

ATI Process Simulation

Quantitative Results

- This report presents simulation results for a quantitative representation of the Above the Index Asset Management Investment (ATI AM) process.
- The simulations produced rely on Relative Market Return factors and portfolio construction guidelines provided by ATI AM

Australia

Australian Quantitative Analysis

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Figure 1: ATI AM Process Simulation Summary

	Total Return*		Outperf.
	ATI	ASX 200	
Entire Period	13.3%	11.7%	1.6%
2008	-11.7%	-13.0%	1.3%
2007	19.1%	23.4%	-4.3%
2006	26.1%	23.3%	2.7%
2005	27.2%	23.0%	4.2%
2004	32.8%	27.9%	5.0%
2003	15.7%	8.5%	7.2%
2002	0.4%	-4.7%	5.1%
2001	-0.2%	5.4%	-5.7%
2000	2.9%	11.8%	-8.9%
1999	18.7%	13.8%	4.9%
1998	13.2%	7.8%	5.4%

* pre-transaction costs

Introduction

This report presents simulation results of a quantitative representation of the investment process of Above the Index Asset Management Pty Ltd (ATI AM).

ATI AM requested JPM Quantitative Research (JPMQ) run a simulated portfolio from the ASX 200 universe, and 3 univariate backtests against the ASX100, ASX 200 and the Small Ordinaries indexes.

JPMQ employed ATI's treatment of earnings, this is a "60:30:10" weighting scheme to 1,2 and 3 year forward forecasts, to which "Relative Market Return" factors are applied.

JPMQ's backtest results found;

1. Excess return of +1.6% p.a over the ASX 200 return was added by applying the ATI framework over the last 10 years
2. Information Coefficient was strong at the larger capitalization end of the market. The information coefficient was 4.5% within the ASX 100 over the test period.
3. Unconstrained turnover of the optimizer averaged 7.8% p.m, which is significantly lower than many of our in-house quantitative models (constrained to 20% p.m).

Methodology Tested

Process Description:

The quantitative representation of the ATI AM investment process tested by JPMQ created a monthly time series of *Target Price* for each stock in the investment universe, the ASX 200.

The simulations were run by JP Morgan Quantitative Research (JPMQ), using the BARRA Aegis portfolio optimizer.

The Target Price was formed using a combination of a weighted average of forward Earnings per Share (EPS) estimates from IBES, a capitalization factor, the RMR – this is expressed in Figure 2.

The Target Price is compared to a stocks' 'current' price, giving a time series of the level of discount/premium, or Internal Rate of Return (IRR), at which each stock in the universe is trading.

Figure 2: Quantitative Representation of Investment Methodology

$$TP(0) = RMR \times (60\% \text{ EPSFY1} + 30\% \text{ EPSFY2} + 10\% \text{ EPSFY3})$$

$$IRR(1) = TP(0) / P(0)$$

Definitions

TP(0) = *Target Price* at each month end is based on consensus IBES EPS forward estimates and the following weighting methodology¹.

- 60% of EPS FY1 (next reported)
- 30% of EPS FY2 (year after next)
- 10% of EPS FY3 (two year out)

P(0) = 'current' market price, being IRESS month end close price.

IRR(1) is the IRR for the following month. Month end close prices are compared to month end Target prices to give the *next month's IRR*.

RMR = *Relative Market Return* is a capitalisation factor proprietary to ATI AM. The RMR is based broadly in market relative earnings yields. As of 15 May 2008 the range of RMRs was 65 (TCL) to 275 (DXS)

¹ ATI AM pro-rata the weights applied to the three forward years throughout the year, as opposed to the fixed weights used by JPMQ.

