

Equities

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TFT LCD and Glass Sector

China LCD TV Watch: China Labor Holiday Sell-Thru Weaker than Expected; See 2H Weakness Ahead

■ Industry Overview

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- **China May Holiday sell-thru was flat Y/Y; weaker than expected** — According to Sigma-Intell, China May holiday (week 17-19) LCD TV sales reached 3.5 mn units, flat Y/Y compared to 2011. While LGD commented that May holiday sales would achieve 2% Y/Y and Displaysearch forecasts China to enjoy 15% growth in 2QCY12, we believe China demand could be 5-15% worse than market's expectations. We attribute the lackluster result to **1)** the termination of China's rural subsidy in certain provinces/cities; **2)** softer housing market; and **3)** rising TV panel price and operators' wage expenses that prevented TV brands from being aggressive on price promotions - TV brands tend to care more about margins than market share.
- **Set Inventory likely to increase; China in no rush to restock** — We expect the set inventory to increase to 5 weeks from 4.6 weeks in April. Starting from April, TV set makers have been rather keen for inventory replenishment for the May holiday even after the unexciting Chinese New Year sales result. Going forward, we expect China TV makers will adjust their panel procurement in the coming months to control inventory levels. Without higher demand visibility, we believe they will be in no rush to restock for 2HCY12.
- **Korean panel makers and Radiant fare better than peers** — As mentioned in our published thematic report "*Contrasting Outlooks; Buy SEC, Radiant*" published on April 11, 2012, SEC (TP W 1,900,000) and Radiant (TP NT\$160) are our top Buys in the TFT sector given SEC's multiple growth options and enhanced earnings power and Radiant's leadership in high-resolution display. We also have a Buy rating on LGD (TP W 33,000) as its increasing premium product mix should help mitigate potential negative impact from slowdown in commodity panels. Given near-term panel price strength, directional earnings recovery potential going into 2Q and attractive valuation, we believe the risk/reward remains to the upside for LGD. On the other hand, we have Sell ratings on Sharp (TP ¥400) and CMI (TP NT\$10) due to structural challenges. We believe the weakness in China's TV market will result in the most negative impact on CMI since it has the highest China exposure and lack of premium products. As for Sharp, we forecast Sharp's TV business to remain loss making in FY13 (Y-19.7bn); maintain Sell rating.
- **Neutral on glass makers** — We maintain our Neutral view on glass makers including GLW (TP US\$15), NEG (TP ¥660), and AGC (TP ¥700). Despite recent pricing stability, we expect tepid end market demand and increasing glass capacity in China could result in potential oversupply, which would cap recovery in profitability and share price performance.

See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.

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China LCD TV growth slows down

According to Sigma-Intell, China May holiday (week 17-19) LCD TV sales reached 3.5 mn units, flat Y/Y compared to 2011. While LGD commented that May holiday sales would achieve 2% growth Y/Y, and Displaysearch forecasts China to enjoy 15% growth in 2Q, we believe China demand could be 5-15% worse than market's expectations. We attribute the lackluster result to 1) the termination of China's rural subsidy in certain provinces/cities (i.e., Shandong, Sichuan, Henan, Qingdao); 2) softer housing market; and 3) rising TV panel price and operators' wage expenses that prevented TV brands from being aggressive on price promotion - TV brands care more about margin than market share.

Figure 1. China May holiday sell-thru Y/Y

	Sell-thru Y/Y	LCD penetration
2012	0.5%	95%
2011	7.9%	91%
2010	51.0%	86%
2009	75.0%	69%

Source: WitsView / Sigma-Intell, CIRA

As LCD TV penetration in China is already high, the May holiday sell-thru growth seemed to be subdued. In 2009/2010, China's May holiday sell-thru experienced hyper growth of 75%/51% Y/Y while the growth rate dropped to 7.9%/ 0.5% in 2011/2012. We expect to see a similar slowdown in Oct holiday sales this year.

