

Morgan Stanley Taiwan Limited+

**Frank A.Y. Wang**

Frank.ay.Wang@morganstanley.com  
+886 2 2730 2869

**Jerry Su**

Jerry.Su@morganstanley.com  
+886 2 2730 2860

October 29, 2008

# Taiwan Discovery

## HannStar (6116.TWO): Effort for Positive Cash Margin in 4Q08

**Conclusion:** On net cash, HannStar appears safer this downturn. To preserve cash, HannStar is cutting fab loading, changing product mix, and walking away from price competition. AUO and CMO are trading at 0.6x/0.5x, historical low despite average ROE of 12%/10% since inception (above the cost of equity of 9-10%). HannStar has been buying back its own shares at 0.5x P/B with ~NT\$4 cash per share, or 80% of market cap. To preserve cash, HannStar expects minimal capex in 2009 on NT\$11 bn depreciation; management aims to control inventory turnover days within 20-25 days in the down cycle.

**What's New?** HannStar reported 3Q08 LPS of NT\$0.58 vs. 2Q08 EPS of NT\$0.43. 3Q08 GM, OM, and EBITDA margin were (3%), (9%), and 9%, down ~2,600bp Q/Q. **Value-added Data:** 1) Large-size shipments 3.1mn units, down 23% Q/Q. 2) Medium-size shipments 4.5mn units, up 125% Q/Q. 3) Blended ASP declined 26% Q/Q to US\$96. 4) 2% Q/Q panel cost reduction. 5) HannStar booked NT\$1.4bn in deferred income tax in 3Q08 as some tax credits will expire in 2009 on an earnings loss.

**4Q08 Guidance:** 1) Loading cut 25-35% Q/Q (mostly affecting 17"W and 19" IT panels. 2) Low-teens Q/Q ASP decline. 3) Minimal cost reduction on loading rate cut. 4) Medium-size shipments increased ~10% to 5mn units. 5) It targets for positive EBITDA margin in 4Q08.

**Operational Insight:** 1) LG Display shipments reduced to 20K substrates/mth from 30K units/mth on weak IT demand. 2) HannStar targets 3mn LCD monitor set shipments under own brand HannsG in 2008 and 4mn units in 2009. It targets 0.5-1mn LCD TV shipments under its own brand HannSpree in 2009.

**Implications:** 1) For better margins, HannStar intends to increase medium-size mix to 30% of Gen 5 capacity (130K substrates/mth) in 4Q08 and 40-45% in 1H09,

### Stock Data

Rating	NOT RATED
Ticker (Reuters)	6116.TWO
Price (October. 28, 2008)	NT\$5.35
Market Cap (NT\$ mn)	29,533
Foreign Ownership (%)	22.22%
Outstanding Shares (mn)	5,520
3M/6M/12M Rel. Perf. (%)	6 / -6 / 3
6M Avg. Daily Turnover (NT\$ mn)	256

### Company Description

HannStar Display specializes in manufacturing TFT-LCD products mainly for desktop computer monitors in Gen 5.3 fab.

Morgan Stanley does and seeks to do business with companies covered in Morgan Stanley Research. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of Morgan Stanley Research. Investors should consider Morgan Stanley Research as only a single factor in making their investment decision.

**For analyst certification and other important disclosures, refer to the Disclosure Section, located at the end of this report.**

+ = Analysts employed by non-U.S. affiliates are not registered with FINRA, may not be associated persons of the member and may not be subject to NASD/NYSE restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account.

up from 25% in 3Q08. 2) Hannstar maintains 2008 capex of NT\$2.5bn and expects minimal capex in 2009 to de-bottleneck its Gen 5 fab by 8% to 140K substrates/mth with no new fab build in plan. Expected depreciation at NT\$11bn in 2009. HannStar aims to maintain positive EBITDA margin in the downcycle. 3) HannStar intends to buy back ~138mn shares (or 2.5% of outstanding shares) through December 14, and will cancel the buyback shares.

Exhibit 1

## Summary of Consensus View: HannStar

### HannStar Display Corp.

6116-TW

#### Consensus recommendations



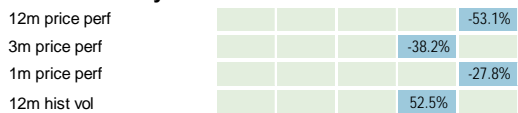
#### Sector Yardstick

##### HannStar Display Corp.

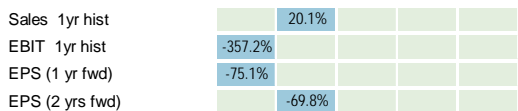
key metrics ranked relative to Information Technology sector

#### HannStar Display Corp. percentile range (vs. peers)

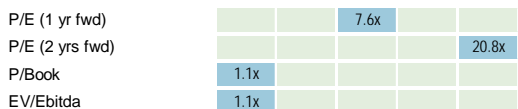
#### Price / Volatility



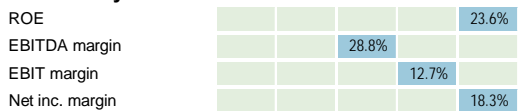
#### Growth



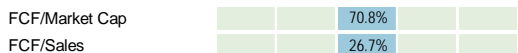
#### Valuation



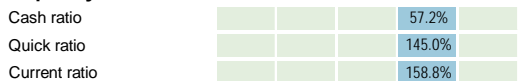
#### Profitability



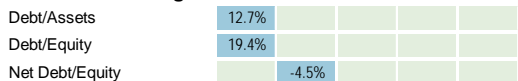
#### Cash Flow



#### Liquidity



#### Financial Leverage

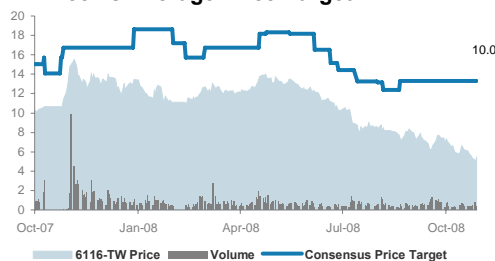


Current Price 5.4      Avg Price Target 13.3

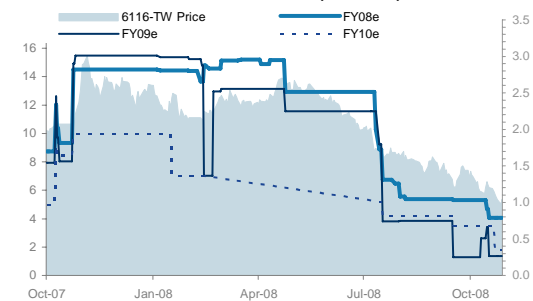


149%

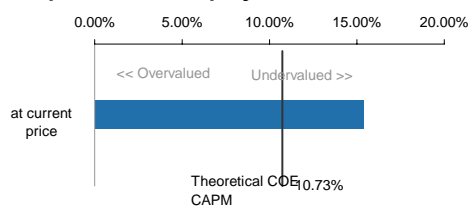
#### Price vs Average Price Target



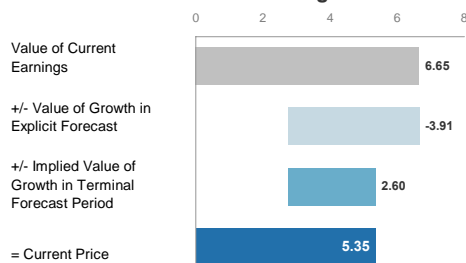
#### Price vs. Annual EPS Estimates (FY08-10)