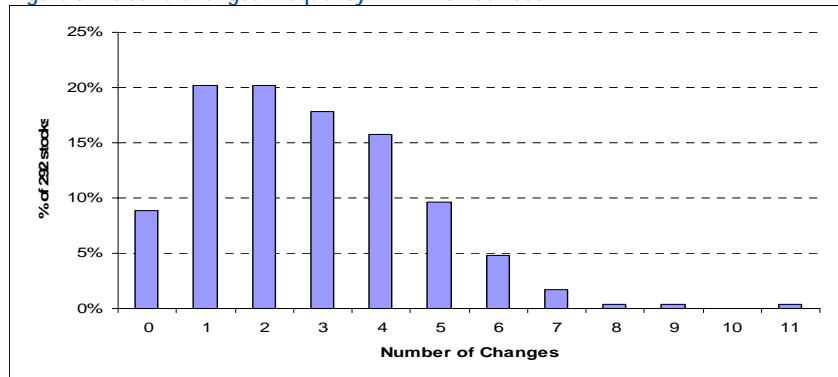
Relative Market Returns (RMR)

RMR are ATI AM Proprietary capitalization factors, broadly created from Earnings Yield relative to benchmark (one year forward estimates).

- Relative Market Returns were provided by ATI AM for 292 stocks
- The RMR provided span 01 Jan 2000 to 15 May 2008
- For 1998 and 1999 JPMQ used the 01 Jan 2000 RMR.

The frequency with which RMR changed throughout the period of the study are shown in Figure 3.

Figure 3: Relative Changes Frequency in RMR since 2000



The top five stocks by frequency of changes over the period are: SRL(11), ZFX(9), MRE(8), GNC (7), IVC(7), ST0(7).

Most recent changes in the period 18 Apr to 15 May 2008, were:

- TTS: 100 to 120
- TAH: 100 to 120

Reliance of the report on ATI AM data is limited to the “Relative Market Return” (RMR) factors and a portfolio construction methodology, both provided by Simon Burge of ATI AM.

The simulation was run targeting 4% ex-ante tracking error. Stock and sector level constraints as shown in Figure 4.

Figure 4: ATI AM Portfolio Construction Constraints

Stock Positions	Portfolio Guideline (Max)
Index weight is less than 0.25%	1.00%
Index weight is between 0.25% and 1.00%	2.00%
Index weight is between 1.00% and 5.00%	Index +/- 2.5%
Index weight is above 5.00%	Zero Absolute +/- 3.0%

Sector Positions	Allowable ranges
Aggregate index weight less than 5%	Index +/- 6%
Aggregate index weight greater than 5%	Index +/- 8%

Simulation Results

Returns

The simulation results are presented in Figure 5 and Figure 9.

Univariate Backtest Results are presented in Appendix 2.

Over the 01 Jan 1998 to 30 April 2008 simulation period, the Quantitative representation of the ATI AM process outperformed the ASX 200 accumulation index by 1.6% p.a (before T-costs), 1.2% p.a post 0.2% one-way T-costs.

Figure 5: ATI AM Process Simulation – yearly analysis

	Total Return		ASX 200	Outperformance	
	Pre T-Cost	Post T-cost		Pre T-cost	Post- T-cos
<i>Entire Period</i>	13.3%	12.9%	11.7%	1.6%	1.2%
2008	-11.7%	-12.0%	-13.0%	1.3%	1.0%
2007	19.1%	18.6%	23.4%	-4.3%	-4.8%
2006	26.1%	25.7%	23.3%	2.7%	2.4%
2005	27.2%	26.8%	23.0%	4.2%	3.8%
2004	32.8%	32.7%	27.9%	5.0%	4.8%
2003	15.7%	15.5%	8.5%	7.2%	6.9%
2002	0.4%	-0.1%	-4.7%	5.1%	4.6%
2001	-0.2%	-0.6%	5.4%	-5.7%	-6.0%
2000	2.9%	2.7%	11.8%	-8.9%	-9.2%
1999	18.7%	18.1%	13.8%	4.9%	4.4%
1998	13.2%	12.7%	7.8%	5.4%	5.0%

The largest single month of underperformance (largest drawdown) was March 2001. The portfolio returned -8.3% vs an index return of -4.8%, underperformance of -3.4% relative to the index

Information Coefficient

Our univariate backtests produced the following information coefficients for the 10 year test period.

