, the paid-up capital for CHPL increased to US\$12.8 million. The investment is for the purposes of purchasing of land for future construction of a new factory, payments for machinery purchased and working capital.

Rationale: In recent years, Eastern Europe has attracted a huge influx of investments, driven by under-penetrated market and favourable investment environment. Manufacturers are incentivized to invest there to avoid 14% tariff imposed in the European market. Moreover, LCD TV demand growth is particularly strong in Europe, already the world's largest LCD TV market, and is expected to expand from almost 16 million units in 2006 to approximately 33 million units in 2009. In addition, having a foothold in Eastern Europe would give CH a competitive edge to maintain control and bargaining power in the supply chain as well as to shorten response time to its customers.

Figure 11: LG and its Partners Manufacturing Plant



Customers: Currently, CH only has one customer in Poland, LG Innotek. The service that CH renders to LG Innotek is PCBA on consignment basis for LCD TV. Potential customers include Toshiba (has 19.9% stake in LG. Philips LCD) and Humax in near term. Toshiba in Poland is the second production base of LCD TV in Europe. It started production in July and has already ramped up to full scale production. Toshiba targets production of some 3 million units in Europe by 2009, with the main focus on large sized LCD TVs with screen sizes of 32-inches and above.

CH Production Capacity: Its manufacturing space of 2,840 m² is located in the LG Innotek's plant. CH has bought a piece of land right beside LG Innotek and planned to start construction in 2009 to 2010. CH has 5 SMT lines in operation now - one inverter line and 4 SMT lines - with annual production of 1.2 million units. CH plans to add in another 4 SMT lines in 2H08 so as to boost up the annual production capacity to 2.4 million units.

Demand from LG: LG’s LCD TV plant in Wroclaw, Poland started assembling TVs at the end of 2006 and had an annual capacity of more than 3.5 million sets in 2007. LG plans to expand the capacity to 11 million units.

Comprehensive Supply Chain: From the figure above, we can see a cluster of companies forming a comprehensive supply chain for LCD TV manufacturing. With LG partners building their factories near to LCD module plant, LG establish a highly efficient local production system for LCD products. As CH is integrated into part of the supply chain, we believe that this highly inter-dependent structure among players in the chain would provide enough security for CH to have continuing operating profits at least until medium term. The roles played by each player are illustrated as follow:

- LG. Philips LCD assembles and manufactures of TFT-LCD TV modules
- Dong Seo Display produces metal components
- Lucky SMT makes PCBs
- Dong Yang Electronics manufactures plastic components and assemble PCBs.
- Heesung Electronics makes backlight units
- LG Chem produces polarisers and PDP filters
- LG Innotek makes inverters, TV tuners and power supply units
- LG Electronics assembles complete TV sets
- ChungHong assembles PCBs

Breakeven Analysis:

Figure 12: Cost Structure in PRC

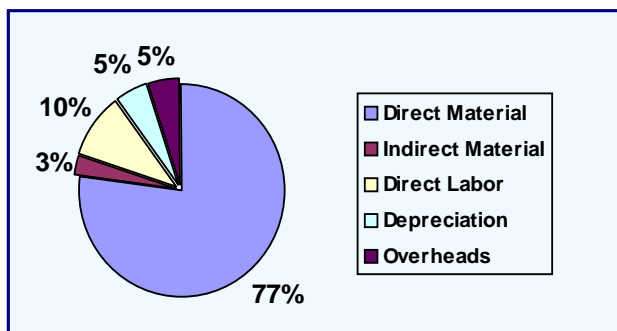
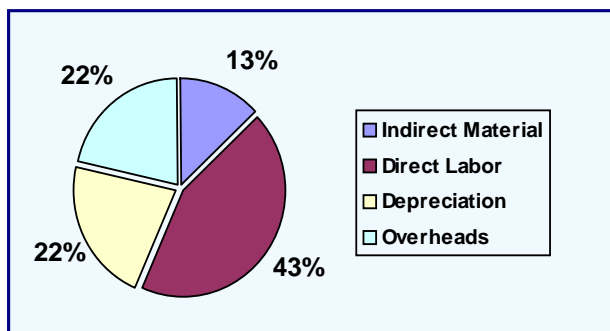


Figure 13: Projected Cost Structure in Poland



Source: CH, Westcomb Securities

We use cost structure in PRC operation to extrapolate cost structure in Poland. As Poland plant takes order in consignment basis, so it does not bear any direct material cost. By taking away direct material portion which comes from turnkey order and using proportionate projection, we derive depreciation cost to be 22% as a percentage of total COGS. We also make assumption that other operating expenses such as admin charges would not be significant and therefore the breakeven point would occur as income cross over COGS.

Investment in 9 SMT lines:	US\$11 million
Depreciation policy:	10 years
Capacity:	2.4 million units
Projected annual depreciation cost for 9 SMT lines:	US\$1.1 million
Projected annual breakeven cost:	US\$ 5.0 million
Average selling price for a LCD TV’s PCB:	US\$5
Breakeven point:	1 million units
Minimum utilization for breakeven point:	42%

We believe achieving 1 million units a year would be easily achievable for CH in view of strong demand and ambitious plan by LG as well as other potential customers such as Toshiba and Humax that has emerged in the vicinity of its production base. Taking into consideration of yield learning time and set-up time, we estimate CH to be profitable by 1H08.

V. Riding with First Tier Customers

a) First-tier customers

CH major customers include Samsung, LG, Logitech and PTV. Those customers are well known brands in the consumer electronics industry and their products spanning throughout the world. On top of riding on the booming LCD industry, we think that CH has been benefited substantially from having reliable customers in terms of credit terms and continuous flow of orders. From the table, it is evident to note that Samsung and LG are the top leaders that dominate TV industry in terms of market share, accounting for 15.0% and 11.7% respectively in 4Q2007. From the growth perspective, Samsung and LG experienced the highest growth on year on year basis, registering 37% and 32% respectively in 4Q2007, much above industry average of 5%. Based on exponential growth rate by its customers and their dominance in TV industry, it would not be surprised to see CH perform remarkably in near future.