#### Implied cost of equity



#### Current Value of Future Earnings



Source: Factset

Exhibit 2

## HannStar Financial Summary

All values in millions except per share data - (Taiwan Dollar)

### Income Statement

	12/2004	12/2005	12/2006	12/2007
Net Sales	38,758	62,366	65,278	78,410
COGS	26,930	53,613	53,248	51,967
Gross Profit	11,828	8,753	12,030	26,443
SG&A	2,914	2,657	3,680	2,896
EBIT	2,828	(8,660)	(3,862)	9,934
Net NO Income	(0)	0	(0)	0
PBT	2,500	(9,601)	(4,801)	9,089
Taxes	0	6	13	116
Net Profit	2,500	(9,642)	(4,877)	8,924
EPS	0.49	-1.79	-0.91	1.65
DPS	0.00	0.00	0.00	0.75

### Balance Sheet

	12/2004	12/2005	12/2006	12/2007
Cash & Equivalents	1,149	1,783	4,237	4,991
Marketable Securities	15,080	9,743	1,152	11,097
Acct Receivable	7,963	11,552	10,469	20,386
Inventories	3,491	6,116	6,319	3,876
Total Current Assets	27,684	29,194	22,177	40,349
PP&E	76,073	75,986	66,296	53,976
Goodwill	0	8	8	8
Amortizable Intangibles	0	775	832	660
Other Assets	9,192	6,396	5,791	9,636
Total Fixed Asset	85,264	83,165	72,926	64,280
Total Assets	112,948	112,359	95,103	104,629

Accounts Payable	6,103	14,820	16,948	17,904
Other Accrued Expenses	1,332	1,757	2,430	2,686
Income Taxes Payable	0	0	1	715
Deferred Revenue	0	0	0	0
Deferred Taxes	0	0	0	0
Total Current Liabilities	7,435	16,577	19,379	21,305
L/T Debt	41,190	22,908	22,348	13,315
Minority Interest	0	458	518	601
Other Liabilities	5,679	14,639	(423)	811
Total L/T Liabilities	46,869	38,004	22,444	14,727
Total Liabilities	54,304	54,581	41,823	36,032
Preferred Equity	0	0	0	0
Shareholders' Equity	58,644	57,778	53,281	68,597
Liabs+Shr'hldrs Eq	112,948	112,359	95,103	104,629

### Cash Flow Statement

	12/2004	12/2005	12/2006	12/2007
Cash Flow From Operating				
Net Income	2,500	(9,642)	(4,877)	14,379
Dep & Amort.	6,288	13,055	13,183	12,685
Chg in WC	(2,442)	2,929	3,682	(5,548)
Chg in Other Liabs	(2,738)	3,236	(754)	(11,826)
CF from Operations	3,608	9,578	11,234	9,691
Cash Flow from Investing				
Capital Expenditures	(35,396)	(14,123)	(8,858)	(3,764)
Change in ST Investments	(9,717)	(5,337)	(8,591)	9,944
Other Investing Cash Flow	9,274	7,308	13,987	(4,464)
CF from Investing	(35,840)	(12,152)	(3,463)	1,716

### Cash Flow from Financing

Dividends	0	0	0	0
Change in Debt	10,347	(18,282)	(559)	(9,033)
Change in Equity	(8,585)	0	0	0
Change in Preferred Stock	0	0	0	0
Other Financing Cash Flow	21,783	18,820	(12,977)	1,696
CF from Financing	23,545	538	(13,536)	(7,338)
Other Cash Flow - Including FX	9,331	2,671	8,219	(3,316)
Change in Cash	644	633	2,454	754

### Ratio Analysis

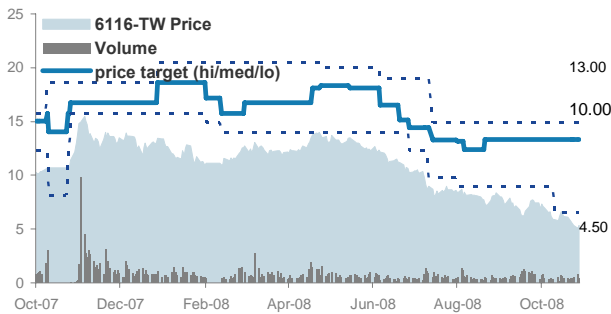
	12/2004	12/2005	12/2006	12/2007
Growth				
Sales	17.6%	60.9%	4.7%	20.1%
EBITDA	22.7%	-51.8%	112.1%	142.7%
Operating Profit	126.0%	-406.3%	(55.4%)	(357.2%)
Net Income	193.5%	-485.6%	(49.4%)	(283.0%)
EPS	112.0%	-462.5%	(49.4%)	(282.2%)
Margins				
EBITDA	23.5%	7.0%	14.3%	28.8%
Gross Margin	30.5%	14.0%	18.4%	33.7%
EBIT	7.3%	-13.9%	(5.9%)	12.7%
Net Income	6.5%	-15.5%	(7.5%)	11.4%
Returns				
ROE	5.7%	-16.4%	(8.4%)	16.7%
ROA	3.3%	(7.7%)	(3.4%)	10.4%
RNOA	5.7%	-10.4%	(5.5%)	13.9%
Leverage				
Net Debt/Equity	68.3%	36.6%	34.0%	12.1%
Gross Debt/Equity	70.2%	39.6%	41.9%	19.4%