Figure 6: ATI AM Information Coefficients

Universe	Information Coefficient
ASX 100	4.6%
ASX 200	3.0%
Small Ordinaries	1.8%

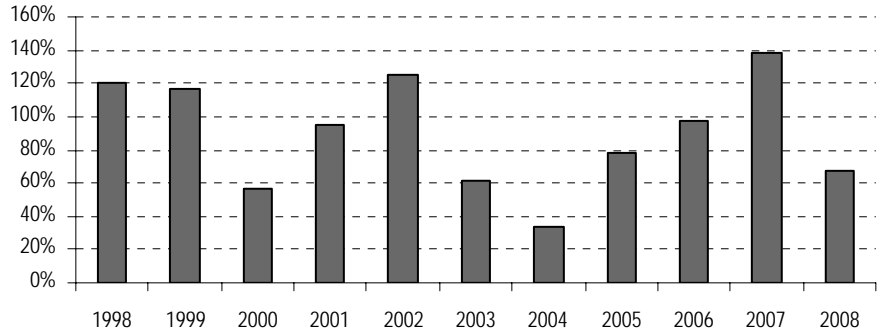
The results suggest that by applying the 60:30:10 and RMR a strong information coefficient can be achieved in the top 100 stocks of the ASX, and diminishes down the market capitalization curve.

We note ATIs philosophy concentrates the efforts of stock analysts at the mid to smaller end of the market, with the aim of improving performance in these parts of the capitalization range by applying fundamental analysis and professional judgment when stocks become attractive within the ATI AM framework. Full details of the back test are in Appendix 1

Turnover

The simulated turnover resulting from applying the methodology was 7.8% p.m, excluding set-up year.

Figure 7: ATI AM Simulated Process Turnover



Turnover of the univariate backtest is as follows

Figure 8: ATI AM Process Univariate Turnover (Q1)

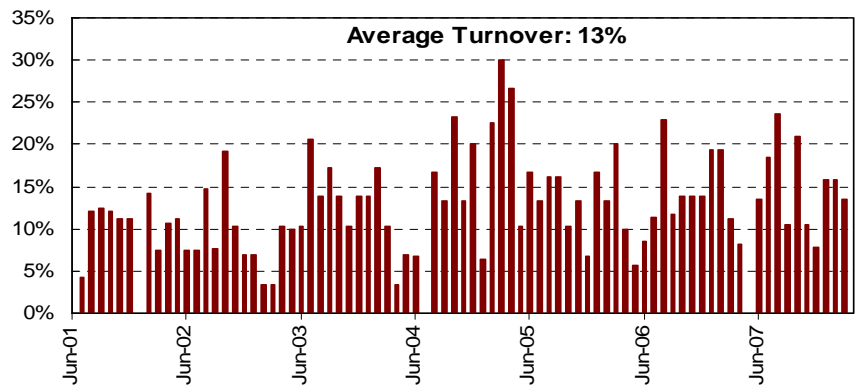
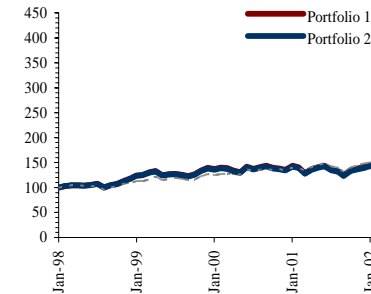


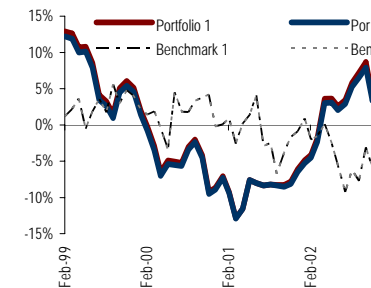
Figure 9: ATI AM Process: Simulation Summary: Transaction Costs 0.0% & 0.2%, targeting 4% risk.

