# 4.0 RESEARCH FINDINGS

This section discusses our results and is separated into six sub-sections. Most of the sub-sections are further separated into two parts to discuss the findings from Phase I and Phase II of our study.

## 4.1 Descriptive Analysis

This section discusses the basic features of the analyst reports in our sample for Phase I anddetails of the analysts we surveyed in Phase II.

### 4.1.1 Phase I - Content Analysis

**Descriptive Statistics**

Our sample consisted of 255 analyst reports dated May 2007 through February 2011. The reports in our sample ranged from one to 41 pages in length.The median and mean number of pages per report are 4 and 5.38 pages respectively and the standard deviation is 4.78 pages. A summary of our descriptive statistics is shown in Table 1:

| Descriptive Statistics (Number of pages) | Local Sample (N=124) | Foreign Sample (N=131) | Total Sample (N=255) |
|---|---|---|---|
| Minimum | 1 | 1 | 1 |
| Maximum | 22 | 41 | 41 |
| Median | 3 | 5 | 4 |
| Mean | 4.10 | 6.60 | 5.38 |
| Standard Deviation | 3.15 | 5.68 | 4.78 |

**Table 1: Descriptive Statistics**

**Investment Bank Type**

Of the 255 reports in our sample, 131 reports (51%) were published by foreign investment banks and 124 (49%) were published by local investment banks.Our sample was represented by 27 investment banks of which 15 were foreign (56%) and 12 (44%) were local. A breakdown of our sample by investment bank type is shown in Figures 1 and 2:

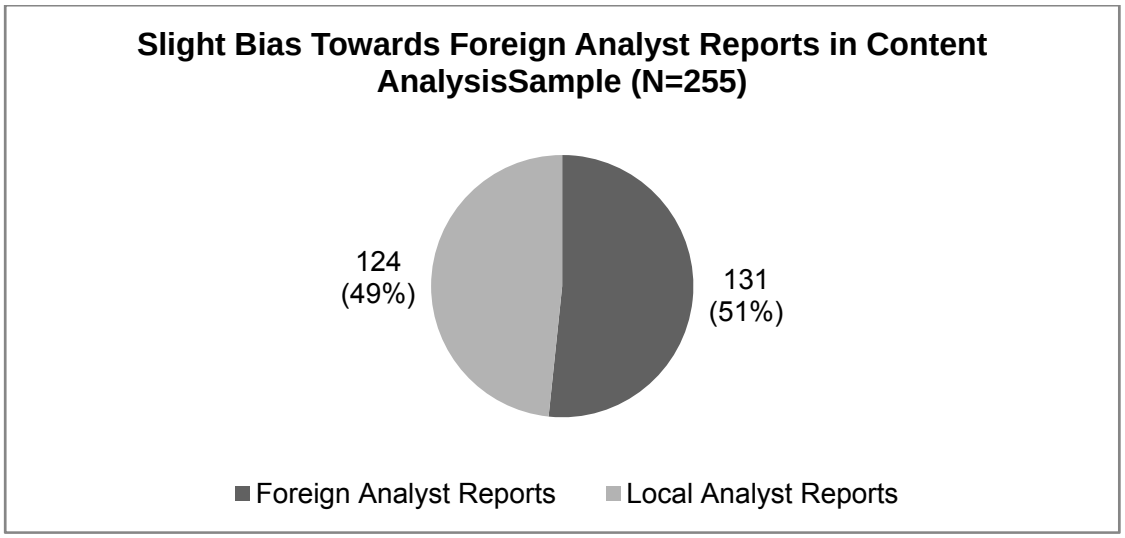



**Figure 1: Breakdown of Phase I Sample by Investment Bank Type**

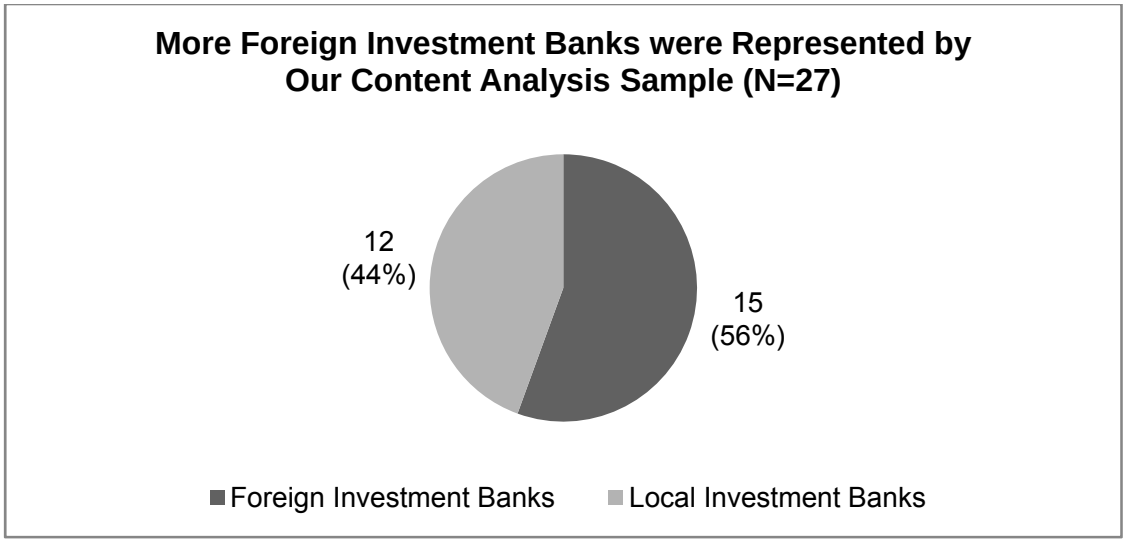



**Figure 2: Breakdown of Investment Banks in Phase I Sample by Type**

**Length of Sampled Analyst Reports**

Of the 131 foreign reports sampled, 69 reports (53%)were 1 to 5 pages long. This percentage was higher in the local sample. Of the 124 local reports sampled, 104 reports (84%) were 1 to 5 pages long. 44 foreign reports (34% of foreign sample)and 11 local reports (9% of local sample) were between 6 to 10 pages long, and18 foreign reports (14% of foreign sample) and nine local reports (7% of local sample) were longer than 10 pages. A breakdown of the sampled reports by length (excluding disclosures) is shown in Figure 3:

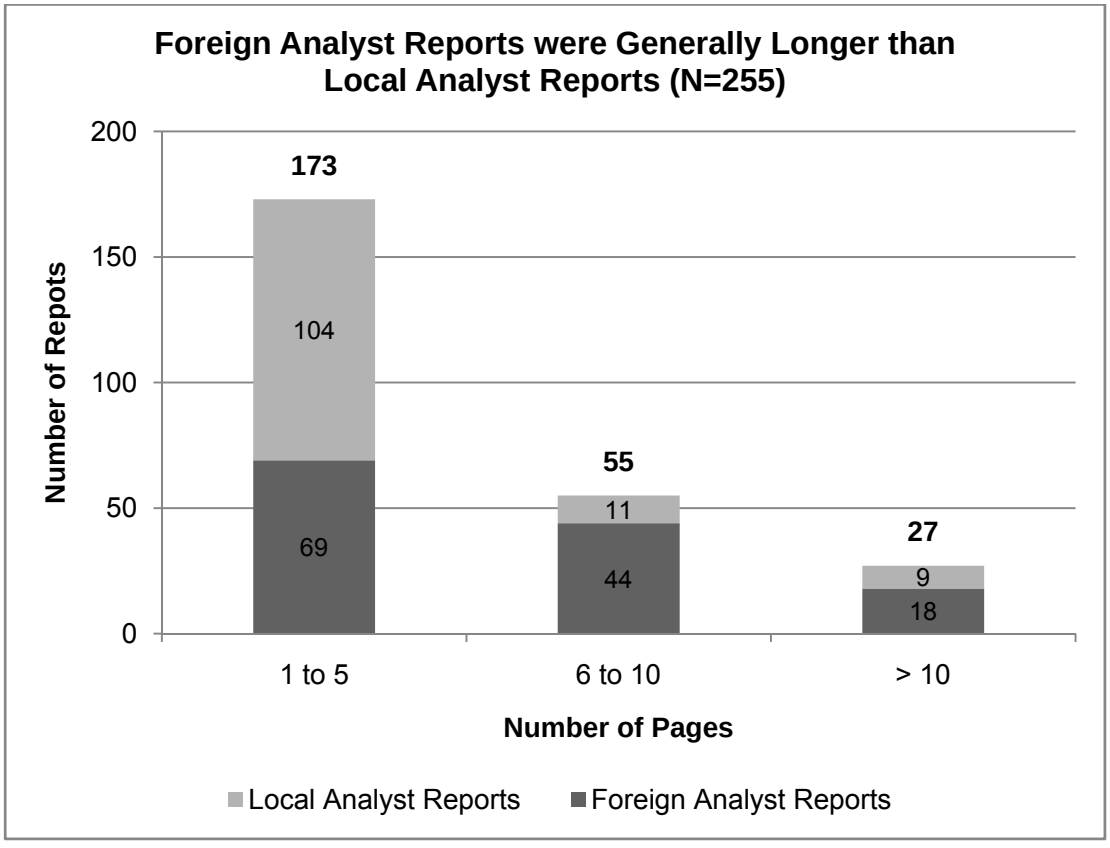



**Figure 3: Length of Phase I Sampled Reports (Excluding Disclosures)**

Figure 3 indicated that analyst reports (excluding disclosures) published by foreign investment banks in our sample were generally longer than those published by local investment banks. Local analyst reports were mainly1-5 pages in length while foreign analyst reports weremore evenly dispersed within the three categories.[1]

[1] The difference in length between foreign and local analyst reports may be due to the different types of clients these investment banks service. Foreign and local investment may be marketing the share mainly to foreign and local clients respectively. As foreign investors may not be familiar with AirAsia's business model, its management team and the markets in which the firm operates in, foreign analysts may have included more detailed analyses of the firm's results, earnings drivers and market trends, which would make their reports longer than those of local analysts'.