Source: Company data & Factset

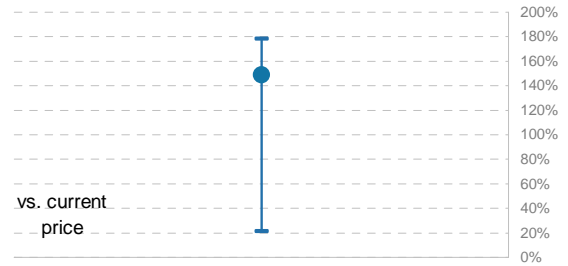
Exhibit 3

## HannStar: Consensus Price Target and EPS Estimates

### Changes to Price Targets (hi/median/low)

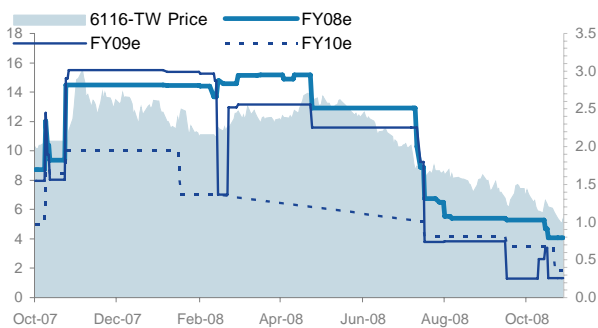


### Current Upside to Price Targets

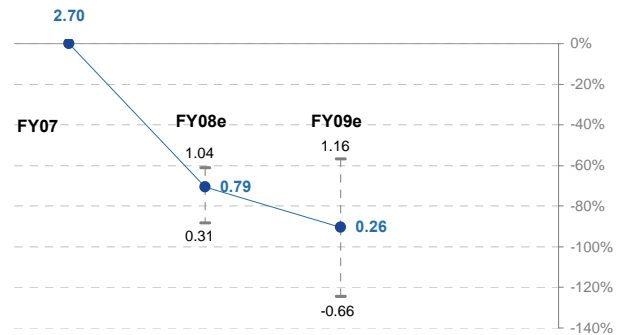


5.35 based on 3 price targets in FactSet consensus

### Price vs. Annual EPS Estimates (FY08-10)



### Current Ranges for EPS Estimates

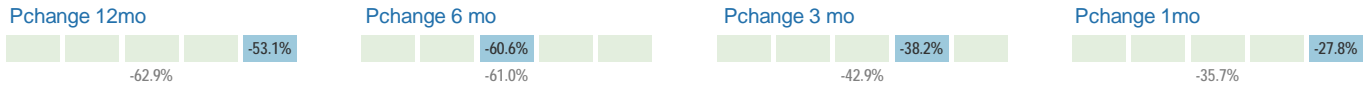


	Current		% Upside to Median Price Target	Current Distribution of Ratings		
	Price	Median Price Target		Sell	Hold	Buy
Chunghwa Picture Tubes Ltd.	3.23	10.00	210%	0	2	1
HannStar Display Corp.	5.35	13.30	149%	0	2	1
Innolux Display Corp.	27	49	78%	0	5	3
Chi Mei Optoelectronics Corp.	12.80	22.50	76%	2	8	4
LG Display Co. Ltd.	19550.00	34000.00	74%	0	13	7
AU Optronics Corp.	23	39	69%	0	15	5
Sharp Corp.	681	1,000	47%	2	10	1
Samsung Electronics Co. Ltd.	463500.00	630000.00	36%	1	5	11

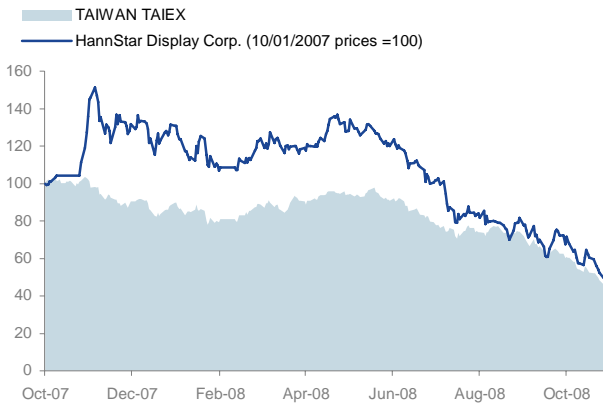
Source: Company data, FactSet

Exhibit 4

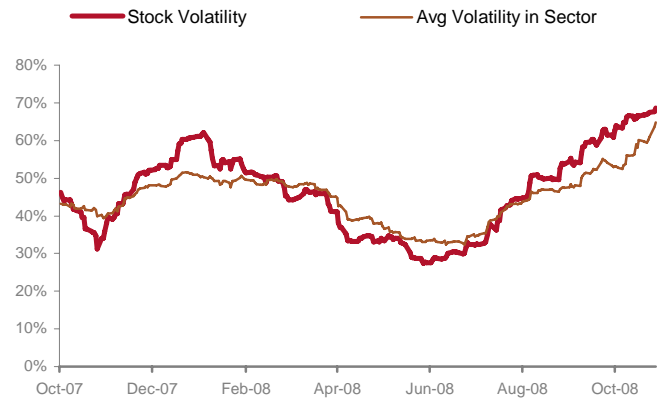
## HannStar: Price Performance and Volatility



### Price Performance vs Index



### Stock Volatility vs Sector Volatility



### Price Performance and Volatility vs. Industry Peer Group

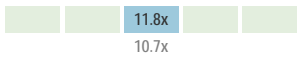
	12 mo. Δ (%)	3 mo. Δ (%)	1 mo. Δ (%)	12 mo. volatility (%)
Samsung Electronics Co. Ltd.	-46.0%	-43.3%	-33.7%	41.3%
Sharp Corp.	-54.4%	-49.5%	-36.5%	47.7%
HannStar Display Corp.	-54.5%	-43.8%	-30.8%	52.5%
AU Optronics Corp.	-64.6%	-46.4%	-40.2%	47.7%
Chi Mei Optoelectronics Corp.	-69.7%	-57.2%	-43.4%	46.2%
LG Display Co. Ltd.	-72.9%	-55.6%	-48.3%	52.9%
Chunghwa Picture Tubes Ltd.	-73.8%	-60.0%	-39.3%	50.4%
Innolux Display Corp.	-80.9%	-49.8%	-37.5%	64.2%

Source: Company data, FactSet

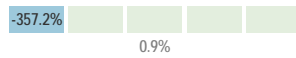
Exhibit 5

## HannStar Growth vs. Peer Group

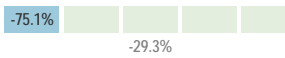
Int Cov Ratio



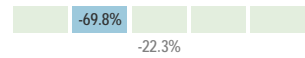
EBIT 1yr hist



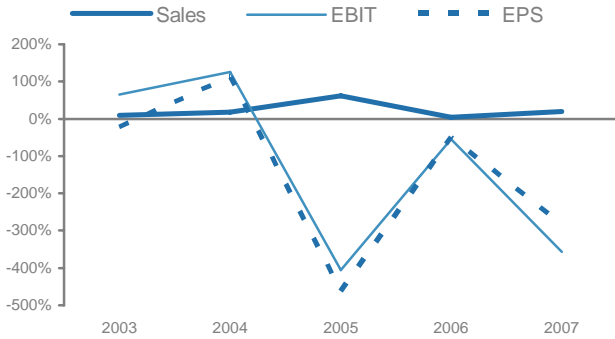
EPS 1yr fwd



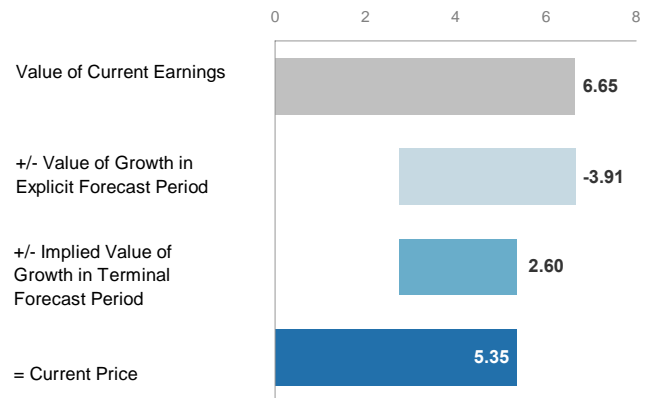
EPS 2yr fwd



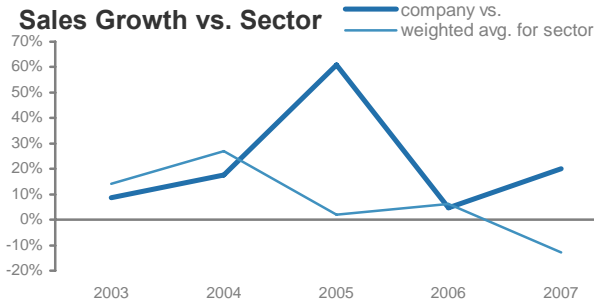
### Company's Annual Growth Rates in...