Table 8: Total TV Brand Unit Share and Growth

Rank	Brand	3Q07 Share	4Q07 Share	Q/Q growth	Y/Y growth
1	Samsung	13.9%	15.0%	30%	37%
2	LGE	11.3%	11.7%	25%	32%
3	Sony	6.2%	8.0%	56%	20%
4	Philips	7.0%	7.4%	28%	0%
5	TCL	5.7%	5.9%	25%	-24%
6	Other	56.1%	52.0%	12%	-2%
Sales		100.0%	100.0%	21%	5%

Source: Display Search, Feb 2008

Merely looking into its customer historical data would not be a good indicator on how CH will sail through the turbulent 2008 which is clouded by possible US recession. Therefore, we tabulate the sentiment index for CH's main customers to give us a general outlook of their prospect. .

Table 9: Sentiment Index for CH Major Customers

	Revenue			Net Income			Sentiment Index ¹
	2007	2008E	2009E	2007	2008E	2009E	
Samsung Group (KRW bil)	62825	72309	79675	7138	8976	10312	2.89
LG Group (KRW bil)	23650	26420	27971	1011	2224	2312	2.77

Source: Bloomberg, Westcomb Securities

¹Sentiment Index is calculated based on the average of the individual analyst's ratings. The ratings comprise of three categories, namely buy, hold, and sell with the numeric value of 3, 2, and 1 respectively. We view that mean value between 2.5 and 3 would be positive outlook in general.

b) Never losing a single customers

CH has been emphasizing on the quality of services and also constantly seeking to deliver beyond its customers' expectation through working closely with customers throughout their product development and assembly process. Its ability to provide high yield, on time delivery and flexible production output earns the trust from its customers. To date, CH has never been losing any single customers.

Table 10: Major Customer as a percentage of sales

	2004	2005	2006	1Q07
Samsung Group	40.8%	66.4%	77.9%	77.6%
LG Group	6.3%	5.7%	4.8%	4.8%
Logitech	6.3%	3.4%	3.5%	3.9%
TPV	30.8%	18.4%	6.9%	1.5%
Others	15.8%	6.1%	6.9%	12.2%
Total	100%	100%	100%	100%

Source: CH

Sales as a percentage of revenue derived from Samsung Group increased over the years. Although sales derived from Logitech and the LG Group had increased, the percentage of revenue from Logitech and the LG Group as a percentage of total revenue has decreased due to the increase in the orders from Samsung Group. In FY2005, sales from TPV as a percentage of sales decreased because of the increase in the orders from Samsung Group as a percentage of revenue. In FY2006, sales from TPV as a percentage of revenue decreased because TPV reduced the production of its monitors and TVs and they also reduced the quantity that they previously used to outsource as they began their own production.

By and large, one of the main differentiation points CH has over its competitors is its customer base. Being the favourite vendor to first tier customers, CH is poised to grow with customers.

C) Competition Analysis

CH is in a very competitive PCB industry whereby there are thousands of companies throughout the value chain. The figure below shows the whole value chain of PCB industry in which the companies listed in Singapore Exchange position themselves differently. Note that there are still many other foreign PCB related companies that are not illustrated in the figure.

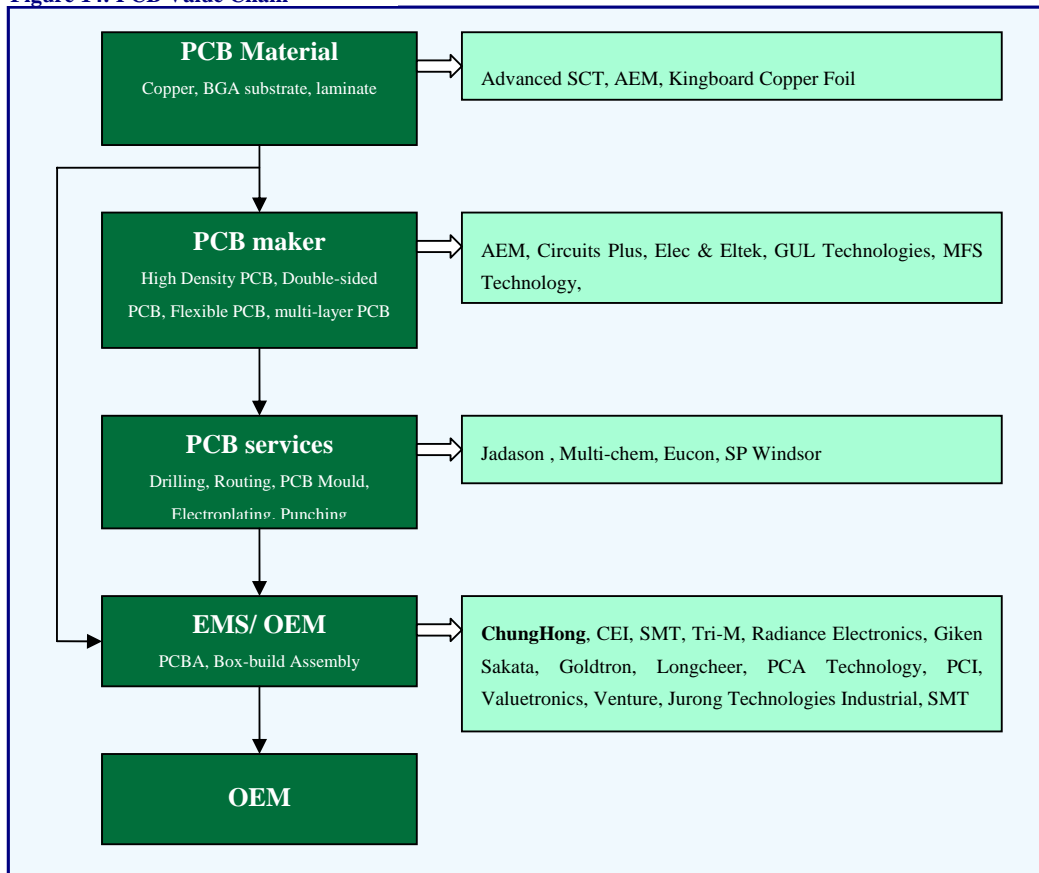
The upper stream of the PCB industry starts with:

- (i) **PCB material manufacturer** who produces materials, such as copper, substrate, laminate, etc, which in turn will be used in PCB production and PCBA process;
- (ii) **PCB maker** who manufactures wide range of PCB, namely high density PCB, double-sided PCB, multi-layer PCB, flexible PCB, etc.

On the other hand, lower stream includes:

- (iii) **PCB services provider** who offer various services such as drilling, routing, electroplating, etc;
- (iv) **Electronic Manufacturing Services (EMS) player** who provides electronic manufacturing services such as PCBA, box-build assembly, ODM services like design and development, testing, etc; EMS providers make profits through their large economies of scale to provide low manufacturing cost to OEM customers. Top EMS companies include Hon Hai, Jabil, Benchmark, Venture, Sanmina-SCI, etc.
- (v) **Original Equipment Manufacturer (OEM)** who brings product to the market and sells it under its own brand to consumers.

Figure 14: PCB Value Chain



Source: Westcomb Securities

The following table shows the overall view on how the Singapore-listed companies in the PCB industry perform in terms of their margin, return, market value and valuation. Note that most of the companies in the table do not resemble good comparison for CH in view of discrepancies in term of the services being offered to customers and also market segments. For instance, CEI Contract Manufacturing's core business is PCBA but it serves industrial market whereas CH serves consumer market. As a result, the strategies employed would be different. Specifically, CEI Contract Manufacturing focuses on High Mix low volume while CH is High Volume low mix play. Nonetheless, the table would give a comprehensive snapshot on PCB companies listed in Singapore Exchange.

Table 11: Comparison on PCB Players listed in Singapore

	PCB Players	Market Cap (m)	Last Px. (S\$)	Margin (%)			PE (x)			Return (%)	
				gross	Op.	net	Hist	Curr	Nx.	RO E	ROA
PCB Material	Adv. SCT	105.6	0.34	8.0	2.8	0.9	22.2	3.2	2.8	4.4	10.7
	AEM	37.9	0.09	-	1.4	-1.6	-	6.0	5.0	-3.4	-
	Kingboard	256.5	0.36	11.0	8.3	7.7	5.4	4.5	4.0	13.9	12.4
	Average	133.3	0.26	9.5	4.2	2.4	13.8	4.6	3.9	5.0	11.5
PCB Maker	AEM	37.9	0.09	-	1.4	-1.6	-	6.0	5.0	-3.4	-
	Circuit Plus	13.5	0.04	16.2	3.0	0.6	175.0	-	-	0.5	1.1
	Elec & Eltek	319.7	1.78	16.1	8.1	6.1	0.2	7.0	6.2	10.9	8.9
	GUL Tech	65.2	0.07	23.8	15.2	4.0	8.6	-	-	-	-
	MFS Tech	196.0	0.30	9.5	4.6	2.5	-	-	-	5.0	-
	Average	126.5	0.46	16.4	6.4	2.3	61.3	6.5	5.6	3.2	5.0
PCB Services	Jadason	72.6	0.10	17.0	7.8	6.7	4.9	5.0	3.3	17.2	12.2
	Multi-Chem	75.7	0.21	26.3	13.8	11.0	4.9	-	-	22.6	14.0
	Eucon	39.9	0.07	16.1	8.6	5.7	6.0	-	-	7.2	6.6
	SP Windsor	30.6	0.25	36.9	19.4	14.7	6.0	-	-	28.1	22.3
	Average	54.7	0.16	24.1	12.4	9.5	5.5	5.0	3.3	18.8	13.8
EMS/OEM services	CEI	58.0	0.17	24.6	10.0	7.1	8.6	-	-	23.8	21.6
	Tri-M	201.3	0.74	-18.5	-50.6	-62.8	-	-	-	-264.4	-
	Radiance	44.8	0.17	8.6	3.3	2.1	14.1	-	-	6.2	6.3
	Giken Sakata	3.7	0.06	9.1	-5.9	-7.7	-	-	-	-77.3	-
	Goldtron	48.9	0.01	13.2	2.9	-4.4	-	-	-	-27.4	-
	Longcheer	204.3	0.52	13.8	7.9	7.7	5.6	5.9	5.6	38.9	-
	PCA Tech	24.4	0.12	9.2	0.6	2.8	10.8	-	-	5.6	-
	PCI	79.4	0.40	7.5	100.0	3.1	-	-	-	12.0	-
	Valuetronics	83.4	0.24	20.2	11.3	10.3	4.9	5.4	4.4	49.8	50.0
	SMT	43.5	0.17	14.6	3.8	2.5	6.3	-	-	9.5	7.4
	Venture	3208.8	11.70	-	7.1	7.8	10.7	10.2	9.2	20.5	-
	JurongTech	179.2	0.30	15.0	7.9	5.7	2.6	3.3	3.1	19.8	12.2
	¹ Average	432.8	1.49	14.9	6.1	4.6	7.9	6.2	5.6	16.3	19.5
	ChungHong	46.2	0.21	14.5	7.8	6.6	3.7	3.4	2.7	15.7	13.2

Source: Bloomberg, Westcomb Securities (As of 21 April 2008)