Statistic	ATI Process (no T-cost)	ATI Process (0.2%T-cost)
Risk & Return		
Annual Total Return	13.3%	12.9%
Annual Benchmark Return	11.7%	11.7%
Annual Active Return	1.6%	1.2%
Annual Active Risk	4.7%	4.7%
Ex-Ante Tracking Error Limit	4.0%	4.0%
Information Ratio (IR)	0.33	0.25
Transfer Coefficient	7%	7%
Assets		
Average Annual Turnover	100%	100%
Minimum Holdings	27	27
Maximum Holdings	40	40
Exposures (Mandates)		
Average Active Industry Exposure	0.0%	0.0%
Maximum Active Industry	8.4%	8.4%
Minimum Active Industry	-8.9%	-8.9%
Average Factor Exposure	0.08	0.08
Maximum Active Factor	0.53	0.53
Minimum Active Factor	-0.36	-0.36
Portfolio Construction		
Description	AUS 4% TE Long	AUS 4% TE Long
Alpha	ATI_IRR	ATI_IRR
Asset Level Bounds	Client	Client
Industry Level Bounds	b ± 6 to 8%	b ± 6 to 8%
Risk Index Bounds	All b ± 1.0 Mom +ve	All b ± 1.0 Mom +ve
Benchmark	SAP200	SAP200
Portfolio Turnover Limit	0.0%	0.0%
Asset Turnover Limit (%ADV)	0.0%	0.0%
Transaction Cost Function	0.00%	0.20%
Fund Size		
Initial Fund Size	\$ 100,000,562	\$ 100,000,562
Final Fund Size	\$ 358,853,511	\$ 346,018,377

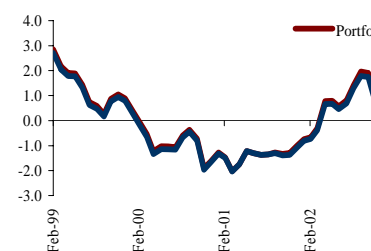
Portfolio 1: ATI_IRR. T-Cost: 0.0%, 4% T
Portfolio 2: ATI_IRR. T-Cost: 0.2%, 4% T
Index Returns



12 Month Active Returns (LHS) and Benchmark T



Information Ratio

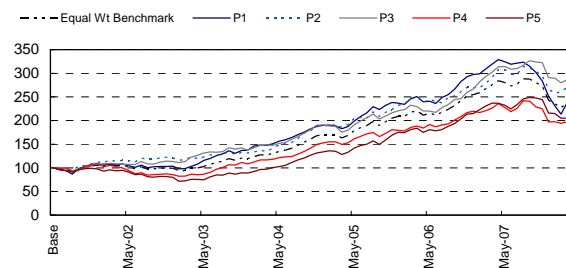


Appendix I: Univariate Backtests

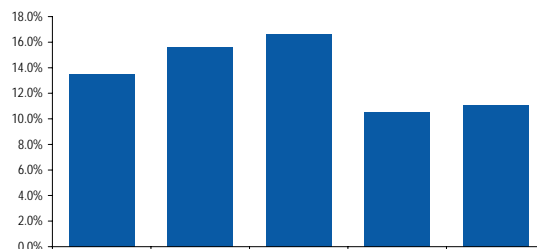
ATI_IRR in ASX100

ATI_IRR ASX100 in ASX100																				Rebalance every 1 month(s)			
2 Year(s): 30/04/2002 to 30/04/2004					2 Year(s): 30/04/2004 to 30/04/2006					2 Year(s): 30/04/2006 to 30/04/2008					Total Period: 30/06/2001 to 30/04/2008								
Portfolio Statistics					Portfolio Statistics					Portfolio Statistics					Portfolio Statistics								
Port	Avg Ret	Ann Ret	St Dev	% Out Perf.	Port	Avg Ret	Ann Ret	St Dev	% Out Perf.	Port	Avg Ret	Ann Ret	St Dev	% Out Perf.	Port	Avg Ret	Ann Ret	St Dev	% Out Perf.				
1	1.4%	17.9%	4%	50%	1	2.3%	30.4%	3%	38%	1	-0.1%	-2.6%	5%	33%	Universe	1.1%	13.5%	4%	40%				
2	0.8%	9.1%	3%	50%	2	2.7%	36.3%	3%	54%	2	0.4%	3.8%	4%	42%	2	1.3%	15.6%	4%	52%				
3	1.4%	17.1%	3%	67%	3	1.9%	24.2%	3%	38%	3	1.0%	11.7%	4%	71%	3	1.3%	16.6%	3%	61%				
4	0.6%	6.6%	4%	42%	4	2.1%	27.1%	3%	38%	4	0.3%	2.4%	4%	42%	4	0.9%	10.5%	4%	43%				
5	0.2%	1.8%	4%	38%	5	2.7%	37.6%	3%	63%	5	0.5%	5.7%	4%	54%	5	1.0%	11.1%	4%	48%				
Total Test					Total Test					Total Test					Total Test								
	Avg Ret	Rank IC	Avg Assets		Avg Ret	Rank IC	Avg Assets		Avg Ret	Rank IC	Avg Assets		Avg Ret	Rank IC	Avg Assets		Avg Ret	Rank IC	Avg Assets				
Universe	0.9%	6.6%	7.2%	70	Universe	2.3%	2.3%	3.8%	76	Universe	0.4%	-1.2%	-2.2%	91	Universe	1.1%	4.1%	4.5%	77				
Long Short Strategy Statistics					Long Short Strategy Statistics					Long Short Strategy Statistics					Long Short Strategy Statistics								
Portfolio 1 less Portfolio 5					Portfolio 1 less Portfolio 5					Portfolio 1 less Portfolio 5					Portfolio 1 less Portfolio 5								
Long/Short	Avg Ret	Ann Ret	Std Devn	% Out Perf.	Long/Short	Avg Ret	Ann Ret	Std Devn	% Out Perf.	Long/Short	Avg Ret	Ann Ret	Std Devn	% Out Perf.	Long/Short	Avg Ret	Ann Ret	Std Devn	% Out Perf.				
Long/Short	1.2%	15.1%	3%	67%	Long/Short	-0.5%	-5.7%	2%	38%	Long/Short	-0.6%	-8.1%	4%	50%	Long/Short	0.2%	1.79%	3.1%	52%				
T-Stat					T-Stat					T-Stat					T-Stat								
Long/Short	2.15				Long/Short	-1.34				Long/Short	-0.83				Long/Short	0.57							