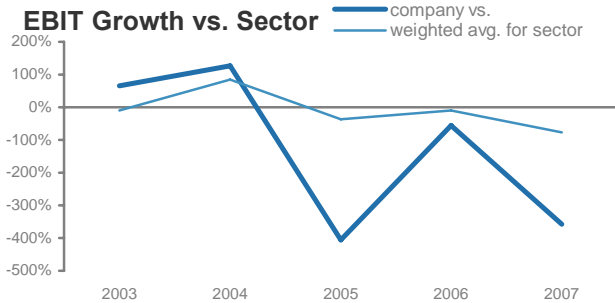
### What's in the Price: Implied Value of Growth



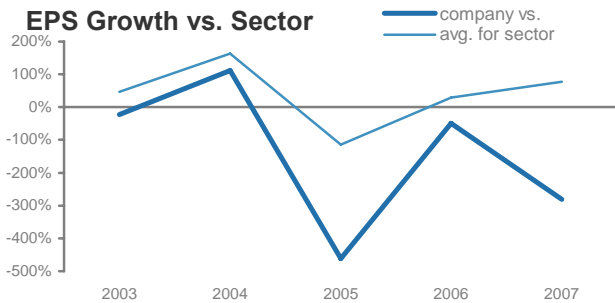
### Sales Growth vs. Sector



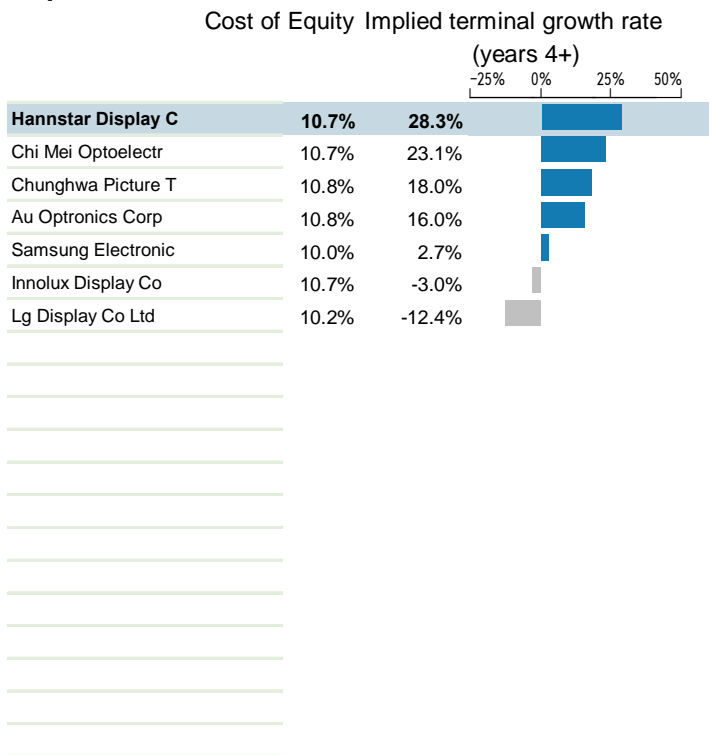
### EBIT Growth vs. Sector



### EPS Growth vs. Sector



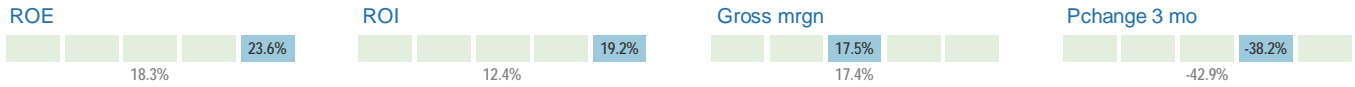
### What's in the Price: Implied Terminal Growth Rate vs. Peers



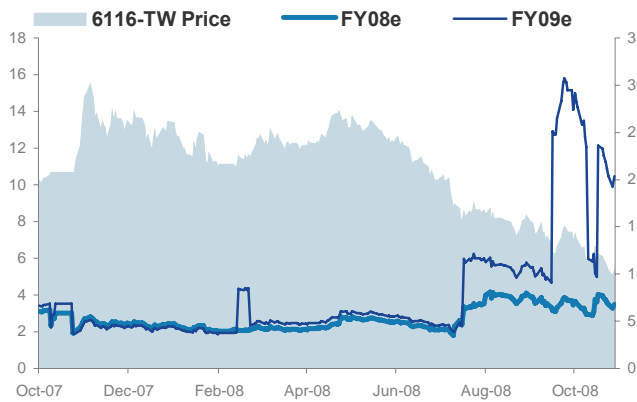
Source: Company data, FactSet

Exhibit 6

## HannStar: Valuation vs. Peers



### Price and P/E (1-yr and 2-yr fwd)



### P/E (1-yr fwd)



## Relative Valuation vs. Industry Peers

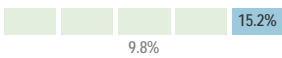
	P/E (FY1)	P/E (FY2)	P/Book	EV/Ebitda	EPS growth (2yr CAGR)
Sharp Corp.	12.7	12.6	1.5	2	7%
Samsung Electronics Co. Ltd.	11.0	11.6	1.3	4	7%
Chunghwa Picture Tubes Ltd.	10.1	-71.8	1.0	2	
Innolux Display Corp.	8.3	7.2	3.2	2	468%
<b>HannStar Display Corp.</b>	<b>6.8</b>	<b>20.4</b>	<b>1.1</b>	<b>1</b>	
Chi Mei Optoelectronics Corp.	4.6	-38.9	1.5	3	89%
AU Optronics Corp.	4.5	23.2	1.7	2	63%
LG Display Co. Ltd.	3.7	9.5	2.1	2	57%