¹Average: exclude outliers such as TRI-M, Giken, PCI

Direct competitors:

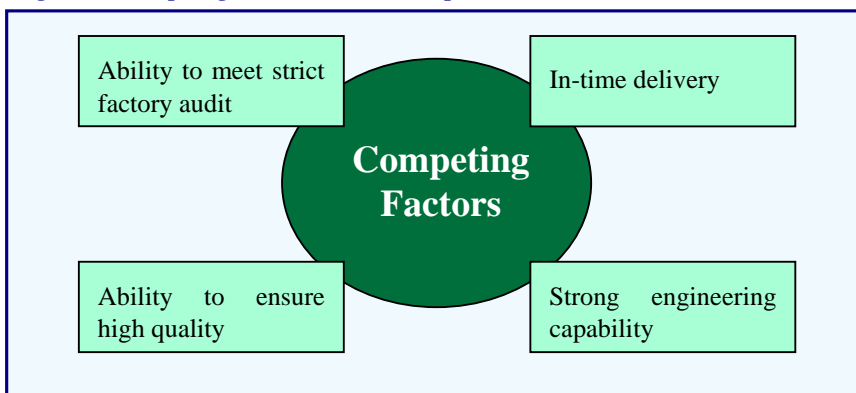
The following companies are believed to be CH’s direct competitors as they satisfy at least one of the 3 criteria, namely, similar customer base, similar capabilities and similar core businesses.

- Zhengwen Electronic (Suzhou) Co., Ltd
- We-Tech Co., Ltd Korea
- Surface Mount Technology (Holdings) Ltd
- Jing Hua Electronics (Suzhou) Co., Ltd
- Regent Electron (Suzhou) Co., Ltd
- XinXing Electronics Corporation
- Daesong Industrial Co. Ltd
- Korea Tronics Inc.
- Younyi Infor. & Communication Co. Ltd
- Japan Aviation Electronics Industry Limited
- Timo Technology Co.,Ltd

Competing factors:

From the perspective of customers, issues such as delivery time, capacity and product’s quality are their main concerns. The supplier is preferred to stay in the vicinity of the customer’s plant so as to obtain in-time delivery, resulting in cost saving from transportation fee and storage cost. On top of that, as PCB is getting more complicated due to more components mounted on it, customers would not want the quality of product to be compromised as defects will introduce costs such as warranty costs, damage in reputation and low efficiency. Therefore, strong engineering capabilities are bread and butter for the PCBA companies to ensure product’s quality remains intact. Lastly, capacity to grow with customers demand is what customer desires. By and large, PCBA companies are competing from 4 main aspects shown in the following figure.

Figure 15: Competing Factors for PCB Companies



Source: CH

D) Risks

I. Systematic Risk

Exposed to the risk of foreign exchange fluctuations

CH revenue and purchases and operating expenses are denominated in RMB, US\$ and Polish Zlotys. To the extent that CH revenue, purchases and operating expenses are not made in the same currency, CH is subject to foreign exchange fluctuation risks.

Other than transaction risk arising from operation, there is also exchange risk due to remittance of funds such as payment of dividends and repayment of foreign loans. CH currently does not have any hedging policy with respect to its foreign exchange exposure as most of the exposure is naturally hedged.

Non-RMB (mainly in US\$)	FY04	FY05	FY06	1Q07
Non-RMB as a percentage of revenue	33.0%	62.4%	76.9%	82.5%
Non-RMB as a percentage of purchases and expenses	40.9%	59.2%	72.7%	74.6%

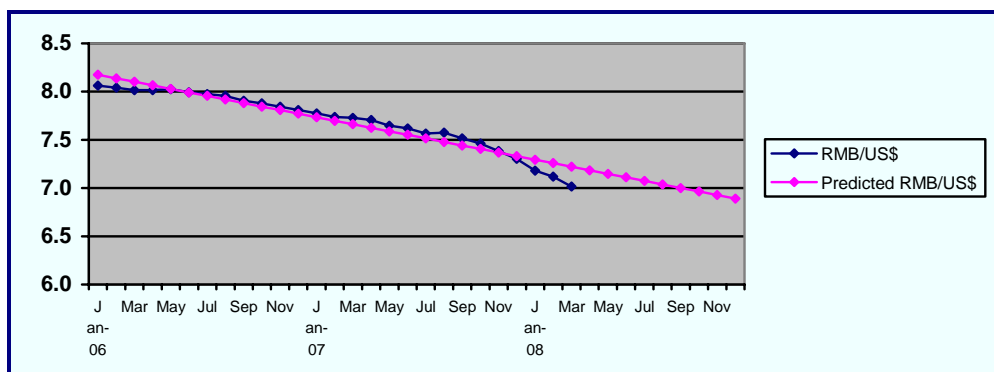
Both revenue and expenses for non-RMB is mainly in US\$

The stake that was not hedged for forex fluctuation is about 10% of revenue. We run a regression on monthly exchange rate on US dollar against RMB for a period starting from January 2006 to March 2008. R square is 0.933. We estimate at the December of 2008, exchange rate for US\$ 1 dollar would be RMB 6.89 as compared to RMB 7.33 in Dec 2007. Assuming even allocation of revenue and exchange rate increase throughout 12 months for FY08, forex loss for FY08 would be

$$\text{RMB } 3.4 \text{ million. } \left(\text{forex_loss} = \frac{10\% \cdot \text{sales}}{12} \cdot \sum_{n=1}^{12} \left(\frac{n \cdot \Delta \text{forex}}{12} \right) \right)$$

We estimate the forex loss would not be as high as RMB 3.4 million because about half of RMB 80 million long term bank loans is dominated in US dollar. The revaluation on the US\$ dominated loan will have positive impact if the US dollar continues to depreciate. For FY07, CH has a forex gain of RMB812k despite the fact that US dollar weakened by 6.5%.