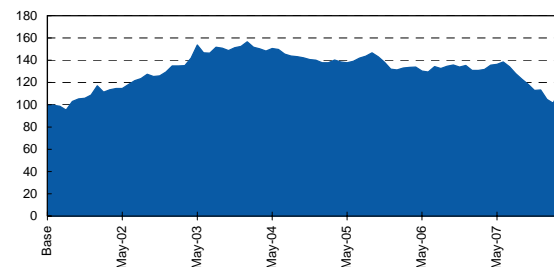
Portfolio Index Performance



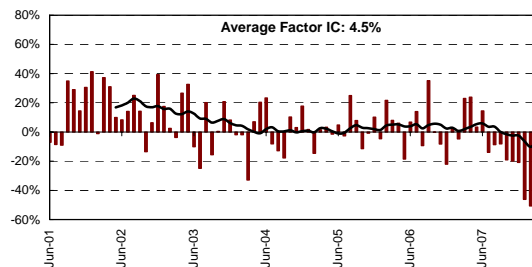
Portfolio Spread. Annual Returns



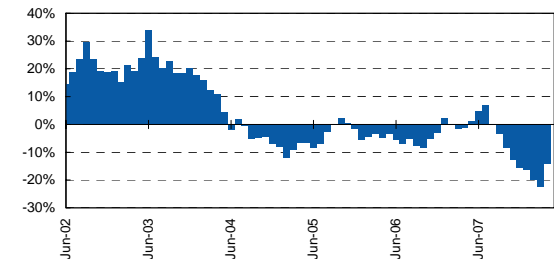
Cumulative Returns



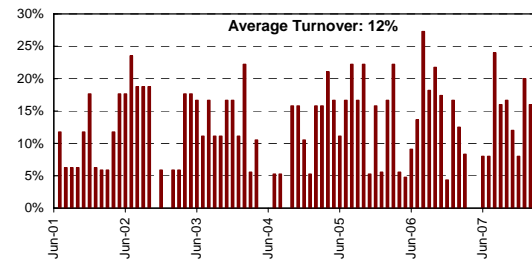
Information Co-Efficients (IC)