Figure 2. 2012 China Labor Day sell-through

Unit: K

	2012	2011	YoY
Week 17	817	774	5.6%
Labor Day Week	1,915	2,033	-5.8%
Week 19	773	680	13.7%
Total	3,505	3,487	0.5%

Source: WitsView / Sigma-Intell, Citi Investment Research and Analysis

Figure 3. Market share of LCD TV panels in China

	Jan-12	Feb-12	Mar-12	1Q12
CMI	29.6%	34.6%	35.3%	33.3%
AUO	22.4%	21.6%	20.1%	21.3%
LGD	17.0%	15.3%	16.1%	16.2%
SEC	18.8%	16.0%	14.0%	16.1%
BOE	5.9%	5.5%	5.4%	5.6%
CSOT	4.7%	3.4%	5.5%	4.6%
PLD	1.3%	3.0%	3.4%	2.6%
CPT	0.0%	0.5%	0.3%	0.2%
IVO	0.3%	0.1%	0.0%	0.1%
Total	100.0%	100.0%	100.0%	100.0%

Source: WitsView / Sigma-Intell, Citi Investment Research and Analysis

Figure 4. TFT LCD valuation comparison

Company	Ticker	Rating	Local	Target	Price	Market cap	P/E (x)			P/BV (x)			ROE		
							FY12E	FY13E	FY14E	FY12E	FY13E	FY14E	FY12E	FY13E	FY14E
Samsung Electronics	005930.KR	1	KRW	1,900,000	1,303,000	167.0	8.2	6.6	6.0	1.6	1.3	1.1	22%	22%	20%
LG Display	034220.KR	1	KRW	33,000	22,200	6.9	17.2	10.3	9.1	0.7	0.7	0.6	4%	7%	7%
AU Optonics	2409.TW	2	TWD	15.50	13.05	3.9	NM	NM	35.6	0.6	0.6	0.6	-9%	-3%	2%
Chimei Innolux	3481.TW	3	TWD	10.00	11.95	3.0	NM	NM	NM	0.5	0.5	0.6	-11%	-9%	-1%
Radiant	6176.TW	1	TWD	160.00	127.00	1.9	9.9	8.4	7.3	2.6	2.3	2.0	28%	28%	29%
Sharp	6753.JP	3	JPY	400.00	390.00	5.4	NM	NM	29.4	0.7	0.7	0.8	-46%	-11%	3%
NEG	5214.JP	2	JPY	660.00	551.00	3.4	15.5	26.4	60.9	0.6	0.6	0.6	4%	2%	1%
Asahi Glass	5201.JP	2	JPY	700.00	578.00	8.4	9.2	9.7	10.2	0.8	0.8	0.7	9%	8%	7%
Corning	GLW.US	2	USD	15.00	13.31	20.2	10.8	9.8	9.0	0.9	0.9	0.9	9%	9%	10%

Source: Citi Investment Research and Analysis. * Price as of May 11, 2012.

Increasing inventory levels

We expect the set inventory to increase to 5 weeks from 4.6 weeks in April. Starting from April, TV set makers have been rather aggressive in inventory replenishment for the May holiday, even after the unexciting Chinese New Year sales result. Going forward, TV makers will adjust panel procurement in the coming months to control inventory level, in our view. Without higher demand visibility, we believe they will not rush to restock for 2H.

Figure 5. China TV brands' inventory level

	Weeks	Status	MoM
Hisense	3.5	Healthy	-
Skyworth	5.9	High	+ 0.5
TCL	5.2	High	+ 0.5
Konka	5.5	High	+ 0.5
Haier	6.8	High	+ 1
Changhong	3.5	Healthy	-
TTL	5.0	High	

Source: WitsView / Signa-Intell, Citi Investment Research and Analysis

Panel pricing and TV demand outlook

TV panel pricing has inched up slightly in the past month in contrast to soft end TV demand in North America demonstrated by Best Buy and Costco recent data points. We note a slight uptick in panel pricing has been well expected as we head into the May Asia holiday build season (China accounts for 23% of total LCD TV shipments and is the largest market since 2011 and now surpassing North America) especially given lower than normal inventory levels (we believe the supply chain has structurally learnt to operate at these leaner levels), production cuts at glass manufacturers (Corning reduced glass production by 25% and Asahi by 30% in C1Q12).