**Report Type**

Of the 255 reports sampled, 150 reports (59%) were reviews of AirAsia's quarterly or annual financial results, which typically included the analysts' latest 12-month earnings forecast for the firm, and 96 reports (38%) were company updates to inform investors of the latest news at AirAsia. Examples of these include AirAsia's latest joint venture in the Phillippines, commencement of new flights to new airports and increasing or decreasing jet fuel prices (a key driver of AirAsia's costs). Company updates may or may not have included a revised 12-month earnings forecast for AirAsia. The remaining nine reports (4%) were coverage initiation reports to inform investors that the analysts have begun covering the share. A breakdown of our sampled reports by report type is shown in Figure 4:

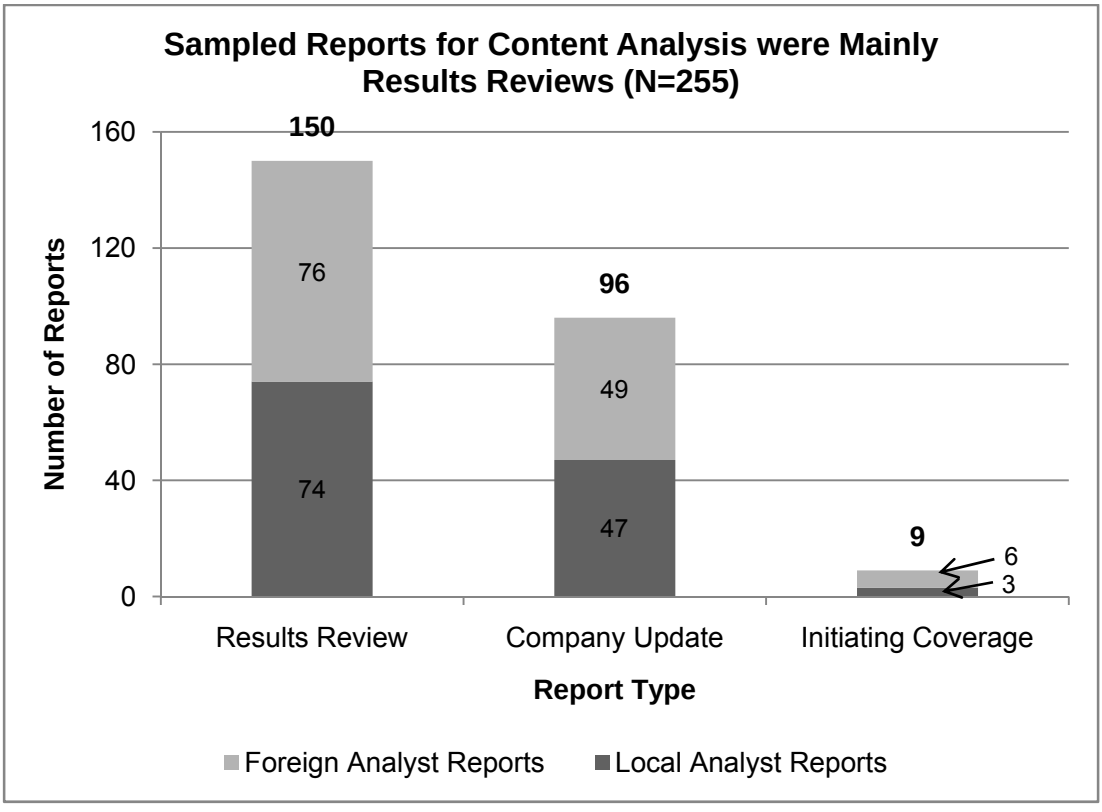



**Figure 4: Breakdown of Phase I Sampleby Report Type**

**Recommendation Type**

Of the 255 reports sampled, 177 reports (69%) were buy recommendations, 41 reports (16%) were sell recommendations and 37 reports (15%) were hold recommendations. The positive bias in our sample is consistent with the findings of Irvine (2004), Cliff (2007) and FengandMcVay (2010). They all found evidence that analysts may be inclined to be optimistic in their forecasts to assist employers market shares they are underwriting, increase trading commission and help employers establish rapport with a firm's managers before a possible capital raising exercise. A breakdown of the sampled reports by recommendation type is shown in Figure 5:

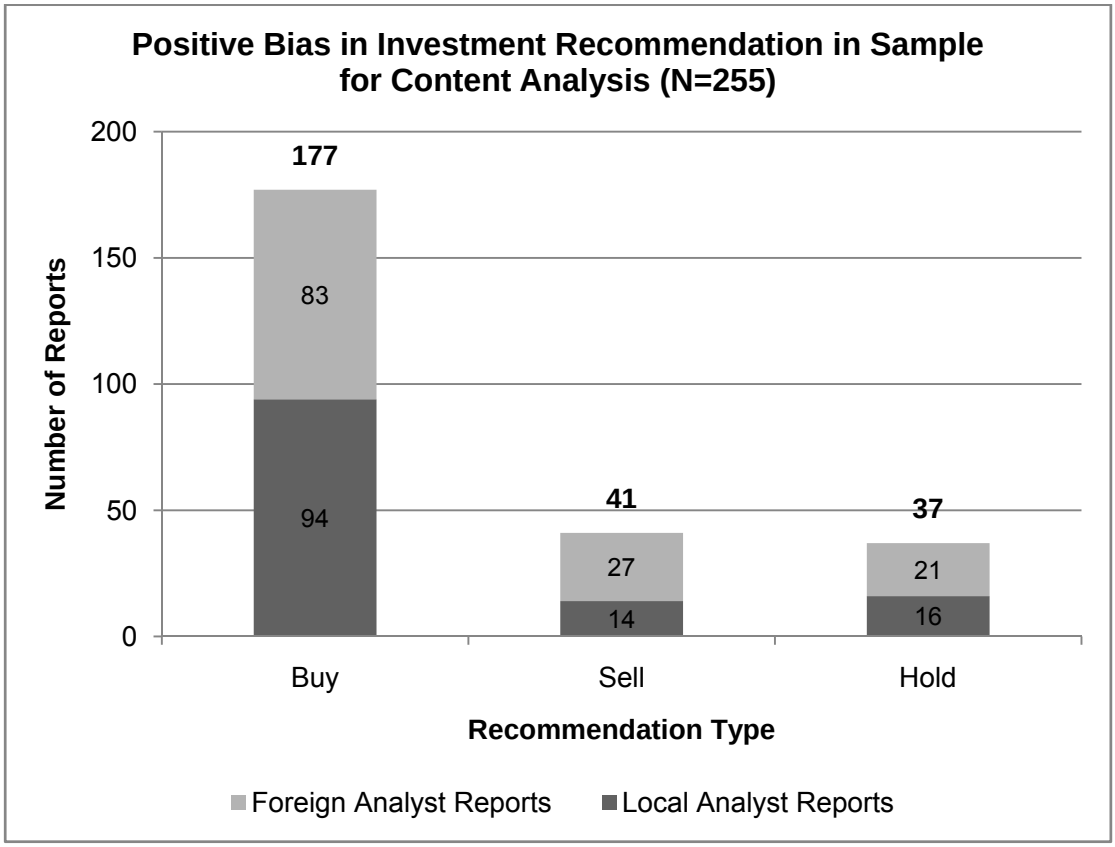



**Figure 5: Breakdown of Phase I Sample by Recommendation Type**

**Recommendation Change**

Of the 255 analyst reports in our sample, we excluded nine reports because these were coverage initiation reports. Of the 246 remaining analyst reports, the analyst's investment recommendation remained unchanged in 209 reports (85%). An upgrade in the investment recommendation was disclosed in 27 reports (11%) and a downgrade was found in 10 reports (4%). A breakdown of the sampled reports by recommendation change is shown in Figure 6:

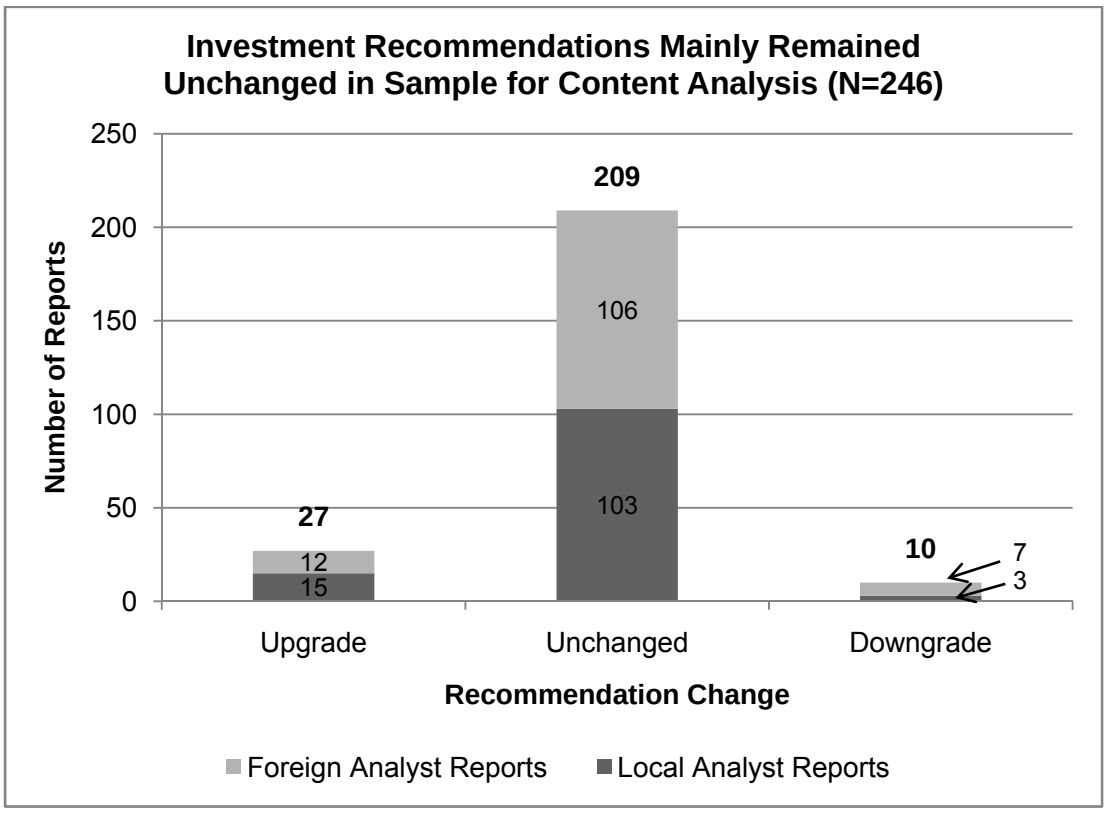



**Figure 6: Breakdown of Phase I Sample by Recommendation Change**

## Coverage Initiation Reports

Of the nine coverage initiation reports in our sample, fiveanalysts initiated coverage with a buy, three with a sell and one with a hold. A breakdown of the sampled coverage initiation reports by recommendation type is shown in Figure 7:

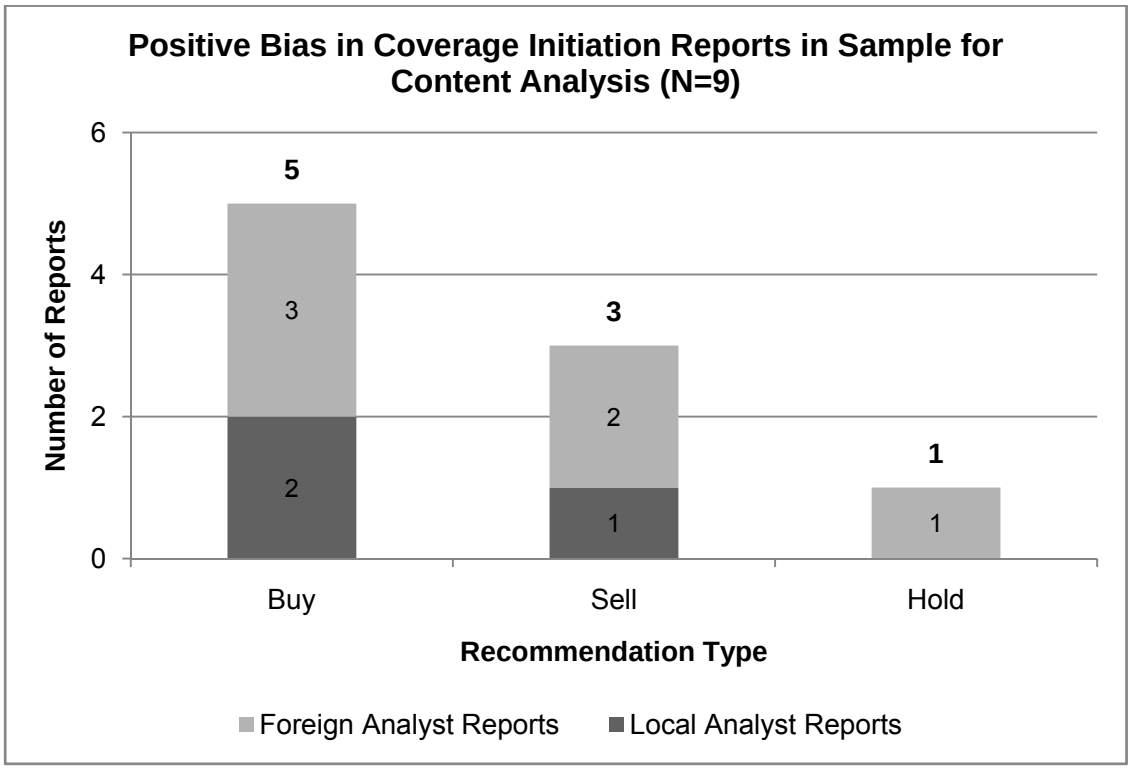



**Figure 7: Breakdown of Coverage Initiation Reports in Phase I Sample by Recommendation Type**

### 4.1.2 Phase II - Analysts' Survey

Of the 20 analysts and research teams we contacted via e-mail to request for their participation in a survey and a follow-up, semi-structured interview, 12 analysts responded to our survey. We did notreceive a response to our request for interviews. Of the 12 analysts who responded to our survey, eight were male and four were female. Eight analysts were attached to foreign investment banks and four were attached to local investment banks. A pie chart illustrating the breakdown of analysts we surveyed by investment bank type is shown in Figure 8:

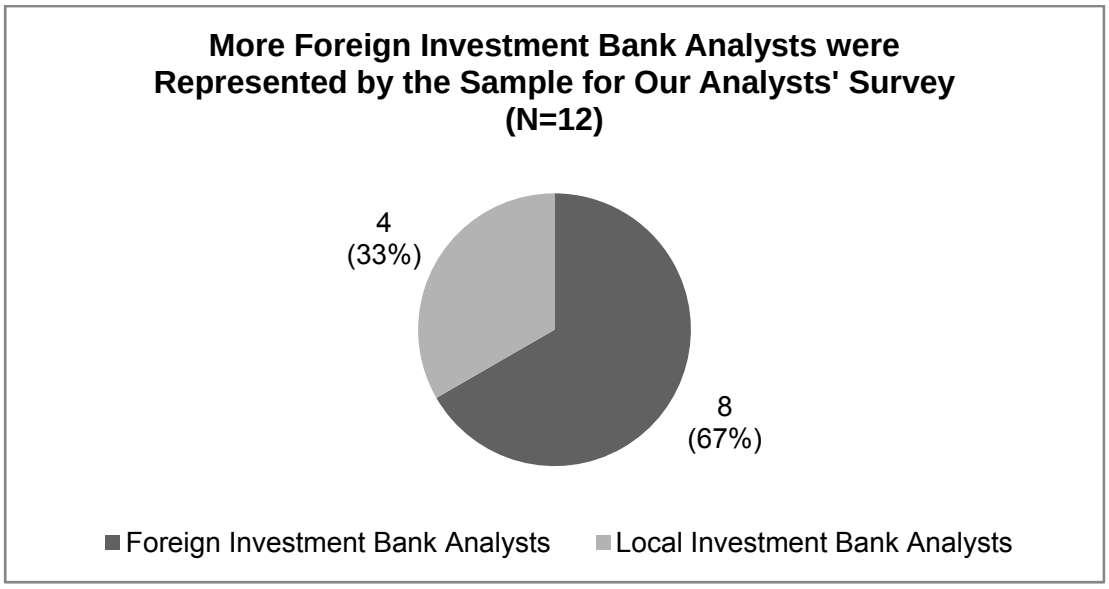



**Figure 8: Breakdown of Phase II Sample by Investment Bank Type**

## 4.2 Valuation Methods Used by Analysts

This section discusses the methods used by analysts in our sample to value AirAsia's shares.

### 4.2.1 Phase I - Content Analysis

We segregatedthe 255 reports in our sample first by year, from 2007 to 2011, and then by investment bank. To avoid redundancy in our data, we extracted the latest report from each investment bank represented by the sample for a particular year. We collected a total of 83 reports dated May 2007 through February 2011. The mean number of reports per year wasapproximately 17. A breakdown of the sampled reports by year is shown in Figure 9:

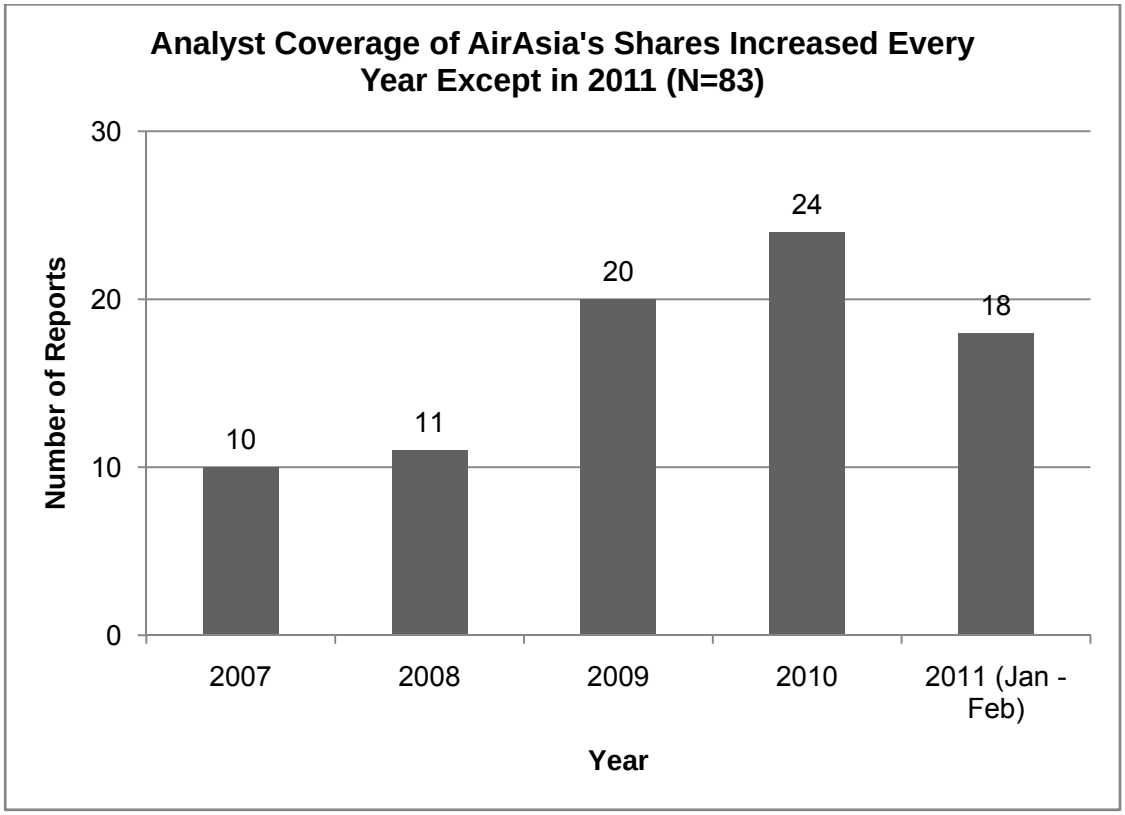



**Figure 9: Breakdown of Phase I Sample by Year**

To simplify our analysis, we assumed that each report in our sample was written by one analyst. On this basis, the number of reports shown in Figure 9 also indicated the number of analysts covering AirAsia's shares. Our sample showed an increasing number of analysts covering the share in the first four years of our sample, from 2007 to 2010, but this number dropped from 24 in 2010 to 18 in 2011. This may be due to our limited sampling for 2011, which included only the months of January and February.