12 Month Rolling Returns Of L/S Strategy



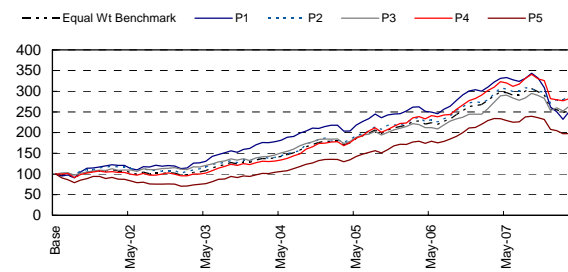
Turnover within Portfolio 1



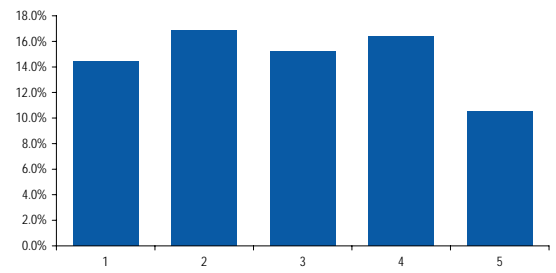
ATI_IRR in ASX200

ATI_IRR ASX200 in ASX200															Rebalance every 1 month(s)				
2 Year(s): 30/04/2002 to 30/04/2004					2 Year(s): 30/04/2004 to 30/04/2006					2 Year(s): 30/04/2006 to 30/04/2008					Total Period: 30/06/2001 to 30/04/2008				
Portfolio Statistics					Portfolio Statistics					Portfolio Statistics					Portfolio Statistics				
Port	Avg Ret	Ann Ret	St Dev	% Out	Port	Avg Ret	Ann Ret	St Dev	% Out	Port	Avg Ret	Ann Ret	St Dev	% Out	Port	Avg Ret	Ann Ret	St Dev	% Out
1	1.7%	20.6%	4%	67%	1	1.7%	22.2%	3%	42%	1	-0.1%	-2.2%	5%	46%	1	1.2%	14.4%	4%	54%
2	0.8%	8.8%	3%	46%	2	2.3%	30.8%	3%	54%	2	0.9%	10.4%	3%	50%	2	1.4%	16.8%	3%	52%
3	1.2%	14.5%	3%	54%	3	1.9%	24.1%	3%	33%	3	0.8%	9.6%	4%	63%	3	1.2%	15.2%	3%	51%
4	1.0%	12.0%	3%	33%	4	2.6%	35.5%	3%	50%	4	0.8%	8.7%	4%	63%	4	1.3%	16.4%	4%	49%
5	0.7%	7.4%	4%	29%	5	2.5%	33.3%	3%	58%	5	0.5%	5.1%	4%	54%	5	0.9%	10.5%	4%	44%
Total Test					Total Test					Total Test					Total Test				
Avg Ret					Avg Ret					Avg Ret					Avg Ret				
Rank IC					Rank IC					Rank IC					Rank IC				
Avg Assets					Avg Assets					Avg Assets					Avg Assets				
Universe 1.1%					Universe 2.2%					Universe 0.6%					Universe 1.2%				
5.0%					-1.9%					-2.0%					2.3%				
5.5%					-0.3%					-2.6%					3.0%				
116					128					159					131				
Long Short Strategy Statistics					Long Short Strategy Statistics					Long Short Strategy Statistics					Long Short Strategy Statistics				
Portfolio 1 less Portfolio 5					Portfolio 1 less Portfolio 5					Portfolio 1 less Portfolio 5					Portfolio 1 less Portfolio 5				
	Avg Ret	Ann Ret	Std Devn	% Out		Avg Ret	Ann Ret	Std Devn	% Out		Avg Ret	Ann Ret	Std Devn	% Out		Avg Ret	Ann Ret	Std Devn	% Out
Long/Short	1.0%	12.1%	3%	71%	Long/Short	-0.7%	-8.7%	2%	46%	Long/Short	-0.5%	-6.7%	3%	46%	Long/Short	0.3%	3.25%	3.1%	57%
T-Stat					T-Stat					T-Stat					T-Stat				
Avg Assets					Avg Assets					Avg Assets					Avg Assets				
Long/Short 1.80					Long/Short -1.67					Long/Short -0.83					Long/Short 0.91				
55					59					72					60				