Source: Company data, FactSet

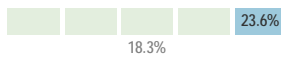
Exhibit 7

## HannStar Profitability Analysis

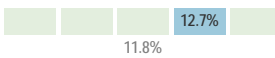
ROA



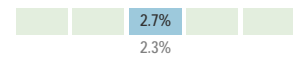
ROE



EBIT margin



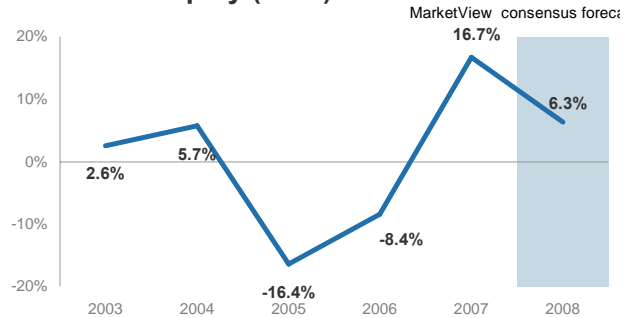
Payout ratio



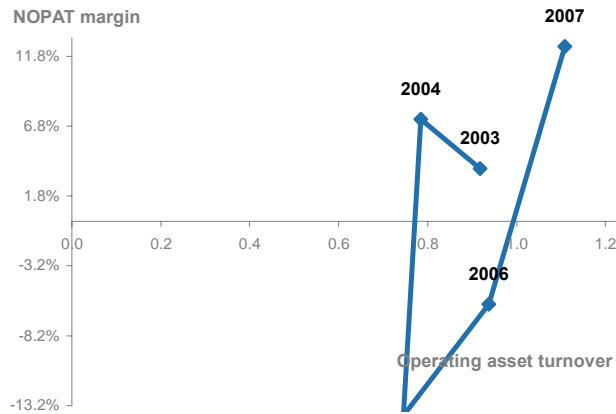
### ROE Analysis

Return on equity (ROE) is the percentage return on capital raised from (or reinvested by) shareholders. The return on equity (ROE) metric is calculated by dividing net income by beginning shareholders' equity. ROE can also be decomposed into return on net operating assets plus the leverage effect (both financial and other). Finally, ROE can be calculated by the sum of return on net operating assets (RNOA), return from leverage, and return on net other funding. All calculations yield the same result. ROE is used for absolute and relative stock and sector valuation.

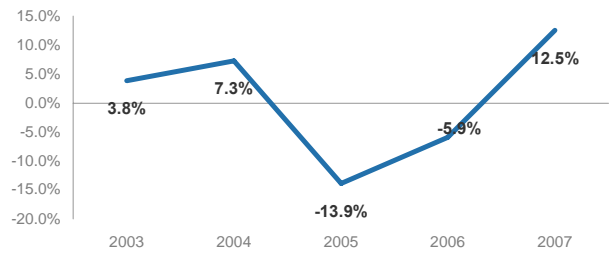
### Return on Equity (ROE)



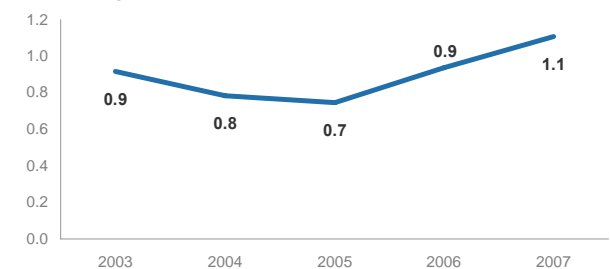
### Profitability Map



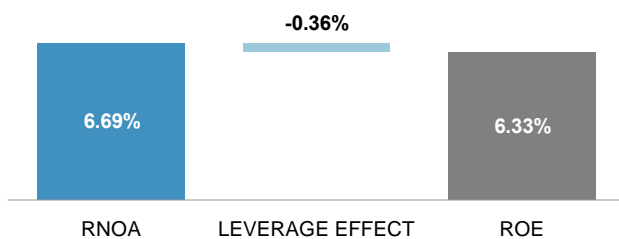
### Net Operating Profit After Tax (NOPAT) Margin