We note that glass capacity can be turned back on in about 30 days as the reduction is not permanent and fab utilization levels at panel makers is controlled. Note Corning in its most recent earnings conference call on April 25 2012 indicated price declines will likely be more moderate in 2QCY12 following the severe declines in 4QCY11 and 1QCY12. However we are not of the opinion that true TV demand recovery is taking place - as noted in Corning's recent conference call, glass volume shipment is expected to be flat to up slightly (consistent sequentially in the wholly owned segment and up slightly sequentially in the SCP JV segment). Indeed, we believe that supply tightness in TV panels is more a function of capacity reallocation and yield issues as panel makers ramp up newer models vs. sustainable demand recovery.

Following the important May Day holiday in China, we expect panel maker utilization rates and pricing to increase through 2Q given production ahead of Summer Olympics which will be broadcast in 3D for the first time and there is likely to be a lot of promotions for new 3D TVs. However we remain skeptical that this would lead to a pervasive upgrade cycle in TVs and is unlikely to be matched with past upgrade cycles (analog to digital, CRT to LCD) in terms of end demand sell through. Past upgrade cycles have been driven by more dramatic shifts in technology which also included an ecosystem of programming content (analog to digital, low definition to high definition, CTR tube to flat screen) and the 3D

programming ecosystem of content remains quite limited. Looking ahead, if Apple launches a TV in CQ4 2012, that would be a positive for Corning, but if Apple launches a TV in CQ1/CQ2 2013 then this later launch could cause a pause in TV demand and be unfavorable for Corning.

Resurgence of glass price pressure

NEG expects +5%~+10% sequential volume increase in the 1Q following nearly 5% QoQ decline in 4Q last year. As for pricing, NEG forecasts a low single digit decline (we guess 3%) following a nearly 10% significant drop in the former quarter. This is a combination of demand recovery of Korean and Taiwanese customers and production adjustment by main LCD glass makers, according to the company. In addition to production cut by Corning (25%) AGC (30%), we believe NEG also temporarily shut down about 25% of facilities due to remodeling for thinner glass production during Jan-March quarter. So at end of March, the inventory level at NEG was relatively low.

But heading into 2Q, after rebuilding inventory for Olympic sales, demand will likely cool down. On the other hand, LCD glass area base output (capacity) should increase automatically due to the increase of thinner glass. So we expect price decline will be severe after 2Q, and even considering yield improvement, glass maker's recovery in profitability should be limited.

Stock recommendation

Samsung Electronics: Top Buy

(Henry Kim, 005930.KS, 1, TP: W1,900,000)

As a fully integrated technology company in brand business (smartphone/TV) and display panel (AMOLED/TFT-LCD), we expect the Samsung stock to continue to be rerated as the market confirms improved cross-cycle ROE profile and multiple growth options, with enhanced earnings power of max synergy from market dominating competitiveness in each division.

We forecast Samsung will start generating positive OP in display division from 1Q12, thanks to bigger AMOLED profit contribution despite slight loss in TFT-LCD division. With spin-off of TFT-LCD division (Samsung Display) and merger between TFT-LCD (Samsung Display) and AMOLED (Samsung Mobile Display), we expect display panel division will seek maximum internal efficiency and internal synergy (technology cooperation in TFT substrate (LTPS/Oxide), large-sized LCD capacity conversion for AMOLED production and customer co-marketing) this year. We expect Samsung will maximize profit generation with destructive new non-glass polyimide substrate AMOLED technology adoption and new capacity addition of A3 line (full 5.5G) this year. Depending on technology development progress, we expect Samsung will show meaningful earnings contribution of AMOLED TV panel from late 13E or 14E.

LG Display

(Jonathan Rhee, 034220.KS, 1, TP: W33,000)

From the low base set in 1Q12, we believe LGD should show earnings recovery in 2Q with possibility to turn black. LGD has resolved its internal production issues related to the new iPad and has already started shipping these higher value-added items from March. Near-term positive catalysts include 1) pull-in restocking demand ahead of Olympics amidst increasing but well managed inventory level in the supply chain; 2) growing portion of differentiated products (3D FPR, AH-IPS); and 3) dominant supplier position within Apple that should benefit from new Apple product refresh. We believe the major risk near-term would be additional provisioning required for price fixing litigation, which is a non-operational factor. Given the stock's current attractive P/B valuation of 0.8x on this year's BVPS, we believe much of this concern has been largely reflected. We believe near-term operational fundamentals remain sound and recommend LGD as Buy.