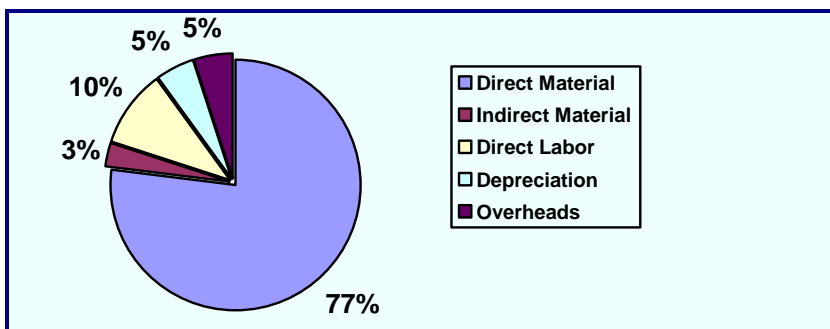
Figure 16: Exchange rate on US\$ against RMB



Source: MAS, Westcomb Securities

Rising raw materials and labor costs

Figure 17: COGS Breakdown



Source: CH, Westcomb Securities

Labor Cost: In PRC, labor shortages and government enforcement for better labor welfare are boosting wages, squeezing corporation margins. CH foresees 5 to 10% increase in labor cost. For worst case scenario of 10% increase, gross margin will shrink by 0.85%.

Raw material cost: While 3% indirect material cost is of insignificance as a percentage of COGS, direct material cost which weighs 77% of COGS might suffer from rising commodity price. Nonetheless, as most raw materials are specifically required by its customers, CH would have the support of its customers to bargain with vendors for lower price. On top of that, CH's customer will revise its pricing if rising raw material cost pressing on CH margin. By and large, rising material cost only affect its indirect raw material portion. We estimate there will be 5% increase in material cost, implying 0.13% rise in COGS as a percentage of sales.

II. Unsystematic Risk

Reliant on a few customers

For 1Q07, CH major customers, namely, Samsung Group, Logitech and the LG Group accounted for approximately 77.6%, 4.8% and 3.9% of its total revenue respectively. As CH does not have long term contracts with them, in the event that it loses these major customers, its revenue, results of operations and financial condition will be adversely affected.

Reliant on LCD industry

Bulk of the revenue comes from LCD-related products such as LCD monitor, LCD TV, photo frame, etc. Although LCD is dominating the display market, other flat panel display technologies such as Plasma Display Panel (PDP), Organic Light Emitting Diode (OLED), Microdisplay, etc are gaining footholds as well. According to DisplaySearch, sales of OLED displays are expected to surge 69% to more than \$826.5 million in 2008, and then grow by 83% in 2009 and 53% in 2010 as Active Matrix OLED (AMOLED) displays become mainstream. Some analysts speculate by 2009, OLED display manufacturers are expected to commence shipments of displays for notebooks and TV. Such rapid technology changes would pose a threat to CH to great extent if its customer's products become obsolete.

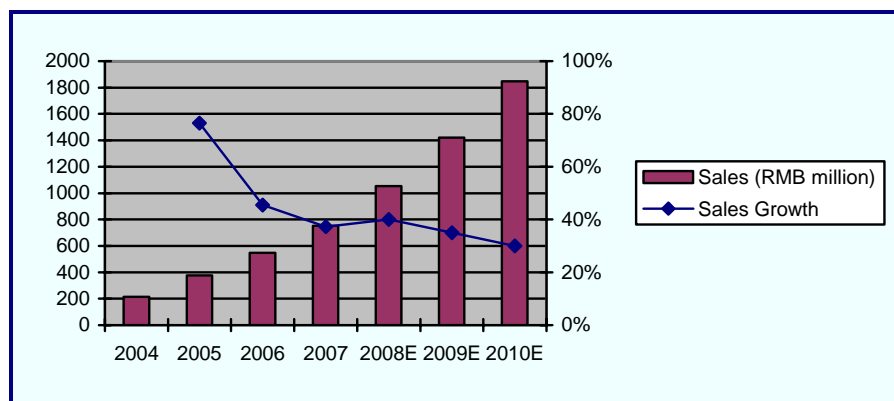
E) Valuation Analysis

Discount to listing price: The stock currently trades at S\$0.21. The recent sell down is mainly due to weak market sentiments triggered by US subprime crisis leading to credit crunch. The technology sector which has been catching little to no investors’ attention also pulls down CH’s earnings multiples. The share is clouded with pessimistic outlooks towards technology companies and battered US economy. Nonetheless, the fundamental of the company remains sound and it is expected to continue delivering robust growth in revenue and also keeping its margin in check.

Fundamentals in check despite troubling economy outlook: CH is expected to deliver another breakthrough in 2008 despite current turmoil in financial system that has affected many companies. We believe the CH fundamentals remain unchanged after examining external factors such as outlook of PCB and LCD industry and also internal factors such as expansion in Poland and its customers’ outlook. Brief summary on our analysis is as following:

1. Increasing PCBA Outsourcing Trend:
2. Better PCB Industry Outlook with a Less US-Centric Economy
3. Robust LCD Growth:
4. Poland Investment: Gateway to Europe Market
5. Riding with First Tier Customers:

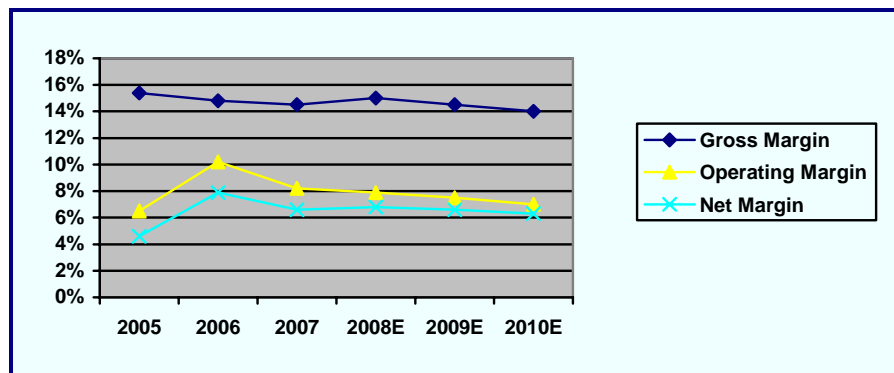
Figure 18: Sales Trend Forecasts



Source: Westcomb Securities

Based on that, we estimate conservatively CH’s revenue to grow at 40% in FY08 and maintain the gross margin at 15%. Our estimate is based on (i) the company has grown 52% CAGR in revenue from 2004 to 2007, (ii) recent expansion in Poland, (iii) new customers adding into top line performance, and (iv) its customers’ prospects.

Figure 19: Margin Trend Forecasts



Source: Westcomb Securities

We estimate gross margin would be 15.0%, 14.5%, and 14.0% for FY08, FY09, and FY10, as compared to 14.5% in FY07. The increase in estimated margin in FY08 is mainly due to new OEM product by one of its new customers, for which the selling price commands higher margin. We view abrupt margin squeeze is probable but the odds is low on view of its business model and strategies to capture high selling price products and also to get leading OEMs as customers.

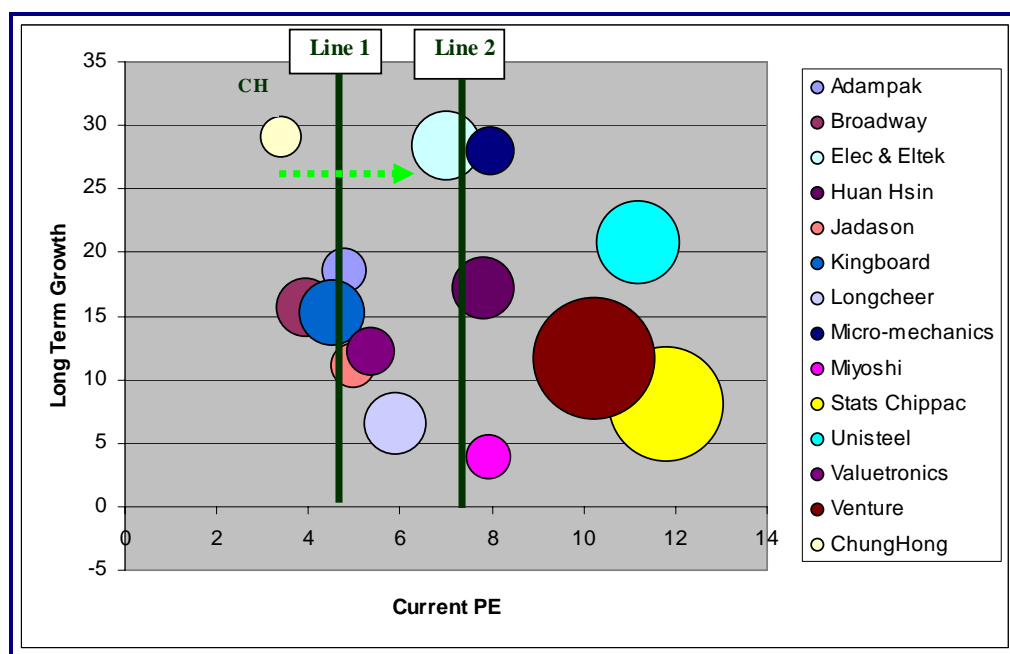
Cheap from PEG Perspective: There are numerous factors affecting valuation of a stock in term of their earnings multiples. Some prominent factors comprise market capitalization, crowd psychology, industry outlook, corporate actions including delisting and reverse takeover, company prospects, growth, etc. All other things being equal, higher growth stocks should be traded at higher premium and vice versa. We research on all the manufacturing counters in technology sector to get their corresponding data namely, ¹current PE, ²long term growth and ³current market capitalization. On top of that, we are only interested in those companies having PE lower than 15. Counter with PE higher than 15 is probably suffered by low earnings base, for instance, Chartered Semiconductor. Although there are hundreds of manufacturing companies being researched, only the following companies in the figure have the required data, particularly long term growth.

¹current PE = last trading price price/estimate current financial year PE

²long term growth = 3 to 4 year growth in earnings

³current market capitalization = last trading price * number share outstanding (represented by the size of the circle)

Figure 20: Valuation band



Source: Bloomberg, Westcomb Securities

As shown in the figure, Chung Hong is traded at cheapest PE despite its high long term growth potential of 30%, leading the rest of the technology counters. The closest comparators in term of long term growth were Elec & Eltek and Micro-Mechanics, both having 28% long term growth. Nonetheless, both of them traded at mean current PE of 7.5x.

Valuation: From figure above, we construct a valuation band using two dark green lines, representing upper limit and lower limit of the band. The **Line 1**, which is drawn based on average of small cap's current PE, corresponds to lower limit of current PE CH should be traded at. The **Line 2**, which is drawn based on average of high growth counters, represents upper limit of PE

band. The band is ranged from 4.5x to 7.5x current PE. We view CH should be fairly traded at 6.5x blended FY08 PER , a substantial 13% discount on 7.5x due to its smaller market size. Thus, we derive a one year target price of S\$0.41. We cross check our method -earnings multiples pegged to growth prospect- by examining CH's free cash flow.