We read each report to identify the valuation method that was used by the analyst to estimate a target price for the share and documented 12different valuation methods which are described in Table 2:

## Valuation Methods Documented During Phase I - Content Analysis

| No. | Valuation Method | Details |
|---|---|---|
| **Present Value Analysis** | | |
| 1. | DCF | Forecasted future cash flows (FCFs) and Terminal Value (TV) of the firm were discounted based on the estimated Weighted Average Cost of Capital (WACC) to arrive at the present value for the firm, which was later divided with the number of shares to arrive at the target share price |
| **Market Multiples**[2] | | |
| 2. | Price-to-Earnings (P/E) Ratio | A target forward P/E ratio was generally applied to AirAsia's 12-month forecast earnings per share (EPS) to arrive at the target share price |
| 3. | Price-to-Book (P/B) ratio | A target P/B multiple was generally applied to AirAsia's 12-month forecast book value to arrive at the target share price |
| 4. | EV-to-EBITDA (EV/EBITDA) ratio | A target EV/EBITDA multiple was generally applied to AirAsia's 12-month forecast EBITDA to arrive at the forecast EV, which was later divided with the number of shares to arrive at the target share price |
| 5. | EV-to-EBITDAR (EV/EBITDAR) ratio | A target EV/EBITDAR multiple was generally applied to AirAsia's 12-month forecast EBITDAR to arrive at the forecast EV, which was later divided with the number of shares to arrive at the target share price |

**Table 2: Valuation Methods Documented During Phase I- Content Analysis**

[2]The target multiple was typically based on (i) the average of comparable firms, or (ii) the firm's own historical average

## Valuation Methods Documented During Phase I - Content Analysis

| No. | Valuation Method | Details |
|---|---|---|
| 6. | EV-to-Fleet Value (EV/Fleet Value) ratio | A target EV/Fleet Value multiple was generally applied to AirAsia's 12-month forecast Fleet Value to arrive at the forecast EV, which was later divided with the number of shares to arrive at the target share price |
| 7. | Price-Earnings to Growth (PEG) Ratio | The estimated 5-year forward PEG was used to calculate the implied P/E ratio, which was then applied to the 12-month forecast EPS to arrive at the target price |
| 8. | A blend of P/E ratio and PEG | The P/E-based target price and PEG-based target price were calculated separately (as per items 2 and 8) and the target share price was generally the average of the two |
| 9. | A blend of P/E and P/B ratios | The P/E-based target price and P/B-based target price were calculated separately (as per items 2 and 3) and the target share price was generally the average of the two |
| 10. | A blend of P/E, P/Band EV/EBITDA ratios | The P/E-based target price, P/B-based target price and EV/EBITDA target price were calculated separately (as per items 2, 3 and 4) and the target share price was generally the average of the three |
| **Others** | | |
| 11. | Book Value per share (BVPS) | The net present value (net of debt) of AirAsia's assets (generally its existing fleet and future aircraft orders) was estimated and divided with the number of shares to arrive at the target share price |
| 12. | Return on Equity (ROE)/Cost of Equity (COE) model | The ratio of (ROE – g)/(COE – g), where g equaled AirAsia's long-term growth rate, was estimated and applied to AirAsia's 12-month forecast book value to arrive at the target share price |

**Table 2: Valuation Methods Documented During Phase I- Content Analysis**

At a glance, Table 2 appeared to indicate that analysts used a variety of methods to value AirAsia's shares. However, although each of the 12 valuation methods represented a specific nuance, many of them were variations of several main themes. Drawing from previous studies in accounting and finance, we used two different approaches to categorize the items in Table 2: Type I (Accounting-Based) and Type II (Finance-Based), which are discussed below:

**a) Type I (Accounting-Based)**

Accounting researchers appeared to take a broad approach to studying valuation methods. They generally categorized the various methods into broad groups based on whether one derived a firm's value from its earnings,assets, or a combination of the two (Jenkins and Kane, 2006, and El-Gazzar*et. al*, 2009). Based on the study by Jenkins and Kane (2006) and El-Gazzar*et. al* (2009), we segregated the 12 valuation methods into three categories: earnings-based valuation, asset-based valuationand hybrid model/others.

**b) Type II (Finance-Based)**

Compared to accounting researchers, finance researchers appeared to focus their studies on the use of specific valuation methods, such as the P/E ratio, DCF and DDM to value a firm (Pike *et. al*, 1993, Ohlson, 1995, Block, 1999, Bradshaw, 2002, and Demirakos*et. al*, 2004). Similar to Bradshaw (2002) and Demirakos*et. al* (2004), we segregated

the 12 valuation methods according to five main themes: P/E ratio, P/E ratio-based, Enterprise Value (EV)-based, Book Value (BV)-based and Others.

We segregated the 12 documented valuation methods according to Type I (Accounting-Based) categories and repeated the process with Type II (Finance-Based) categories. A summary ofour results isshown in Table 3:

| **Type I (Accounting-Based)** | **Type II (Finance-Based)** |
|---|---|
| **Earnings-based valuation** | **P/E ratio** |
| 1. P/E ratio | 1. P/E ratio |
| 2. PEG | |
| 3. Blend P/E with PEG | **P/E ratio-based** |
| 4. Blend P/E with P/B | 2. PEG |
| 5. Blend P/E with P/B and EV/EBITDA | 3. Blend P/E with PEG |
| 6. EV/EBITDA | 4. Blend P/E with P/B |
| 7. EV/EBITDAR | 5. Blend P/E with P/B and EV/EBITDA |
| **Asset-based valuation** | **EV-based** |
| 8. BVPS | 6. EV/EBITDA |
| 9. P/B | 7. EV/EBITDAR |
| 10. EV/Fleet Value | 8. EV/Fleet Value |
| **Hybrid model/Others** | **BV-based** |
| 11. ROE/COE model | 9. BVPS |
| 12. DCF | 10. P/B |
| | **Others** |
| | 11. ROE/COE model |
| | 12. DCF |

**Table 3: Documented Valuation Methods Segregated According to Type Iand Type II**

Based on Table 3, we recorded the number of analysts who used each Type I valuation method and repeated the process with the valuation methods under Type II. Our results are discussed next.

## Type I (Accounting-Based) Research Results

A summary of the Type I valuation methods used by analysts in our sample is shown in Table 4 and Figures 10 and 11:

| Valuation Methods | Number of Analysts | | | | | Percentage of Analysts (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2007 | 2008 | 2009 | 2010 | 2011 |
| Earnings-based | 7 | 4 | 12 | 19 | 16 | 70 | 36 | 60 | 79 | 89 |
| Asset-based | 1 | 6 | 5 | 1 | 1 | 10 | 55 | 25 | 4 | 6 |
| Hybrid/Others | 2 | 1 | 3 | 4 | 1 | 20 | 9 | 15 | 17 | 6 |
| Total | 10 | 11 | 20 | 24 | 18 | 100 | 100 | 100 | 100 | 100 |