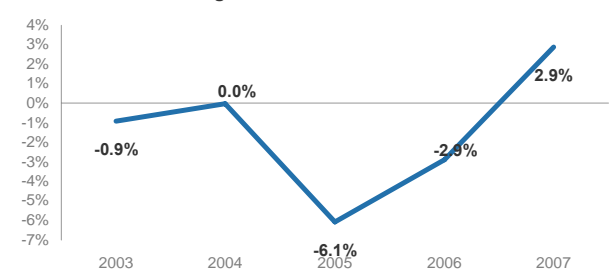
### x Operating Asset Turnover



### ROE Decomposition (2008)



### + Return from Leverage

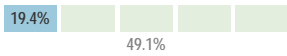


Source: FactSet

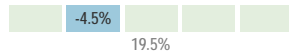
Exhibit 8

## HannStar: Leverage and Cash Flows Analysis

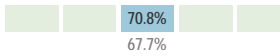
### Debt/Equity



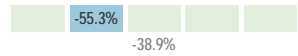
### Net Debt/Equity



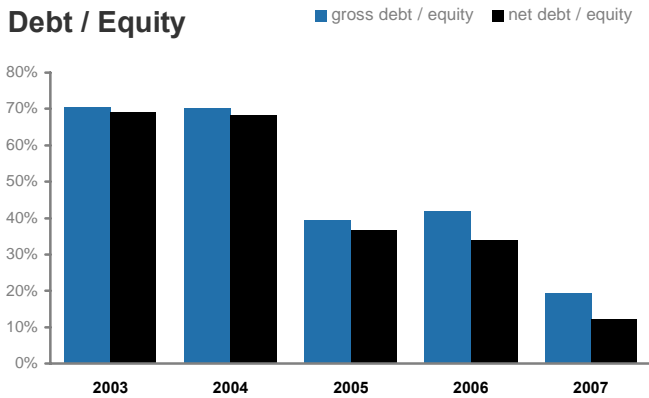
### FCF/Market Cap



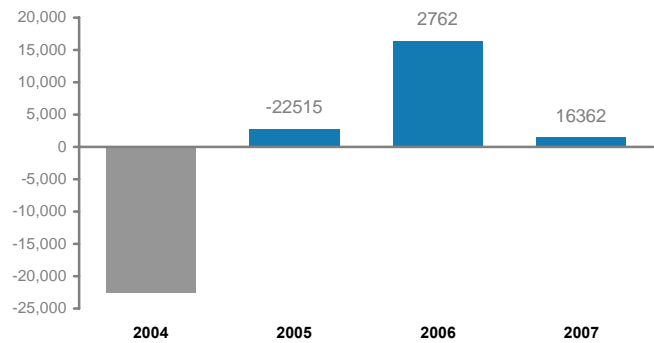
### Capex 1yr chng



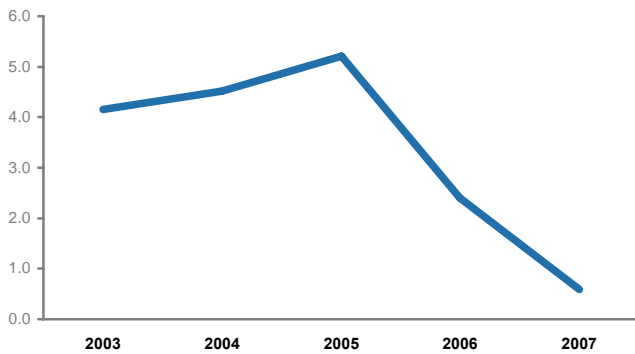
### Debt / Equity



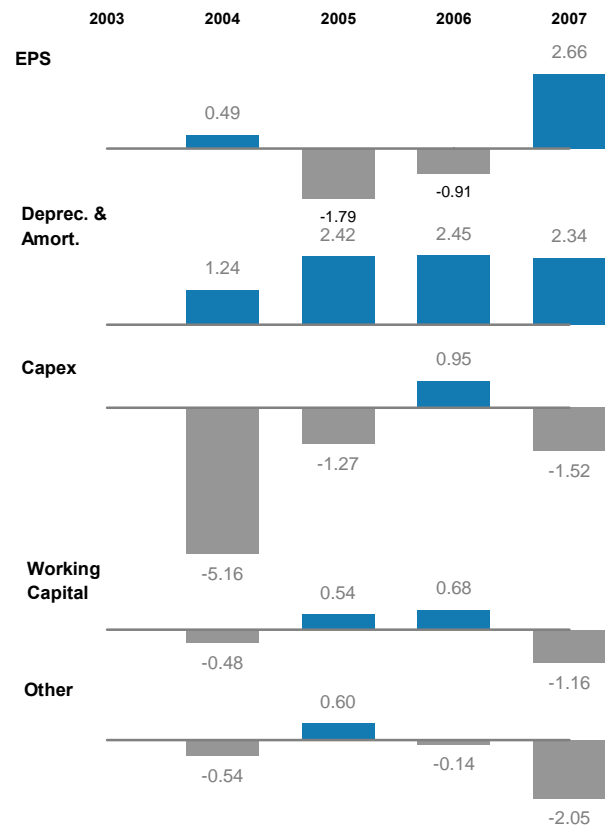
### Free Cash Flow



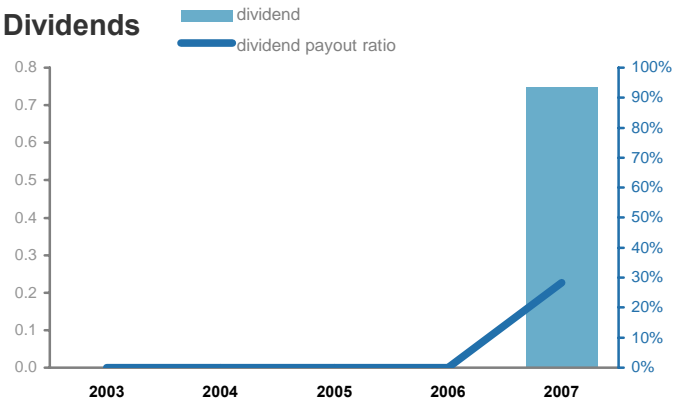
### Debt / Gross Ebitda



### Free Cash Flow Breakout



### Dividends



Source: FactSet

Exhibit 9

## HannStar: Factor Analysis

	HannStar Display Corp. percentile range (vs. peers)					Peer Median		HannStar Display Corp. percentile range (vs. peers)					Peer Median	
	0	20	40	60	80	100%		0	20	40	60	80	100%	
<b>Valuation</b>														
P/E LTM	5.0x					10.4x	<b>Growth</b>	-75.1%					-29.3%	
P/E (FY1)	7.6x					5.9x	EPS 2yr fwd	-69.8%					-22.3%	
P/E (FY2)	20.8x					10.2x	EPS 1yr hist	112.5%					264.6%	
P/Book	1.1x					1.5x	EPS 3yr hist	68.7%					10.0%	
P/CF	3.5x					3.8x	EPS 5yr hist	48.4%					25.4%	
P/Sales	0.9x					1.0x	BVPS 1yr hist	28.9%					24.5%	
EV/Ebitda	1.1x					2.1x	DPS 1yr hist						728.3%	
EV/Sales	0.3x					0.5x	EBIT 1yr hist	-357.2%					0.9%	
								20.1%					30.5%	
<b>Performance</b>														
Pchange 1mo	-27.8%					-35.7%	<b>Quality</b>	15.2%					9.8%	
Pchange 3mo	-38.2%					-42.9%	ROA	23.6%					18.3%	
Pchange 6mo	-60.6%					-61.0%	ROE	12.7%					11.8%	
Pchange 12mo	-53.1%					-62.9%	EBIT margin	18.3%					9.8%	
								2.7%					2.3%	
<b>Efficiency</b>								17.5%					17.4%	
Cash Turn	3.2x					4.7x	Payout ratio	19.2%					12.4%	
Fix Asset Turn	0.9x					0.9x	Gross mrgn							
Inventory Turn	20.2x					13.0x	ROI							
Total Asset Turn	0.7x					0.9x	<b>Financial Leverage</b>	12.7%					23.9%	
Work Cap Turn	4.7x					6.4x	Debt/Assets	19.4%					49.1%	
LTD/Work Cap	0.5x					0.7x	Debt/Equity	-4.5%					19.5%	
<b>Cash Flow</b>														
FCF/Market Cap	70.8%					67.7%	<b>Capex Discipline</b>	28.8%					55.2%	
FCF/Sales	26.7%					24.3%	Capex/Deprec	4.4%					8.6%	
								137.4%					272.8%	
<b>Liquidity</b>								-2.6%					24.0%	
Cash ratio	57.2%					39.7%	FCF/EPS	-2.6%					24.0%	
Quick ratio	145.0%					114.3%	Depr 1yr chng	0.0%					0.3%	
Current ratio	158.8%					132.7%	Shares out 1yr chng	-55.3%					-38.9%	

Source FactSet

## Disclosure Section

The information and opinions in Morgan Stanley Research were prepared or are disseminated by Morgan Stanley Asia Limited (which accepts the responsibility for its contents) and/or Morgan Stanley Asia (Singapore) Pte. (Registration number 199206298Z, regulated by the Monetary Authority of Singapore, which accepts the responsibility for its contents), and/or Morgan Stanley Asia (Singapore) Securities Pte Ltd (Registration number 200008434H, regulated by the Monetary Authority of Singapore, which accepts the responsibility for its contents), and/or Morgan Stanley Taiwan Limited and/or Morgan Stanley & Co International plc, Seoul Branch, and/or Morgan Stanley Australia Limited (A.B.N. 67 003 734 576, holder of Australian financial services license No. 233742, which accepts responsibility for its contents), and/or Morgan Stanley India Company Private Limited and their affiliates (collectively, "Morgan Stanley").

For important disclosures, stock price charts and rating histories regarding companies that are the subject of this report, please see the Morgan Stanley Research Disclosure Website at [www.morganstanley.com/researchdisclosures](http://www.morganstanley.com/researchdisclosures), or contact your investment representative or Morgan Stanley Research at 1585 Broadway, (Attention: Equity Research Management), New York, NY, 10036 USA.

### Analyst Certification

The following analysts hereby certify that their views about the companies and their securities discussed in this report are accurately expressed and that they have not received and will not receive direct or indirect compensation in exchange for expressing specific recommendations or views in this report: Frank A.Y. Wang.

Unless otherwise stated, the individuals listed on the cover page of this report are research analysts.

### Global Research Conflict Management Policy

Morgan Stanley Research has been published in accordance with our conflict management policy, which is available at [www.morganstanley.com/institutional/research/conflictolicies](http://www.morganstanley.com/institutional/research/conflictolicies).