Radiant Opto-Electronics: Top Buy

(Arthur Lai, 6176.TW, 1, TP: NT\$160)

Super high resolution trend in NB — According to DisplaySearch forecast, Apple is expected to upgrade the displays of 13.3"/15.4" MacBook Pro to 227 ppi (vs. 113 ppi in current models). We expect the mass production timing for TFT panels could be from April or May this year.

Radiant and Korean panel makers likely to be major beneficiaries — During the production transition from iPad2 to New iPad, the technology challenge was higher than expected. For example, the LCD panel suppliers for iPad2 include Samsung, LGD and CMI. However, CMI was unable to deliver the upgraded (resolution from 132 ppi to 264 ppi) panels for the new iPad due to the technology barrier in producing high-resolution panels, while Samsung and LGD remain qualified. As Radiant has 100% share in MacBook Air and the lion's share in MacBook Pro, we believe Radiant will be a major beneficiary in the Taiwan supply chain.

MacBook family could drive another c.10% of revenue in 2H — We believe that MacBook Air/Pro made up around 25-30% of Radiant's revenue in 4Q11. If super higher resolution panels for NB launch in 2H, it could enhance Radiant's blended ASP as the BLU price is 50% higher than that for mainstream NB. As such, the new product launch could bring another 10-15% upside to the top-line and help boost Radiant's profitability.

Chimei Innolux

(Arthur Lai, 3481.TW, 3, TP: NT\$ 10)

We believe CMI is losing the market accessibility and competitiveness. (1) Hon Hai will rely less on CMI after investing in Sharp. CMI will not be able to benefit from Sharp's premium oxide technology; on the other hand, it will have to develop the oxide technology by itself. (2) China's government plans to strengthen its domestic panel supply through higher investment and increasing tariffs. For example, China's CEC group decided to have TPV and CEC-Panda to co-invest in Gen 10 (refer to ["TPV Technology \(0903.HK\) - Forming JV with CEC for G10 LCD Panel"](#) published on Apr 30, 2012 by Eric Lau). In addition, CMI is the only panel maker without Gen 7+ allocation in China among the global Top 4 panel makers and could suffer from share loss after the implementation of a tariff raise. As such, we maintain our Sell rating with a target price of NT\$10.

Sharp

(Kota Ezawa, 6753.T, 3, TP: ¥ 400)

We think Sharp is already expecting ~9% unit growth for the China TV business, and our estimate is 5%. Our overall TV volume estimate is 10.4mn units for FY2013, and we look for the TV business to post a loss of Y-19.7bn, mostly in the Japanese market. The China market should be significantly less trouble for Sharp, but we are still cautious on its TV business as a whole. Sharp is shifting personnel costs from the TV business to solar cells and other home appliances, but we think most benefits from this will come in FY2013. Together with its large size LCD panel business still loss making, we maintain Sell rating and target price of Y400.

Corning

(Jim Suva, GLW.N, 2, TP: US\$ 15)

We maintain our Neutral view on GLW shares with a \$15 target. While we see support at these levels given book value of \$13.93 and tangible book value of \$13.33, we believe consensus estimates for 2012 and 2013 are still too high. We expect shares to be range bound given tepid end demand drivers that could lead to sustainable recovery and pricing stability in the display segment. We are concerned with over supply of glass capacity as we believe glass production in China will increase in the future due to tariffs and the shift in the TV supply to mainland China, and such additional supply should cause industry supply to surpass industry demand thereby creating pressure on pricing and margins. We remind investors that glass companies typically realize 10% additional supply production per year via yield improvements without additional capex and this is now surpassing end market TV growth which has decelerated to 8% coupled with an overhanging concern of potential glass layer consolidation within TVs and handheld devices (TVs may go from two layers to one and touch tablets from four layers to two).

Nippon Electric Glass

(Atsushi Ikeda, 5214.T, 2, TP: ¥ 660)

We expect the share price of Japanese panel makers will remain range bound due to the lack of strong catalysts. As most panel makers have set high expectation for Olympic sales, NEG expects +5%~+10% sequential volume increase in the CY1Q following nearly 5% QoQ decline in CYQ4 last year. As for pricing, NEG forecasts low single digit decline (we est. 3%) following a nearly 10% drop in the former quarter. In CY2H, we expect price decline will be severe after CY2Q and even considering yield improvement, Japanese glass makers' profitability recovery should be limited.