**Table 4: Type I Valuation Methods Research Results**

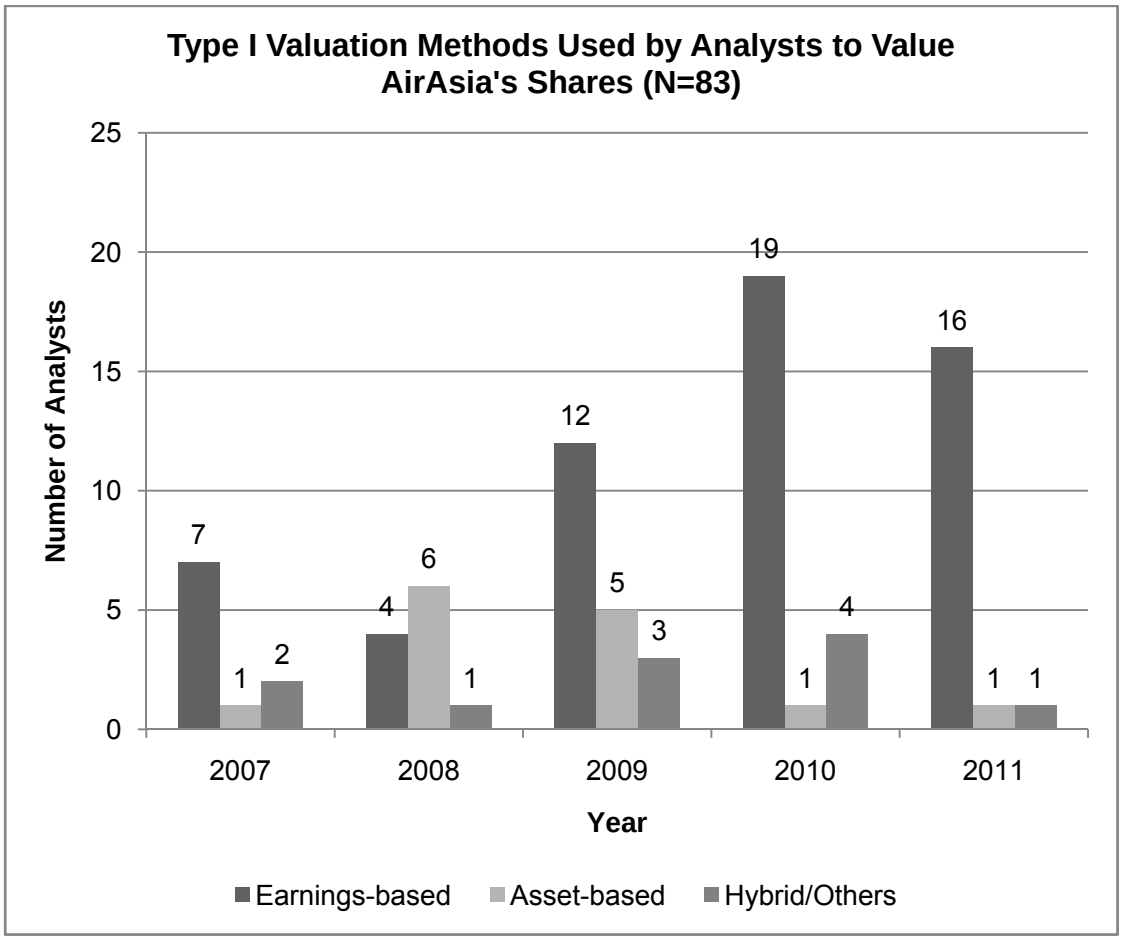



**Figure 10: Number of Analysts in Phase I Sample Who Used Type I Valuation Methods**

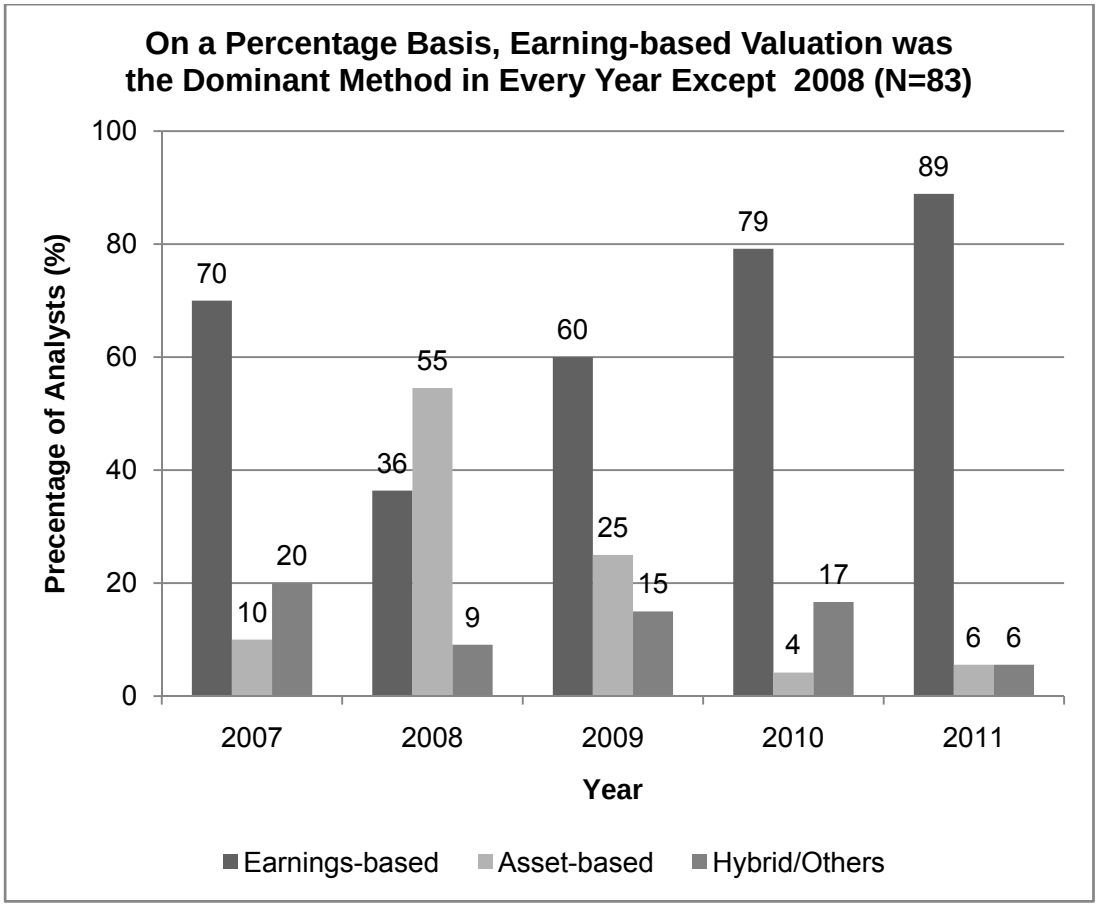



**Figure 11: Percentage of Analysts in Phase I Sample Who Used Type I Valuation Methods**

Our Type I research results in Figure 10 were inconclusive because there seemed to be no apparent pattern in the Type I valuation methods used by analysts to calculate AirAsia's target share price. However, the plot of the percentage of analysts in each sample-year who used Type I valuation methods in Figure 11appeared to show a more definitive trend. Our results in Figure 11seemed to suggest that earnings-based valuationwas the dominant valuation method in every year between 2007 and 2011 except in 2008, when asset-based valuation was dominant.

This may be related to AirAsia'sreported earnings. In their study of the accuracy of asset-based, income-based and hybrid valuation models, Jenkins and Kane (2006) suggested that analysts may prefer to use an asset-based valuationmodel when a firm is not profitable or has low profitability because very small or negative earnings provide little meaning, if any, in an earnings-based valuation model. We found support for this argument in AirAsia's financials.[3]In 2008, the firm posted its first ever loss, almost RM500 million, which was mainly attributed to one extraordinary item, viz. losses due to unwinding of fuel hedges. The loss reported by AirAsia in 2008 may explain why analysts seemed to prefer asset-based valuation in the same year, i.e. because negative earnings generally would provide little, if any, meaning in an earnings-based valuation.

[3]In 2007, AirAsia changed their financial year end from June to December and reported a net profit of RM498 million for the year ending June 2007 and RM426 million for the six months ending December 2007. They subsequently reported a net profit/(loss) of (RM497 million), RM506 million and RM1.07 billion in 2008, 2009 and 2010 respectively. AirAsia's unaudited condensed income statement indicated a net profit of RM173 million for the first quarter of 2011.

## Type II (Finance-Based) Research Results

A summary of the Type II valuation methods used by analysts in our sample is shown in Table 5 and Figures 12 and 13:

| Valuation Methods | Number of Analysts | | | | | Percentage (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2007 | 2008 | 2009 | 2010 | 2011 |
| P/E ratio | 2 | 4 | 9 | 14 | 13 | 20 | 36 | 45 | 58 | 72 |
| P/E ratio-based | 3 | 0 | 0 | 2 | 0 | 30 | 0 | 0 | 8 | 0 |
| EV-based | 4 | 2 | 3 | 5 | 3 | 40 | 18 | 15 | 21 | 17 |
| BV-based | 0 | 4 | 5 | 1 | 1 | 0 | 36 | 25 | 4 | 6 |
| Others | 1 | 1 | 3 | 2 | 1 | 10 | 9 | 15 | 8 | 6 |
| Total | 10 | 11 | 20 | 24 | 18 | 100 | 100 | 100 | 100 | 100 |

**Table 5: Type II Valuation Methods Research Results**

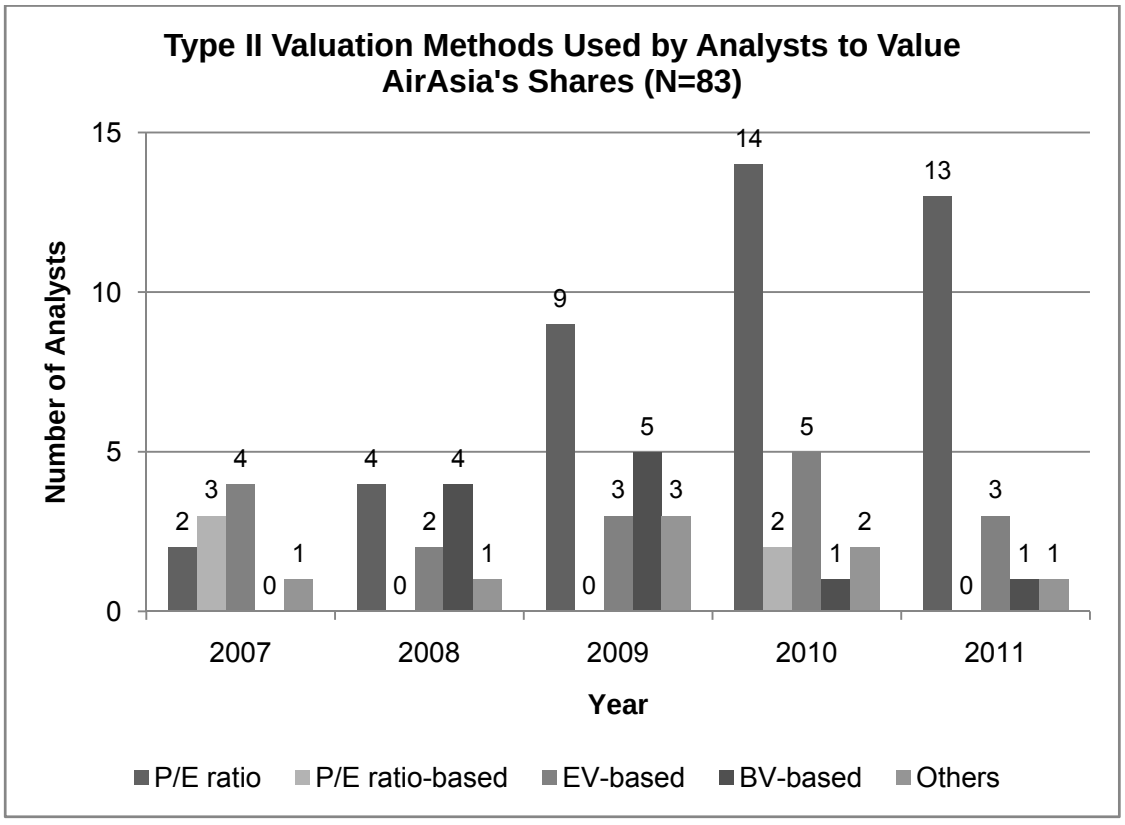



**Figure 12: Number of Analysts in Phase I Sample Who Used Type II Valuation Methods**

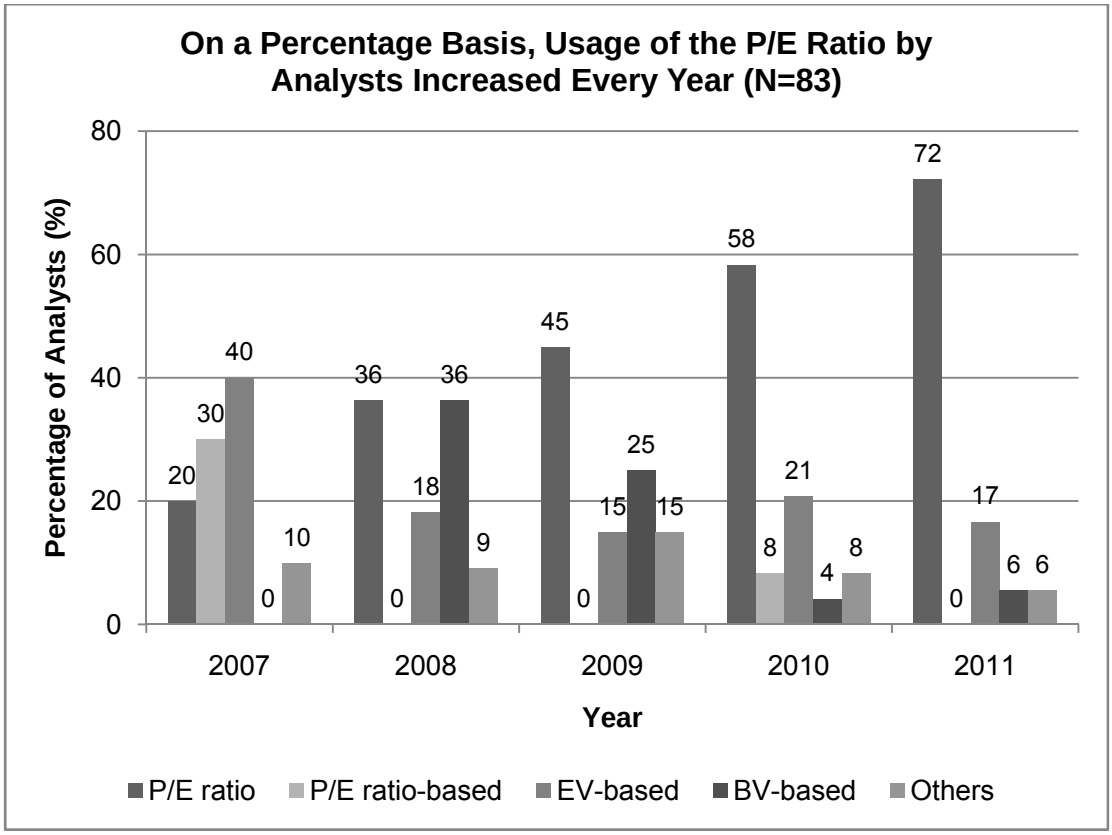



**Figure 13: Percentage of Analysts in Phase I Sample Who Used Type II Valuation Methods**

Similar to our Type I valuation methods research results, our findings in Figure 12 were inconclusive because there seemed to be no apparent pattern in the Type II valuation methods used by analysts to value AirAsia's shares. However, Figure 13suggested that the percentage of analysts who used the P/E ratio to calculate a target price was increasing annually. In 2007, only 20% of analysts who covered the share that year used the P/E ratio to value AirAsia's shares. By 2011, this figure had increased to 72%.