### Important US Regulatory Disclosures on Subject Companies

The research analysts, strategists, or research associates principally responsible for the preparation of Morgan Stanley Research have received compensation based upon various factors, including quality of research, investor client feedback, stock picking, competitive factors, firm revenues and overall investment banking revenues.

Certain disclosures listed above are also for compliance with applicable regulations in non-US jurisdictions.

### STOCK RATINGS

Morgan Stanley uses a relative rating system using terms such as Overweight, Equal-weight or Underweight (see definitions below). Morgan Stanley does not assign ratings of Buy, Hold or Sell to the stocks we cover. Overweight, Equal-weight and Underweight are not the equivalent of Buy, Hold and Sell. Investors should carefully read the definitions of all ratings used in Morgan Stanley Research. In addition, since Morgan Stanley Research contains more complete information concerning the analyst's views, investors should carefully read Morgan Stanley Research, in its entirety, and not infer the contents from the rating alone. In any case, ratings (or research) should not be used or relied upon as investment advice. An investor's decision to buy or sell a stock should depend on individual circumstances (such as the investor's existing holdings) and other considerations.

### Global Stock Ratings Distribution

(as of September 30, 2008)

For disclosure purposes only (in accordance with NASD and NYSE requirements), we include the category headings of Buy, Hold, and Sell alongside our ratings of Overweight, Equal-weight and Underweight. Morgan Stanley does not assign ratings of Buy, Hold or Sell to the stocks we cover. Overweight, Equal-weight, and Underweight are not the equivalent of buy, hold, and sell but represent recommended relative weightings (see definitions below). To satisfy regulatory requirements, we correspond Overweight, our most positive stock rating, with a buy recommendation; we correspond Equal-weight to hold and Underweight to sell recommendations, respectively.

Stock Rating Category	Coverage Universe		Investment Banking Clients (IBC)		
	Count	% of Total	Count	% of Total IBC	% of Rating Category
<b>Overweight/Buy</b>	<b>892</b>	<b>40%</b>	<b>292</b>	<b>44%</b>	<b>33%</b>
<b>Equal-weight/Hold</b>	<b>937</b>	<b>42%</b>	<b>278</b>	<b>42%</b>	<b>30%</b>
<b>Underweight/Sell</b>	<b>387</b>	<b>17%</b>	<b>90</b>	<b>14%</b>	<b>23%</b>
<b>Total</b>	<b>2,216</b>		<b>660</b>		

Data include common stock and ADRs currently assigned ratings. An investor's decision to buy or sell a stock should depend on individual circumstances (such as the investor's existing holdings) and other considerations. Investment Banking Clients are companies from whom Morgan Stanley or an affiliate received investment banking compensation in the last 12 months.

### Analyst Stock Ratings

**Overweight (O or Over)** - The stock's total return is expected to exceed the total return of the relevant country MSCI Index, on a risk-adjusted basis over the next 12-18 months.

**Equal-weight (E or Equal)** - The stock's total return is expected to be in line with the total return of the relevant country MSCI Index, on a risk-adjusted basis over the next 12-18 months.

**Underweight (U or Under)** - The stock's total return is expected to be below the total return of the relevant country MSCI Index, on a risk-adjusted basis, over the next 12-18 months.

**More volatile (V)** - We estimate that this stock has more than a 25% chance of a price move (up or down) of more than 25% in a month, based on a quantitative assessment of historical data, or in the analyst's view, it is likely to become materially more volatile over the next 1-12 months compared with the past three years. Stocks with less than one year of trading history are automatically rated as more volatile (unless otherwise noted). We note that securities that we do not currently consider "more volatile" can still perform in that manner.

October 29, 2008

Taiwan Discovery

Unless otherwise specified, the time frame for price targets included in Morgan Stanley Research is 12 to 18 months.

### Analyst Industry Views

Attractive (A): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be attractive vs. the relevant broad market benchmark, as indicated below.

In-Line (I): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be in line with the relevant broad market benchmark, as indicated below.

Cautious (C): The analyst views the performance of his or her industry coverage universe over the next 12-18 months with caution vs. the relevant broad market benchmark, as indicated below.

Benchmarks for each region are as follows: North America - S&P 500; Latin America - relevant MSCI country index or MSCI Latin America Index; Europe - MSCI Europe; Japan - TOPIX; Asia - relevant MSCI country index.

### Other Important Disclosures

Morgan Stanley produces a research product called a "Tactical Idea." Views contained in a "Tactical Idea" on a particular stock may be contrary to the recommendations or views expressed in this or other research on the same stock. This may be the result of differing time horizons, methodologies, market events, or other factors. For all research available on a particular stock, please contact your sales representative or go to Client Link at [www.morganstanley.com](http://www.morganstanley.com).

For a discussion, if applicable, of the valuation methods used to determine the price targets included in this summary and the risks related to achieving these targets, please refer to the latest relevant published research on these stocks.

Morgan Stanley Research does not provide individually tailored investment advice. Morgan Stanley Research has been prepared without regard to the individual financial circumstances and objectives of persons who receive it. The securities/instruments discussed in Morgan Stanley Research may not be suitable for all investors. Morgan Stanley recommends that investors independently evaluate particular investments and strategies, and encourages investors to seek the advice of a financial adviser. The appropriateness of a particular investment or strategy will depend on an investor's individual circumstances and objectives. The securities, instruments, or strategies discussed in Morgan Stanley Research may not be suitable for all investors, and certain investors may not be eligible to purchase or participate in some or all of them.

Morgan Stanley Research is not an offer to buy or sell or the solicitation of an offer to buy or sell any security/instrument or to participate in any particular trading strategy. The "Important US Regulatory Disclosures on Subject Companies" section in Morgan Stanley Research lists all companies mentioned where Morgan Stanley owns 1% or more of a class of common securities of the companies. For all other companies mentioned in Morgan Stanley Research, Morgan Stanley may have an investment of less than 1% in securities or derivatives of securities of companies and may trade them in ways different from those discussed in Morgan Stanley Research. Employees of Morgan Stanley not involved in the preparation of Morgan Stanley Research may have investments in securities or derivatives of securities of companies mentioned and may trade them in ways different from those discussed in Morgan Stanley Research. Derivatives may be issued by Morgan Stanley or associated persons.

Morgan Stanley and its affiliate companies do business that relates to companies/instruments covered in Morgan Stanley Research, including market making and specialized trading, risk arbitrage and other proprietary trading, fund management, commercial banking, extension of credit, investment services and investment banking. Morgan Stanley sells to and buys from customers the securities/instruments of companies covered in Morgan Stanley Research on a principal basis.

With the exception of information regarding Morgan Stanley, research prepared by Morgan Stanley Research personnel are based on public information. Morgan Stanley makes every effort to use reliable, comprehensive information, but we make no representation that it is accurate or complete. We have no obligation to tell you when opinions or information in Morgan Stanley Research change apart from when we intend to discontinue research coverage of a subject company. Facts and views presented in Morgan Stanley Research have not been reviewed by, and may not reflect information known to, professionals in other Morgan Stanley business areas, including investment banking personnel.