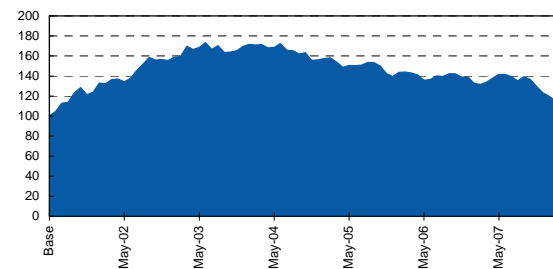
Portfolio Index Performance



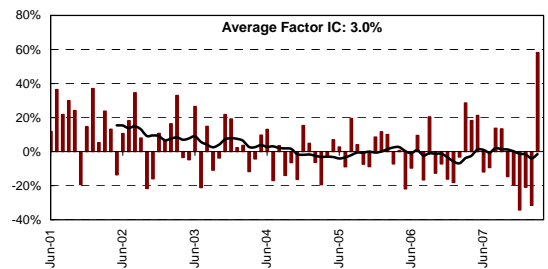
Portfolio Spread. Annual Returns



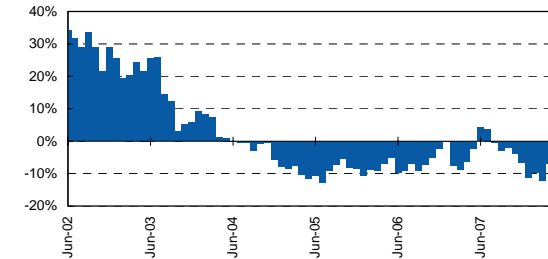
Cumulative Returns



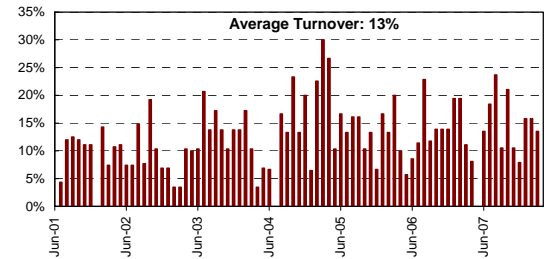
Information Co-Efficients (IC)