Discounted Free Cash Flow to Firm (FCFF)

(RMB '000)	2008F	2009F	2010F	2011F	2012F
EBIT	93,420	117,551	143,351	167,972	188,788
tax rate	20%	22%	23%	25%	25%
EBIT (1-tax)	74736	91690	110381	125979	141591
Depreciation	53592	60903	70993	81716	94656
Capex (-)	-58491	-87736	-114056	-114403	-141985
Change in working capital (-)	-9952	-22455	-30049	-31552	-33130
FCFF	59886	42403	37268	61741	61133
Earning Growth	39%	27%	22%	15%	13%
Interest Growth	-5%	-38%	-19%	-21%	-26%
Depreciation Growth	40%	14%	17%	15%	16%
Asset Replacement Ratio	1.1	1.4	1.6	1.4	1.5
Growth of change in WC	-42%	126%	34%	5%	5%
Risk free rate	2.2%				
Market risk premium	10.3%				
Beta	1.12				
Cost of equity	13.8%				
Cost of debt after tax	6.0%				
Terminal growth	2.0%				
WACC	12.0%				
2008E equity value per share (S\$)		Terminal Growth			
WACC (%)	1.0%	1.5%	2.0%	2.5%	3.0%
11.0%	0.48	0.50	0.52	0.55	0.58
11.5%	0.45	0.47	0.49	0.52	0.54
12.0%	0.43	0.45	0.47	0.49	0.51
12.5%	0.41	0.43	0.44	0.46	0.48
13.0%	0.39	0.41	0.42	0.44	0.45
Terminal Value Sensitivity		Terminal Growth			
WACC (%)	1.0%	1.5%	2.0%	2.5%	3.0%
11.0%	404620	427938	453837	482768	515299
11.5%	378558	399381	422387	447939	476483
12.0%	355002	373686	394232	416931	442142
12.5%	333623	350461	368897	389170	411569
13.0%	314146	329381	345997	364190	384195

Source: Westcomb Securities

Assumption: Assumption for working capital requirement, asset replacement ratio, tax structure as well as depreciation rate for the next 5 years are critical to come out with FCFF valuation. We estimate risk free rate to be 2.21%, based on the benchmark yield of 10 year government bond. We follow Bloomberg estimate of expected market return- 12.52%. Since CH's history in market is rather short, historical BETA which is calculated using regression of returns of the stock against returns on the market index would not be meaningful. We therefore apply Bottom-up BETA by determining the degree to which CH uses financial leverage against its peers in the same industry. Other things remaining equal, an increase in financial leverage will increase the BETA of the company. We choose a sample of companies, in which they have similar business and also similar market capitalization, to derive average unlevered BETA by using the following formula.

$$BETA_{levered} = Beta_{unlevered} \cdot \{1 + (1 - tax) \cdot \left[\frac{Debt}{Equity} \right]\}.$$

As a result, by substituting average unlevered BETA, CH corresponding corporate tax, and market value for debt ratio, into the same equation, we derive CH BETA to be 1.12. Lastly, we run sensitivity test on target price and terminal value by varying its WACC and terminal growth.

Target Price: Based on our FCFF, we derive target price of S0.47 under the case 2.0% terminal growth and 12.0% WACC. The valuation is higher than earnings multiples method. To be conservative, therefore, we opt to use earning multiples as the core valuation that derive target price of S\$0.41. Representing upside potential of almost 2 fold, we would recommend **BUY**.