Morgan Stanley Research personnel conduct site visits from time to time but are prohibited from accepting payment or reimbursement by the company of travel expenses for such visits.

The value of and income from your investments may vary because of changes in interest rates or foreign exchange rates, securities prices or market indexes, operational or financial conditions of companies or other factors. There may be time limitations on the exercise of options or other rights in your securities transactions. Past performance is not necessarily a guide to future performance. Estimates of future performance are based on assumptions that may not be realized. Unless otherwise stated, the cover page provides the closing price on the primary exchange for the subject company's securities/instruments.

To our readers in Taiwan: Information on securities/instruments that trade in Taiwan is distributed by Morgan Stanley Taiwan Limited ("MSTL"). Such information is for your reference only. Information on any securities/instruments issued by a company owned by the government of or incorporated in the PRC and listed in on the Stock Exchange of Hong Kong ("SEHK"), namely the H-shares, including the component company stocks of the Stock Exchange of Hong Kong ("SEHK")'s Hang Seng China Enterprise Index; or any securities/instruments issued by a company that is 30% or more directly- or indirectly-owned by the government of or a company incorporated in the PRC and traded on an exchange in Hong Kong or Macau, namely SEHK's Red Chip shares, including the component company of the SEHK's China-affiliated Corp Index is distributed only to Taiwan Securities Investment Trust Enterprises ("SITE"). The reader should independently evaluate the investment risks and is solely responsible for their investment decisions. Morgan Stanley Research may not be distributed to the public media or quoted or used by the public media without the express written consent of Morgan Stanley. Information on securities/instruments that do not trade in Taiwan is for informational purposes only and is not to be construed as a recommendation or a solicitation to trade in such securities/instruments. MSTL may not execute transactions for clients in these securities/instruments.

To our readers in Hong Kong: Information is distributed in Hong Kong by and on behalf of, and is attributable to, Morgan Stanley Asia Limited as part of its regulated activities in Hong Kong. If you have any queries concerning Morgan Stanley Research, please contact our Hong Kong sales representatives.

Certain information in Morgan Stanley Research was sourced by employees of the Shanghai Representative Office of Morgan Stanley Asia Limited for the use of Morgan Stanley Asia Limited.

Morgan Stanley Research is disseminated in Japan by Morgan Stanley Japan Securities Co., Ltd.; in Hong Kong by Morgan Stanley Asia Limited (which accepts responsibility for its contents); in Singapore by Morgan Stanley Asia (Singapore) Pte. (Registration number 199206298Z) and/or Morgan Stanley Asia (Singapore) Securities Pte Ltd (Registration number 200008434H), regulated by the Monetary Authority of Singapore, which accepts responsibility for its contents; in Australia by Morgan Stanley Australia Limited A.B.N. 67 003 734 576, holder of Australian financial services licence No. 233742, which accepts responsibility for its contents; in Korea by Morgan Stanley & Co International plc, Seoul Branch; in India by Morgan Stanley India Company Private Limited; in Canada by Morgan Stanley Canada Limited, which has approved of, and has agreed to take responsibility for, the contents of Morgan Stanley Research in Canada; in Germany by Morgan Stanley Bank AG, Frankfurt am Main, regulated by Bundesanstalt fuer Finanzdienstleistungsaufsicht (BaFin); in Spain by Morgan Stanley, S.V., S.A., a Morgan Stanley group company, which is supervised by the Spanish Securities Markets Commission (CNMV) and states that Morgan Stanley Research has been written and distributed in accordance with the rules of conduct applicable to financial research as established under Spanish regulations; in the United States by Morgan Stanley & Co. Incorporated, which accepts responsibility for its contents. Morgan Stanley & Co. International plc, authorized and regulated by Financial Services Authority, disseminates in the UK research that it has prepared, and approves solely for the purposes of section 21 of the Financial Services and Markets Act 2000, research which has been prepared by any of its affiliates. Private U.K. investors should obtain the advice of their Morgan Stanley & Co. International plc representative about the investments concerned. In Australia, Morgan Stanley Research, and any access to it, is intended only for "wholesale clients" within the meaning of the Australian Corporations Act. RMB Morgan Stanley (Proprietary) Limited is a member of the JSE Limited and regulated by the Financial Services Board in South Africa. RMB Morgan Stanley (Proprietary) Limited is a joint venture owned equally by Morgan Stanley International Holdings Inc. and RMB Investment Advisory (Proprietary) Limited, which is wholly owned by FirstRand Limited.

The information in Morgan Stanley Research is being communicated by Morgan Stanley & Co. International plc (DIFC Branch), regulated by the Dubai Financial Services Authority (the DFSA), and is directed at wholesale customers only, as defined by the DFSA. This research will only be made available to a wholesale customer who we are satisfied meets the regulatory criteria to be a client.

The information in Morgan Stanley Research is being communicated by Morgan Stanley & Co. International plc (QFC Branch), regulated by the Qatar Financial Centre Regulatory Authority (the QFCRA), and is directed at business customers and market counterparties only and is not intended for Retail Customers as defined by the QFCRA.

As required by the Capital Markets Board of Turkey, investment information, comments and recommendations stated here, are not within the scope of investment advisory activity. Investment advisory service is provided in accordance with a contract of engagement on investment advisory concluded between brokerage houses, portfolio

October 29, 2008

Taiwan Discovery

management companies, non-deposit banks and clients. Comments and recommendations stated here rely on the individual opinions of the ones providing these comments and recommendations. These opinions may not fit to your financial status, risk and return preferences. For this reason, to make an investment decision by relying solely to this information stated here may not bring about outcomes that fit your expectations.

The trademarks and service marks contained in Morgan Stanley Research are the property of their respective owners. Third-party data providers make no warranties or representations of any kind relating to the accuracy, completeness, or timeliness of the data they provide and shall not have liability for any damages of any kind relating to such data. The Global Industry Classification Standard ("GICS") was developed by and is the exclusive property of MSCI and S&P.

Morgan Stanley has based its projections, opinions, forecasts and trading strategies regarding the MSCI Country Index Series solely on publicly available information. MSCI has not reviewed, approved or endorsed the projections, opinions, forecasts and trading strategies contained herein. Morgan Stanley has no influence on or control over MSCI's index compilation decisions.

Morgan Stanley Research, or any portion hereof may not be reprinted, sold or redistributed without the written consent of Morgan Stanley.

Morgan Stanley Research is disseminated and available primarily electronically, and, in some cases, in printed form.

**Additional information on recommended securities/instruments is available on request.**

**The Americas**

1585 Broadway  
New York, NY 10036-8293

**United States**

Tel: +1 (1) 212 761 4000

**Europe**

25 Cabot Square, Canary Wharf  
London E14 4QA

**United Kingdom**

Tel: +44 (0) 20 7 425 8000

**Japan**

4-20-3 Ebisu, Shibuya-ku  
Tokyo 150-6008

**Japan**

Tel: +81 (0) 3 5424 5000

**Asia/Pacific**

Three Exchange Square  
Central

**Hong Kong**

Tel: +852 2848 5200