Our analysis of the analysts' rationale and justification fortheir valuation methods suggested thatmore analysts began to use the P/E ratio to estimate a target price for AirAsia's shares asthe firm's management addressed

investors' concerns over its balance sheet.In 2007, investors were generally concerned with AirAsia's high gearing, uncertain funding sources to finance the purchase of their aircraft, and the unprofitable operations of their Thai and Indonesian associates. By 2011, AirAsiahadsecured funding to finance the purchase of over 100 aircraft from Airbus, which are scheduled for delivery through 2015, and delayed delivery of several aircraft, which improved their debt position. AirAsia's Thai and Indonesian associates also began to report profits, which gave investors some assurance over the associates' ability to repay their intercompany debt to AirAsia.

**CombinedType I (Accounting-Based) and Type II (Finance-Based) Valuation Methods Research Results**

When we compared Figure 11 and Figure 13, segregating the 12 valuation methods according to Type I appeared to better explain the variations in our data. Using Type I categories, analysts appeared to useearnings-based valuation when AirAsia reported a profit and asset-based valuation when the firm reported a loss. Jenkins and Kane (2006) suggested that the dependence on the firm's profit and loss may be because small or negative earnings would not provide much meaning, if any, in an earnings-based valuation.

When we segregated the 12 valuation methods according to Type II categories, our results indicated that a growing percentage of analysts used the P/E ratio to calculate a target price for AirAsia's shares. Seeing that

earnings-based valuation was dominant in four of the five years in our sample, this seemed to suggest that the P/E ratio may be analysts' preferred earnings-based valuation model.

Based on the above, we redrew Figure 11 and added a secondary line to indicate the percentage of analysts who used the P/E ratio to value a share of AirAsia's stock in Figure 14.For ease of comparison, AirAsia's reported net income is shown in Figure 15.

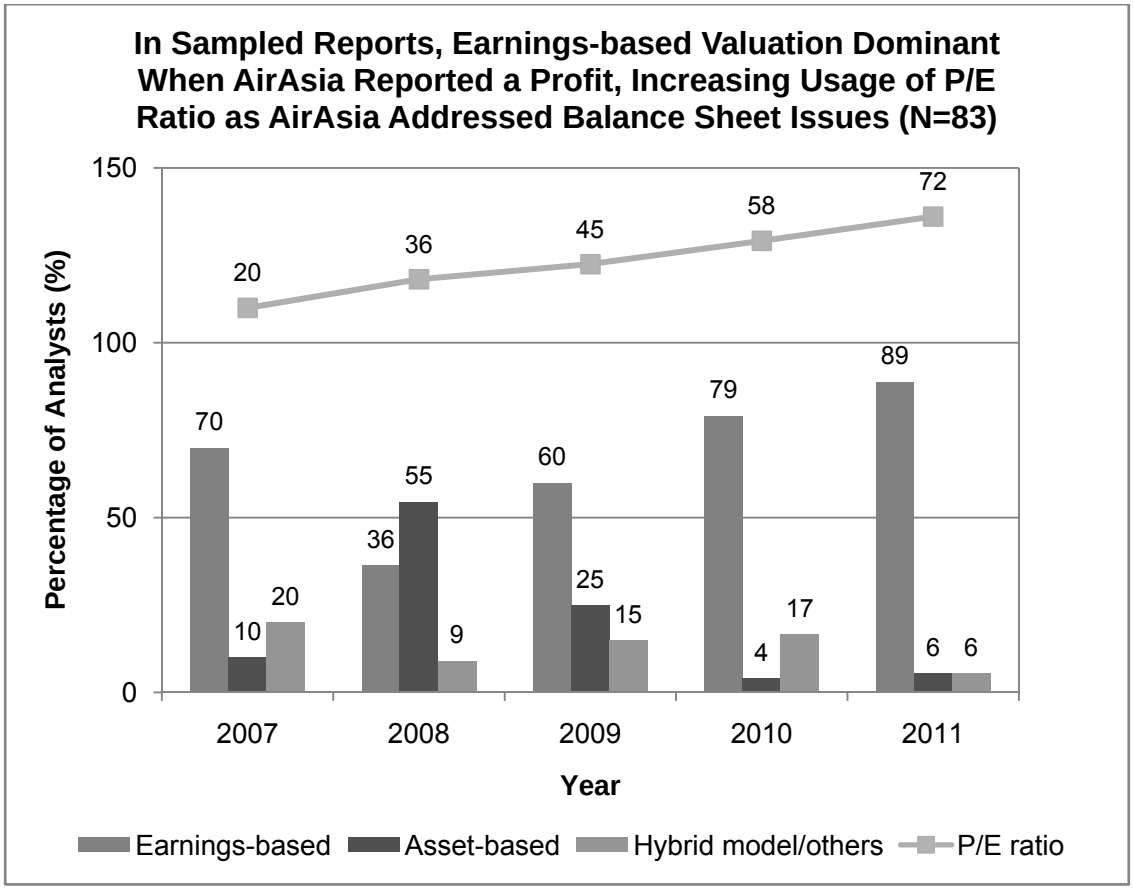
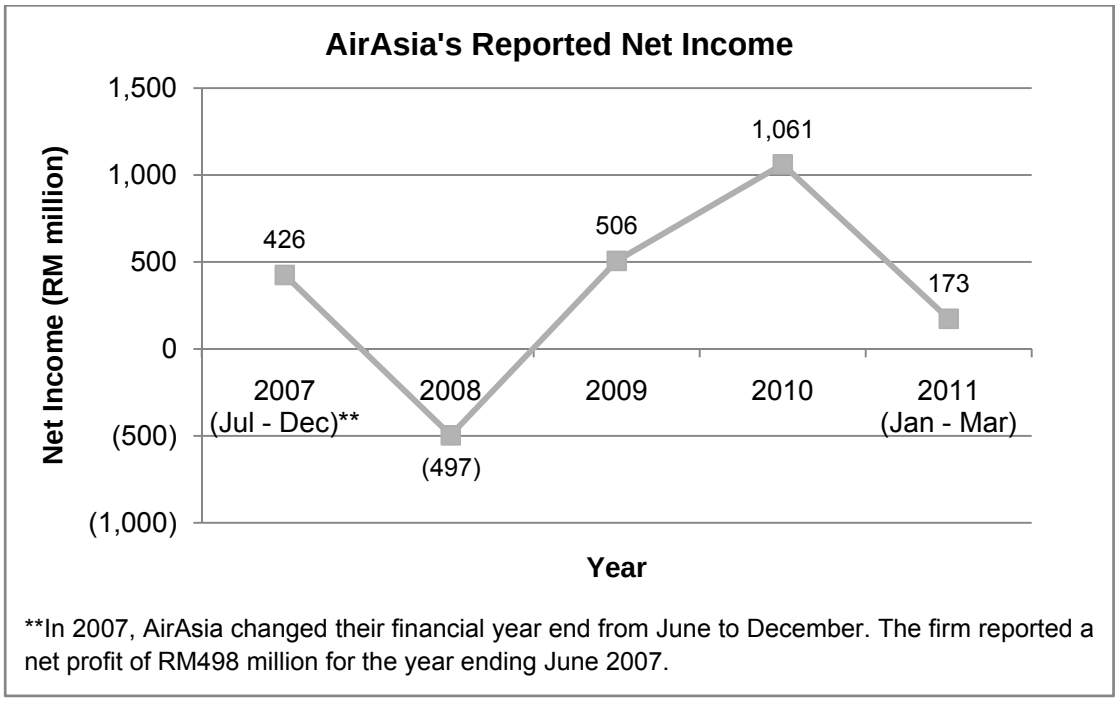



**Figure 14: Percentage of Analysts in Phase I Sample Who Used Type I Valuation Methods and P/E Ratio to Value AirAsia's Shares**




**In 2007, AirAsia changed their financial year end from June to December. The firm reported a net profit of RM498 million for the year ending June 2007.

**Figure 15: AirAsia's Reported Net Income**

### 4.2.2 Phase II - Analysts' Survey

Our Phase I results suggested that analysts may useearnings-based valuation when a firm is profitable. We also found evidence that analysts may be more likely to calculate a target price based on the P/E ratio when the use of an earnings-based valuation model is justified. For a firm that reported a loss or has low profitability, our results suggested that analysts may use asset-based valuation because negative earnings or low earningsprovide little, if any, meaning when used in an earnings-based valuation (Jenkins and Kane, 2006).

Data from our analysts' survey seemed to support the above. When analysts were asked which of the fiveType II valuation method categories in Table 3 they use most frequently to value the shares of an airline, one respondent commented that he uses the P/E ratio. Six other respondents combine the P/E ratio with BV-based valuation and/or EV-based valuation. Two respondents use EV-based and another use BV-based. We categorized two respondents as "Others" because they use DCF and DDM. A summary of our findings is shown in Figure 16:

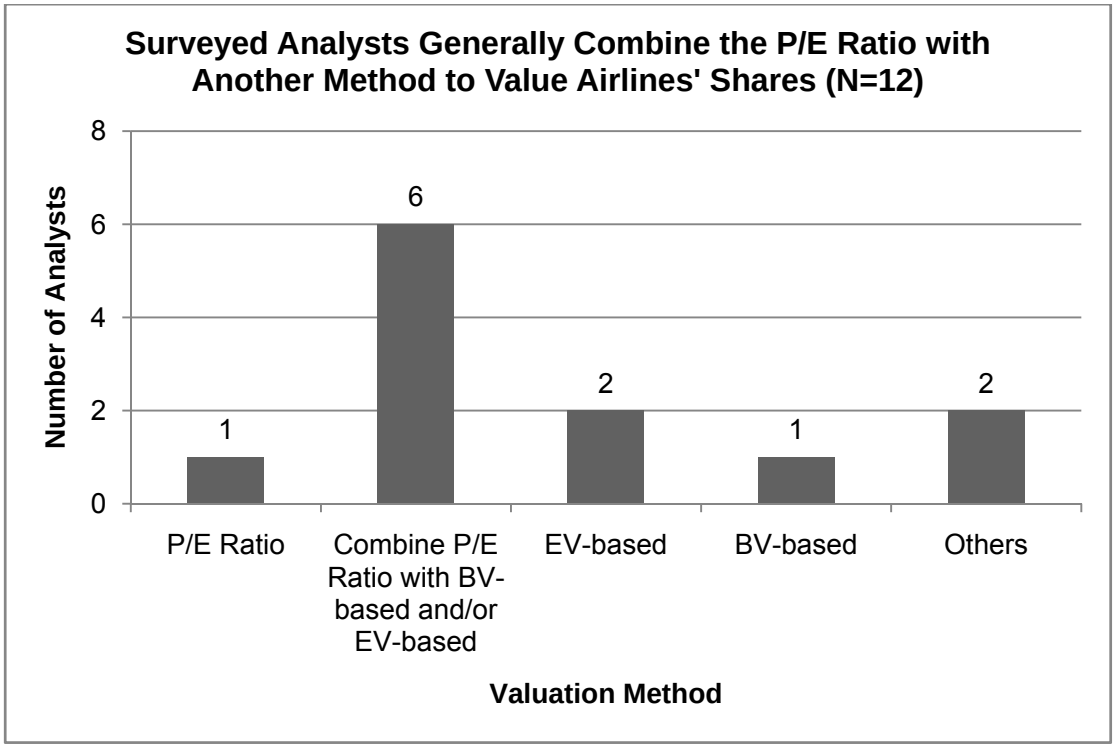



**Figure 16: How Analysts in Phase II Sample Value Airlines' Shares**

In addition to their responses to this question, the analysts identified three other main factors in the valuation method decision process:the stage of the business cycle (up or down), the firm's capital structure (purchase or lease aircraft), and how the analyst values other airlines in his/her portfolio.