Asahi Glass

(Atsushi Ikeda, 5201.T, 2, TP: ¥700)

Given its expectations for growth in LCD glass substrate shipments (+10% QoQ) and slower price declines, we think AGC expects a substantial upswing in electronics profits in Q2. Having cut LCD glass production by 30% in Q1, the company plans to relax cuts to match demand. With caustic soda prices expected to increase, automotive glass set to recover, and possible price hikes in some parts of Europe and seasonality for construction glass, we think AGC's ¥60bn H1 OP target is within reach. However, from Q3, demand and pricing prospects for LCD glass are unclear and we still consider the hurdles to the company's H2 forecasts as high.

Appendix A-1

Analyst Certification

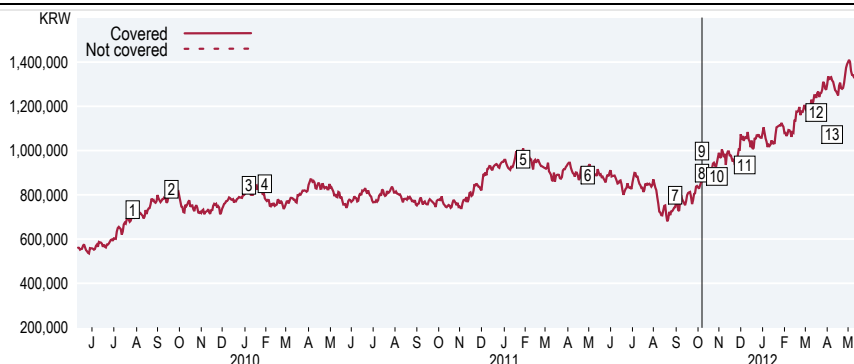
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IMPORTANT DISCLOSURES

Samsung Electronics (005930.KS)

Ratings and Target Price History Fundamental Research

Analyst: Henry H Kim, CFA



Date	Rating	Target Price	Closing Price
1 28-Jul-09	1L	*900,000.00	700,000.00
2 21-Sep-09	1L	*1,030,000.00	798,000.00
3 7-Jan-10	1L	*1,100,000.00	813,000.00
4 29-Jan-10	1L	*1,160,000.00	784,000.00
5 28-Jan-11	1L	*1,200,000.00	1,010,000.00

* Indicates change

Date	Rating	Target Price	Closing Price
6 29-Apr-11	1L	*1,250,000.00	893,000.00
7 31-Aug-11	1L	*1,200,000.00	744,000.00
8 7-Oct-11	Stock rating system changed		
9 7-Oct-11	*1	1,200,000.00	860,000.00
10 28-Oct-11	1	*1,300,000.00	945,000.00

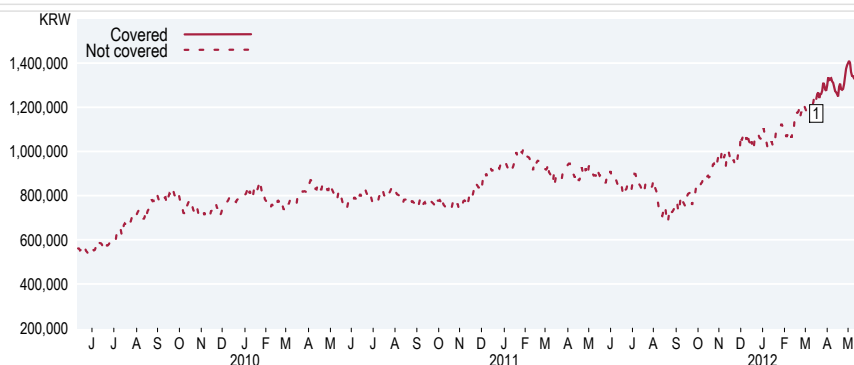
Date	Rating	Target Price	Closing Price
11 7-Dec-11	1	*1,400,000.00	1,056,000.00
12 16-Mar-12	1	*1,800,000.00	1,238,000.00
13 9-Apr-12	1	*1,900,000.00	1,317,000.00