12 Month Rolling Returns Of L/S Strategy



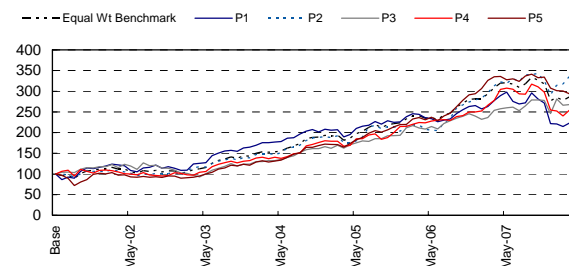
Turnover within Portfolio 1



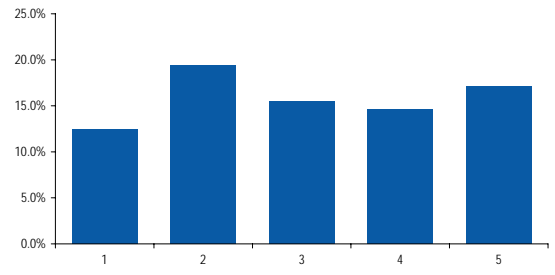
ATI_IRR in SMALL ORDINARIES

ATI_IRR SMALL ORDINARIES in SMALL ORDINARIES																				Rebalance every 1 month(s)				
2 Year(s): 30/04/2002 to 30/04/2004					2 Year(s): 30/04/2004 to 30/04/2006					2 Year(s): 30/04/2006 to 30/04/2008					Total Period: 30/06/2001 to 30/04/2008									
Portfolio Statistics					Portfolio Statistics					Portfolio Statistics					Portfolio Statistics									
Port	Avg Ret	Ann Ret	St Dev	% Out	Port	Avg Ret	Ann Ret	St Dev	% Out	Port	Avg Ret	Ann Ret	St Dev	% Out	Port	Avg Ret	Ann Ret	St Dev	% Out					
1	1.7%	20.1%	5%	58%	1	1.4%	18.0%	3%	42%	1	-0.2%	-4.5%	5%	33%	Universe	1.1%	12.4%	5%	48%					
2	1.5%	18.4%	4%	46%	2	1.7%	20.8%	4%	38%	2	1.9%	23.9%	5%	67%	1	1.6%	19.4%	4%	50%					
3	0.7%	7.1%	6%	42%	3	2.0%	26.4%	3%	42%	3	1.1%	12.6%	5%	54%	3	1.3%	15.5%	4%	44%					
4	1.2%	14.3%	4%	38%	4	2.2%	28.0%	4%	50%	4	0.6%	6.3%	5%	50%	4	1.3%	14.6%	5%	48%					
5	1.2%	15.3%	3%	54%	5	2.6%	35.5%	3%	71%	5	1.0%	11.5%	4%	67%	5	1.4%	17.1%	5%	60%					
Total Test					Total Test					Total Test					Total Test									
Avg Ret					Avg Ret					Avg Ret					Avg Ret									
Rank IC					Rank IC					Rank IC					Rank IC									
Avg Assets					Avg Assets					Avg Assets					Avg Assets									
Universe					Universe					Universe					Universe									
1.4%					2.0%					0.8%					1.4%									
3.5%					-6.6%					-2.8%					0.5%									
4.0%					-3.3%					-4.1%					1.8%									
46					52					68					53									
Long Short Strategy Statistics					Long Short Strategy Statistics					Long Short Strategy Statistics					Long Short Strategy Statistics									
Portfolio 1 less Portfolio 5					Portfolio 1 less Portfolio 5					Portfolio 1 less Portfolio 5					Portfolio 1 less Portfolio 5									
Avg Ret					Avg Ret					Avg Ret					Avg Ret									
Ann Ret					Ann Ret					Ann Ret					Ann Ret									
Std Devn					Std Devn					Std Devn					Std Devn									
% Out					% Out					% Out					% Out									
Long/Short					Long/Short					Long/Short					Long/Short									
0.4%					-1.2%					-1.2%					-0.3%									
4.1%					-13.5%					-14.5%					-5.09%									
4%					3%					4%					5.1%									
46%					33%					33%					43%									
Avg Assets					Avg Assets					Avg Assets					Avg Assets									
27					28					33					28									
T-Stat					T-Stat					T-Stat					T-Stat									
0.47					-1.95					-1.36					-0.55									

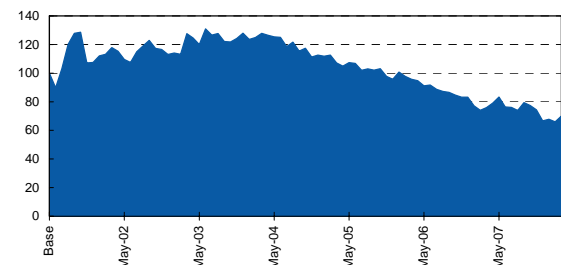
Portfolio Index Performance



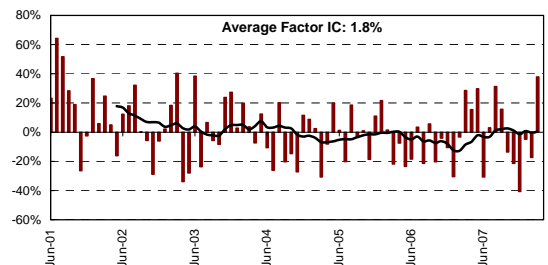
Portfolio Spread. Annual Returns



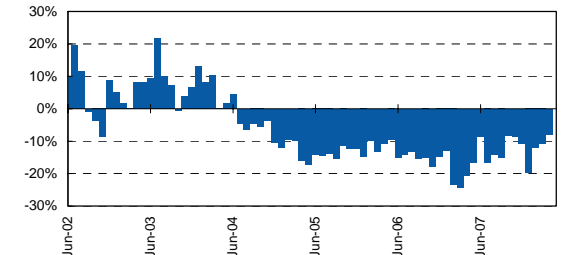
Cumulative Returns



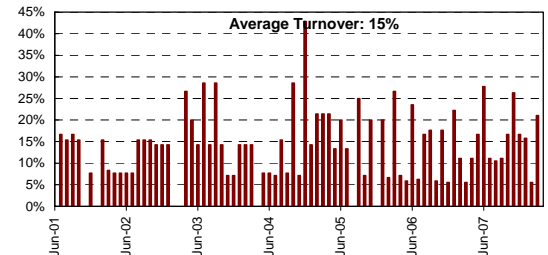
Information Co-Efficients (IC)



12 Month Rolling Returns Of L/S Strategy



Turnover within Portfolio 1



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