F) Financial Tables

Income Statement						Balance Sheet					
(RMB 'm)	2006	2007	2008E	2009E	2010E	(RMB 'm)	2006	2007	2008E	2009E	2010E
Revenue	547.8	752.1	1053.9	1422.2	1838.9	Cash & equivalentst	31.1	157.3	206.8	224.4	247.5
COGS	(466.6)	(643.0)	(895.8)	(1216.0)	(1581.4)	Receivables	37.6	77.6	106.8	148.1	196.5
Gross Profit	81.2	109.1	158.1	206.2	257.4	Inventory	27.7	35.6	49.1	70.0	95.3
Other Op Income	12.3	6.2	0.0	0.0	0.0	Others	17.0	27.5	26.4	25.4	24.4
Other Op Expense	(37.8)	(53.7)	(66.2)	(89.9)	(115.5)	Current Assets	113.3	298.1	389.1	467.8	563.7
EBIT	55.7	61.6	91.9	116.4	141.9	Net PPE	270.3	389.6	394.5	421.3	464.4
Interest Income	0.0	0.0	1.5	1.2	1.4	Net Intangibles	1.9	1.1	1.1	1.1	1.1
Interest Expense	(5.6)	(6.9)	(6.6)	(4.1)	(3.3)	Total Investments	0.0	0.7	0.7	0.7	0.7
Associates and JV	-	-	-	-	-	Others	10.9	10.6	10.6	10.6	10.6
Exceptionals	-	-	-	-	-	Total assets	396.4	700.0	796.0	901.5	1040.4
Others	-	-	-	-	-	Payables	53.8	87.5	120.3	159.9	203.6
Pre-tax Profit	50.1	54.6	86.8	113.5	140.1	Short-term Debt	24.3	71.5	51.5	41.7	31.6
Income Tax	(6.5)	(4.8)	(17.4)	(25.0)	(32.2)	Others	26.6	72.2	84.8	92.4	99.7
Minorities	(0.3)	-	-	-	-	Total current liab	104.7	231.1	256.6	294.0	334.9
Net Profit	43.4	49.9	69.4	88.5	107.8	Long-term Debt	34.5	79.8	80.8	60.4	50.6
EPS (cts)	26.3	29.3	31.6	40.3	49.1	Others	-	-	0.0	0.0	0.0
EPS diluted (cts)	26.3	29.3	31.6	40.3	49.1	Total liabilities	139.2	311.0	337.5	354.5	385.6
DPS (cts)	0.0	0.0	0.0	0.0	0.0	Shareholder's Equity	247.8	389.0	458.5	547.0	654.8
NTA per share (cts)	153.5	176.4	208.0	248.3	297.3	Minority Interests	7.2	-	-	-	-
EPS Growth	150.7%	11.6%	7.6%	27.4%	21.9%	Total Liab & Equity	394.2	700.0	796.0	901.5	1040.4
DPS Growth	-	-	-	-	-						
Sector/Country (%)						Cash Flow					
(RMB 'm)	2006	2007	2008E	2009E	2010E	(RMB 'm)	2006	2007	2008E	2009E	2010E
Revenue Breakdown						Pretax Profit	50.1	54.6	86.8	113.5	140.1
Computer	87%	79%	72%	67%	63%	Depreciation	29.5	38.2	53.6	60.9	71.0
Home Appliances	3%	7%	13%	18%	21%	Net Change in Wkg. Cap.	12.3	(17.2)	(10.0)	(22.5)	(30.0)
Mobile Display & others	11%	14%	15%	16%	16%	Tax Paid	(6.6)	(4.3)	(4.8)	(17.4)	(25.0)
	100%	100%	100%	100%	100%	Others	0.4	9.3	6.6	4.1	3.3
						CF from operations	85.7	80.7	132.3	138.6	159.3
Growth/Ratio (%)						CapEx	(64.8)	(117.0)	(58.5)	(87.7)	(114.1)
Revenue Growth	45.5%	37.3%	40.1%	34.9%	29.3%	Acquisitions	-	-	-	-	-
Gross Profit Growth	40.4%	34.4%	44.9%	30.4%	24.8%	Divestitures	20.3	0.7	-	-	-
Net Profit Growth	150.7%	15.0%	39.2%	27.4%	21.9%	Interest Income	(6.0)	(6.9)	(6.6)	(4.1)	(3.3)
Gross Margin	14.8%	14.5%	15.0%	14.5%	14.0%	Others	(3.0)	(3.6)	1.2	1.0	1.0
Operating Margin	10.2%	8.2%	8.7%	8.2%	7.7%	CF from Investing	(53.6)	(126.9)	(63.9)	(90.8)	(116.3)
Net Margin	7.9%	6.6%	6.6%	6.2%	5.9%	Dividends Paid	(15.7)	-	-	-	-
ROE	19.2%	15.7%	16.4%	17.6%	17.9%	Issuance (Repurchase)	15.6	85.3	-	-	-
ROC	15.7%	13.2%	13.3%	14.8%	16.0%	Borrowing/Repayment	(38.1)	92.5	(18.9)	(30.2)	(19.9)
ROA	12.9%	10.3%	10.0%	10.8%	11.4%	Others	(3.2)	(4.2)	-	-	-
Net gearing (x)	0.10	net cash	net cash	net cash	net cash	CF from Financing	(41.5)	173.6	(18.9)	(30.2)	(19.9)
Interest Cover	9.90	8.87	14.12	28.78	43.59	Net effect of Exchange rat	-	(1.1)	-	-	-
Valuation						Total Cash Flow	(9.4)	127.4	49.4	17.6	23.1
P/E (x)	4.1	3.7	3.4	2.7	2.2	Free Cash Flow	20.9	(36.3)	73.8	50.9	45.3
P/B (x)	0.7	0.6	0.5	0.4	0.4	Cash Realization (x)	2.0	1.6	1.9	1.6	1.5
Divident Yield (%)	-	-	-	-	-	Capex / depreciation	2.2	3.1	1.1	1.4	1.6
EV/EBITDA	3.0	2.3	1.1	0.6	0.3						

Source: Westcomb Securities

APPENDIX: Investment Potential in Poland (Source: <http://www.paiz.gov.pl>)

GDP growth: The Polish economy registered GDP growth of 5.8 % in 2006. The estimate GDP growth for 2007 and 2008 are projected to reach 6.3% and 5.0% respectively. The Polish economy is developing much faster than the Euro zone, and more than the average of all 27 EU members (2.7%). Poland's growth has been driven to a significant extent by export growth, industrial production and investments. Employment is also increasing.

Human Capital: Poland has population of 38 million, of which 20 million is young, highly educated, multilingual people. It has 61% of population in working age group. Poland has the largest working population in Central Europe as well as the youngest one in Europe. Around 47% of the population is under the age of 35 years and 32% is under 25 years of age. The young generation of Poles is one of the best educated in Europe.

Strategic Location: Poland's geographic location- in the hearth of Europe - creates a number of opportunities, attracts investment from the Western Europe as well as from the US and Asia. It also facilitates the logistics activities related to the export of goods to all locations in Europe and to countries outside Europe. There are air, road, railway and sea connections with all major European capital cities.



Poland is situated between the highly developed Western European countries and Eastern Europe with such growing markets as Russia and the Ukraine. Investments in Poland provide the possibility for direct and easy access to 500 million people in Western Europe and 250 million in Eastern Europe. There are direct flights to major European and world cities from 11 airports. There are 3 seaports on the coast of the Baltic Sea with connections to the most important seaports in the world. All forms of communication infrastructure are being improved. The road infrastructure is a priority. Thanks to the availability of EU funds the Trans-European Network as well as national roads are being constructed and upgraded.

Investment Incentives: Poland benefits from the largest amount of EU funds of any beneficiary EU member state. Over 90 billion Euro is available for development, infrastructure and human capital for 2007 -2013. Poland welcomes foreign investors with a number of investment incentives tailored to their needs. Various forms of state aid are available including grants and tax incentives, abatements and exemptions.

In order to facilitate and support regional development, 14 Special Economic Zones (“SEZ”) were created. They are designated areas in which investment activities can be conducted on preferential terms. Investors permitted to operate in the SEZ can benefit from the following:

- income tax exemption – a form of regional aid
- land at competitive prices
- free assistance in dealing with formalities relating to the investment project
- exemption from real estate tax
- grants for employee training programmes

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