Rating/target price changes above reflect Eastern Standard Time

Samsung Electronics (005930.KS)

Ratings and Target Price History Best Ideas Research Relative Call (3 Month)

Analyst: Henry H Kim, CFA



Date	Rating	Target Price	Closing Price
1 16-Mar-12	*ADD MP	-	1,238,000.00

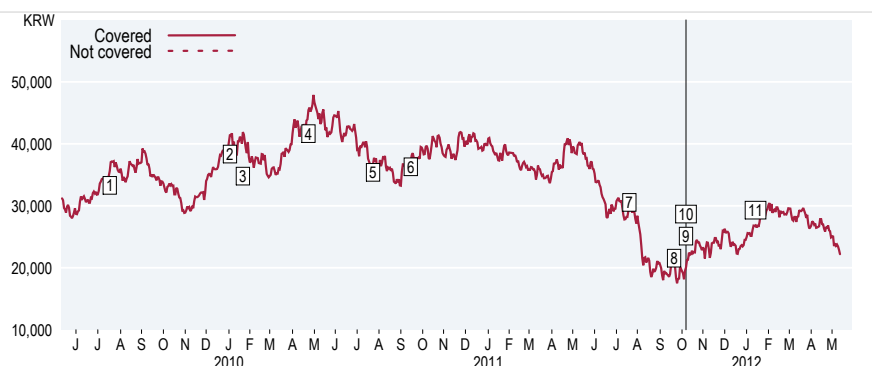
* Indicates change

Rating/target price changes above reflect Eastern Standard Time

LG Display (034220.KS)

Ratings and Target Price History Fundamental Research

Analyst: Jonathan Rhee



	Date	Rating	Target Price	Closing Price
1	17-Jul-09	1M	*43,000.00	35,600.00
2	4-Jan-10	1M	*48,000.00	41,500.00
3	21-Jan-10	1M	*50,000.00	41,900.00
4	23-Apr-10	1M	*54,000.00	45,450.00

* Indicates change

	Date	Rating	Target Price	Closing Price
5	23-Jul-10	1M	*51,000.00	36,700.00
6	15-Sep-10	1M	*48,000.00	37,250.00
7	20-Jul-11	1M	*37,000.00	30,550.00
8	21-Sep-11	1M	*27,000.00	21,300.00

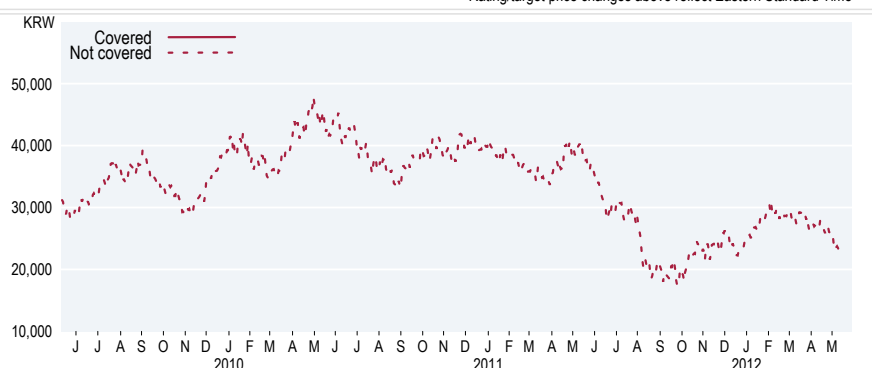
	Date	Rating	Target Price	Closing Price
9	7-Oct-11	Stock rating system changed		
10	7-Oct-11	*1	27,000.00	20,050.00
11	13-Jan-12	1	*33,000.00	26,850.00

Rating/target price changes above reflect Eastern Standard Time

LG Display (034220.KS)

Ratings and Target Price History Best Ideas Research Relative Call (3 Month)

Analyst: Jonathan Rhee



* Indicates change

Rating/target price changes above reflect Eastern Standard Time

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assessments can be found in the text of the most recent research note/report regarding the subject company. Historical disclosures (for up to the past three years) will be provided upon request.

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	Buy	Hold	Sell	Buy	Hold	Sell
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% of companies in each rating category that are investment banking clients	44%	42%	40%	47%	42%	43%

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