**a) Stage of business cycle**

One analyst commented that he generally uses the P/E ratio during an upswing in the cycle to "show the capability of the management in sustaining costs and generating profits" and to "capture earnings momentum". Another analyst concurred, saying that the P/E ratio should drive the share price in a fast moving industry with volatile

earnings. However, during a downcycle, three analysts commented that they preferto use a BV-based valuation because the book value "shows the basic value of the company should the company go through liquidation".

**b) Firm's capital structure**

Results of our survey also suggested that analysts pay close attention to an airline's capital structure. As some airlines purchase their aircraft and others lease, twoanalysts use the EV/EBITDAR ratio to remove the effects of financing. The "R" in EBITDAR stands for aircraft rent and removing this makes it easier for analysts to compare firms with different debt levels. For a firm such as AirAsia, that was still in a growth phase during the duration of this study, its high gearing level and huge capital expenditures for purchasing aircraft may distort its earnings, which may drive its P/E ratio higher and make it appear overvalued compared to more mature airlines. Firms that are still in its growth phase also often report negative earnings, in which case its P/E ratio would be meaningless. Comparing AirAsia with other firms based on cash flow to the firm may be more appropriate because EBITDA is usually positive (Damodaran, 2006).

**c) Standardizing the valuation method across the analyst's portfolio**

Making each company comparable to each other by standardizing the valuation method was also echoed in another analyst's comment on why she only uses BV-based methodology to value airlines. As most of the other airline stocks in her portfolio are full service air carriers with asset-heavy balance sheets, a BV-based valuation provides a more stable estimate than the P/E ratio. She commented that airlines' P/E ratios are generally unstable because airlines' earnings depend on the direction of oil prices and overall market outlook, which can be very volatile.

**d) Other reasons**

In addition to the three main themes above, two other reasons were cited as factors in deciding on a valuation method. One analyst commented that he only uses DCF to value airlines because "cash generation is key to our valuation" and another analyst commented that he uses DDM with adjustable variables because it can better capture the firm's long-term growth.

## 4.3 How Did Analysts Determine the Target Forward P/E Ratio?

Our results on the valuation methods used by analysts to value AirAsia's shares appeared to be consistent with studies by Pike *et.al* (1993), Block (1999), Bradshaw (2002) and Demirakos*et. al* (2004) who all found that the P/E ratio may be the most commonly used method by analysts to value a share of a firm's stock. In spite of this, how analysts select an appropriate target P/E ratio remains unclear. This section discusses our research results on the methods that were used by analysts to identify an appropriate target forward P/E ratio to apply to their forecast earnings and arrive at a target share price for AirAsia.

### 4.3.1 Phase I - Content Analysis

Of the 255 analyst reports in our sample, 134 used a P/E ratio to value AirAsia's shares and arrive at a target price. Of these, we excluded 53 reports because they did not include a discussion on the target forward P/E ratio the analyst used to value the share. This yielded a final sample of 81 analyst reports dated May 2007 through February 2011 and was represented by 14 analysts from 14 investment banks.

Of the 14 analysts in our sample, seven identified AirAsia's target forward P/E ratio by averaging comparable firms' current P/E ratios. Two analysts did the same but adjusted the comparable firms' average P/E ratio to account for risks that were specific to AirAsia. Two analysts identified AirAsia's target

forward P/E ratio based on the firm's historical P/E ratio, without referencing another benchmark, and adjusting the historical P/E ratio to account for additional risks that AirAsia was exposed to at that time. One analyst referenced the P/E ratio of MAS, AirAsia's local competitor, and adjusted the P/E ratio because AirAsia was perceived as a riskier investment compared to MAS. We categorized two other analysts who switched benchmarks during their coverage of the share as "Others". One analyst initially based AirAsia's target forward P/E ratio on its historical average and another analyst referenced the average forward P/E ratio of Ryanair, a comparable firm based in Europe. For reasons not disclosed, both analysts later identified a target forward P/E ratio for AirAsia based on its peers' current P/E ratio. A summary of our findings are shown in Figure 17:

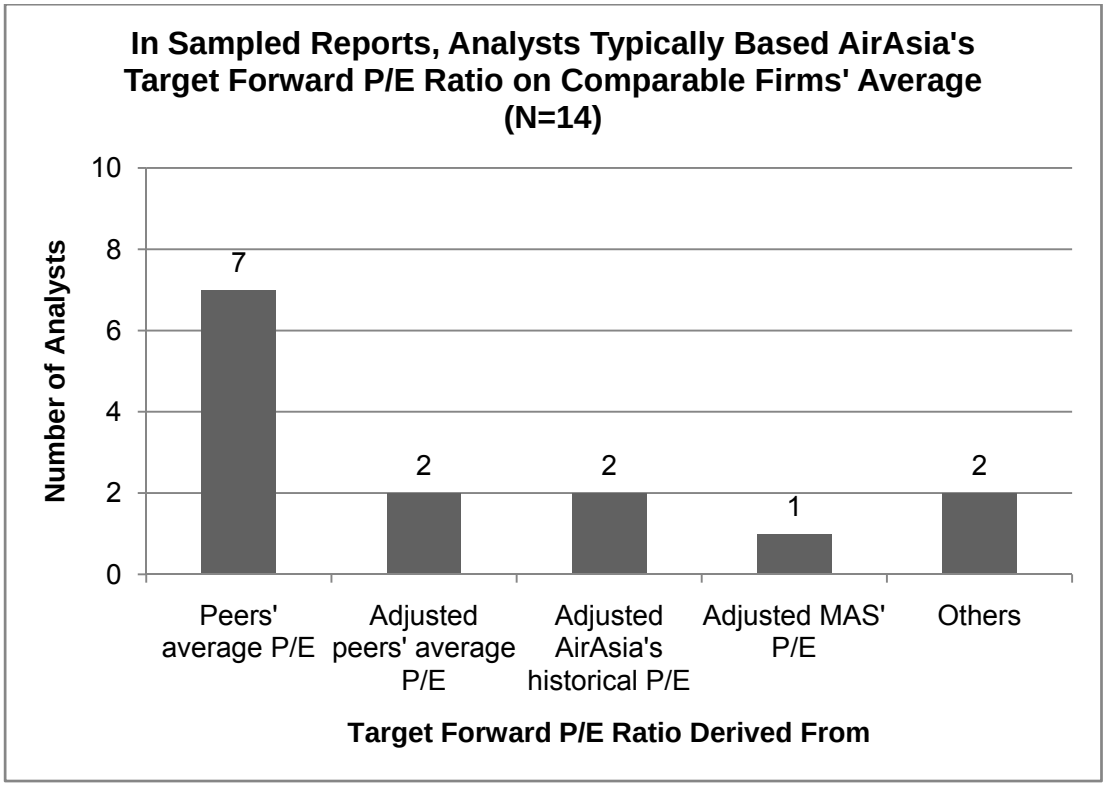



**Figure 17: How Analysts in Phase I Sample DeterminedA Target Forward P/E Ratio for AirAsia**

### 4.3.2 Phase II - Analysts' Survey

Our Phase I results suggested that analysts who may use the P/E ratio to calculate a share's target price may identify a target forward P/E ratio for AirAsia by averaging the P/E ratio of comparable firms. Our Phase II results were consistent with this.

When we asked analysts how they determine the appropriate target forward P/E ratio for a firm in the aviation industry, nine of the 12 respondents commented that they use the P/E ratio to calculate target prices.[4]

Of these nine responses, four analysts choose an appropriate target forward P/E ratio by calculating the average global, regional or sector peers' average. Two analysts compare the firm's P/E ratio to its peers' and factor in the firm's risks and the market's historical precedent such as its long term average, average in an upcycle and average in a downcycle. Two analysts examine the market or country P/E ratio and adjust the target forward P/E ratio for AirAsia depending on trends in oil prices, which isa key driver of AirAsia's earnings, and firm-specific strengths and weaknesses. Only one analyst benchmarksthe

[4] However,we found it interesting that two of the three analysts who did not use the P/E ratio to derive a target price commented that they worked backwards to calculate the forward target P/E ratio anyway. Using a different methodology, they would arrive at a target price for the share, which they used to calculate the implied P/E ratio to "get a sense of relative valuation versus other counters".

firm's target forward P/E ratio against its own historical trading average of forward P/E. A summary of our findings are presented in Figure 18:

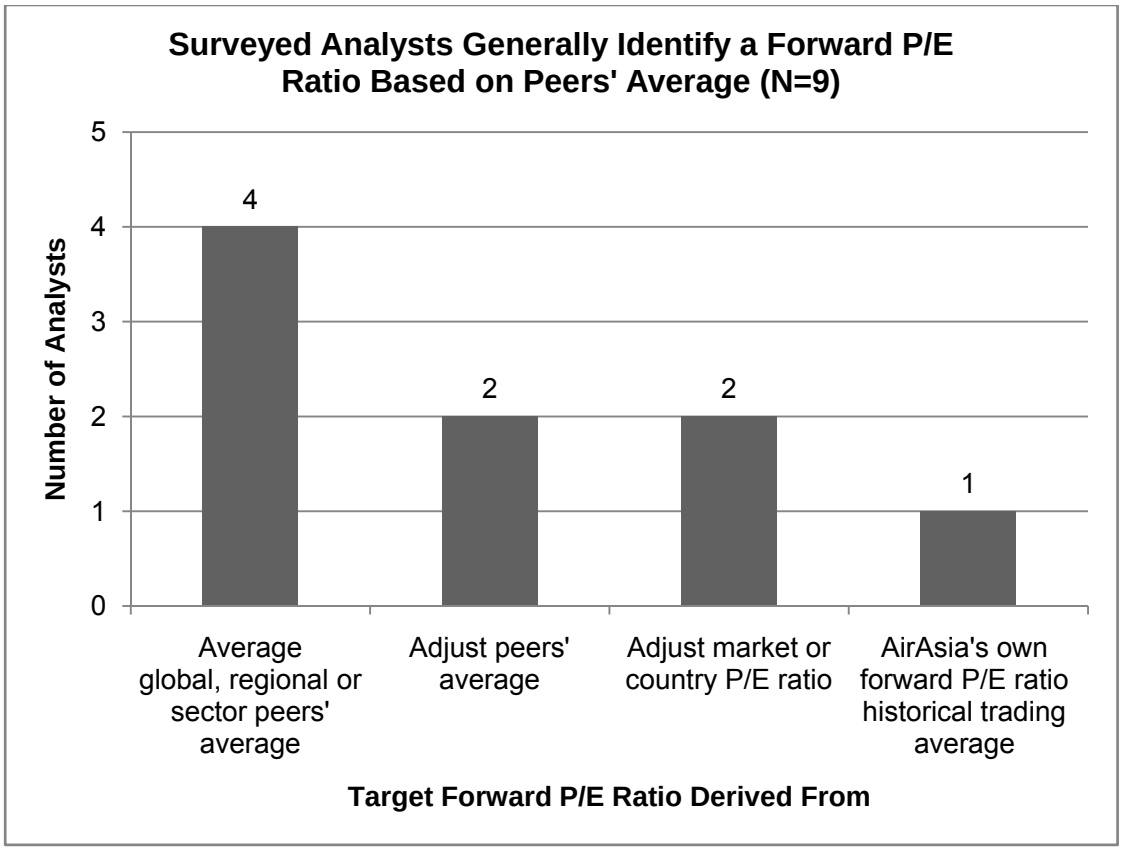



**Figure 18: How Analysts in Phase II Sample Determine A Target Forward P/E Ratio for AirAsia**

## 4.4 Did Analysts Change Valuation Methods?

In this part of the study, we sought to investigate whether analysts changed their valuation methods throughout their coverage of AirAsia's shares and what factors influenced their decision to do so.

### 4.4.1 Phase I - Content Analysis

To examine whether analysts changed valuation methods, we sorted our sample of 255 analyst reports by investment bank and date to identify investment banks that have been covering the share for more than 12 months. This yielded 221 analyst reports.

Our sample was represented by 21 analysts from 21 investment banks thatcovered AirAsia's shares for a minimum of 12 months and a maximum of 47 months (almost four years). Of the 21 analysts, 18 analysts changed their valuation methods at least once over their coverage of AirAsia's shares. However, we excluded six of the 18 analysts because their analyst reports did not disclose the reasons for the change. This process of elimination yielded 12 analysts (represented by 92 analyst reports) in our sample.

From our sample of 12 analysts that disclosed reasons for their switching valuation methods, analysts appeared to switch betweenearnings-based valuation, asset-based valuation, and a hybrid model/others.

**a) Earnings-based valuation**

The main reason cited for switching to earnings-based valuationwas "better growth and earnings visibility," which meant that analysts expected less volatility in their forecast of AirAsia's earnings, due to a decrease in AirAsia's debt level and a recovery in air travel demand.One analyst also commented that he used earnings-based valuation to compare AirAsia's 2008 forecast EV/EBITDAR ratio with the 2001 historical EV/EBITDAR ratio of EasyJet, a low cost carrier based in the UK. He explained that the EV/EBITDAR ratios of AirAsia in 2008 and EasyJet in 2001 were comparable because both are similar companies that were at a similar stage of the business cycle.

**b) Asset-based valuation**

Analysts cited three main reasons for changing to an asset-based valuation model. They were (i) AirAsia's high net gearing and concerns over sources of funding to finance the purchase of their aircraft, (ii) recoverability of debts from the loss-making Thai and Indonesian associates, and (iii) AirAsia's announcement of its first-ever loss in 2008.[5]

[5] Other reasons cited as justification for switching to an asset-based valuation were the high volatility of the sector and, for an European bank, to standardize the valuation method with the bank's European research team.

**c) Hybrid model/Others**

Reasons disclosed for using other valuation methods are to better capture business growth and because the industry or business is in transition. An analyst remarked that hechangedto DDM from BVPS because the former can “better capture the growth of the business in the medium term”. Two other analysts who used hybrid models commented that they switched valuation methods because they expected material changes to occur to the firm’s business or industry.

One analyst, who switched to a blend of P/B and P/E from P/B, commented that although P/B valuations “tend to be the norm in a downcycle,” i.e. a period of negative outlook on the business or industry,he expected the share to begin trading on a P/E basis in view of AirAsia’s strong results and a recovery in air travel demand. Another analyst, who switched to a blend of P/E and BVPS from P/E, disclosed that a hybrid model was more suitable for estimating the market capitalization of AirAsia’s stake in its Thai and Indonesian associates in view of their expected listing in the fourth quarter of 2011.

Our findings in this part of the study appeared to support our findings in Section 4.4 regarding the valuation methods used by analysts to value AirAsia’s shares. Consistent with Jenkins and Kane (2006), our results indicated that analysts may use asset-based valuation in a downcycle,such as during a period with negative outlook or when the firm reported a loss, due tothe lack of meaningful earnings for calculating the P/E ratio. In this study,

investors were concerned with AirAsia'shigh level of gearing and the recoverability of debts from its Thai and Indonesian associates. As asset-based valuation is a more conservative approach to valuing a firm, it may provide a stable "floor price"or worst case scenario for the firms' shares.

During an upcycle, when analysts generally have a positive outlook for the firm such as stable forecast earnings and growth, our results suggested that analysts may be more likely to use earnings-based valuation. In this study,more analysts began to use earnings-based valuation as AirAsia began to lower their debt level and their Thai and Indonesian associates began to report profits.

Our results also suggested that analysts may use a hybrid model when the business or industry is in transition. As the aviation industry moved into an upcycle from adowncycle and AirAsia prepared to float its stake in its associates in the capital market, we observed that analysts were more likely to use a blend of asset-based and earnings-based valuations to account for the transition. For instance, instead of directly switching to P/E from P/B when the industry began to move upcycle, an analyst used a weighted average of both a P/E-based target price and a P/B-based target price to arrive at a "blended target price".A summary of our findings is illustrated in Figure 19:

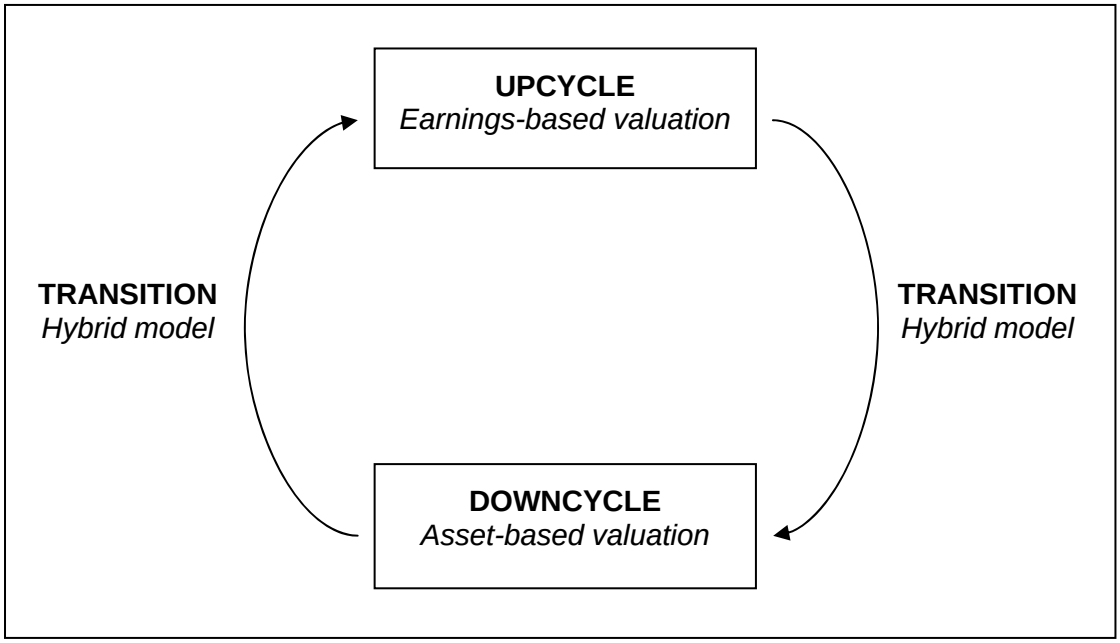



**Figure 19: Valuation Methods Changed According to Business Cycle**

### 4.4.2 Phase II - Analysts' Survey

Our Phase I findings suggested that analysts may use asset-based valuation in a downcycle or a period of uncertainty and earnings-based valuation in an upcycle or when the firm's growth and earnings visibility are high. The results from our analysts' survey were consistent with this. Our survey results suggested that analysts may change valuation methods when they expect material changes to occur to the firm's business or industry. This is consistent with the findings of Demirakos*et. al*(2008) who documented evidence that analysts tailored their valuation methods according to industry conditions.

When asked for reasons which would influence analysts to change valuation methods in our survey, we excluded three of 12 responses because the analysts commented that they do not change valuation methods.

Of the nine usable responses, eightremarked that material changes in the firm (profitability, aircraft funding methods or existence of big associates and/or subsidiaries), cycle (up, down or cycle length) or other industry dynamics (such as deregulation of ASEAN's skies) may influence them to change their valuation methods.[6]Of the one remaining response, theanalyst commented that althougha change in the firm's accounting policy may prompt them to review their valuation method, they usually make adjustments to the existing valuation method.

[6] Another reason cited for changing valuation methods was any changes in the investment bank's regional transportation team methodology in order to standardize the valuation method of shares of firms in the same sector.

## 4.5 Did Analysts Discuss Beta in Their Reports?

This section discusses our findings on whether analysts provided and discussed beta, a measure of volatility of the firm's returns relativeto the market, in their reports.

### 4.5.1 Phase I - Content Analysis

In our sample of 255 reports, 26 reports (10%) from 17 different banks provided beta for investors. No discussion of beta was found in the body of the analyst reports. Beta, if mentioned at all, was found either in a table summarizing key numbers and ratios of the firm or mentioned in passing as one of the inputs to the valuation model used by the analyst. A summary of our findings is shown in Figure 20:

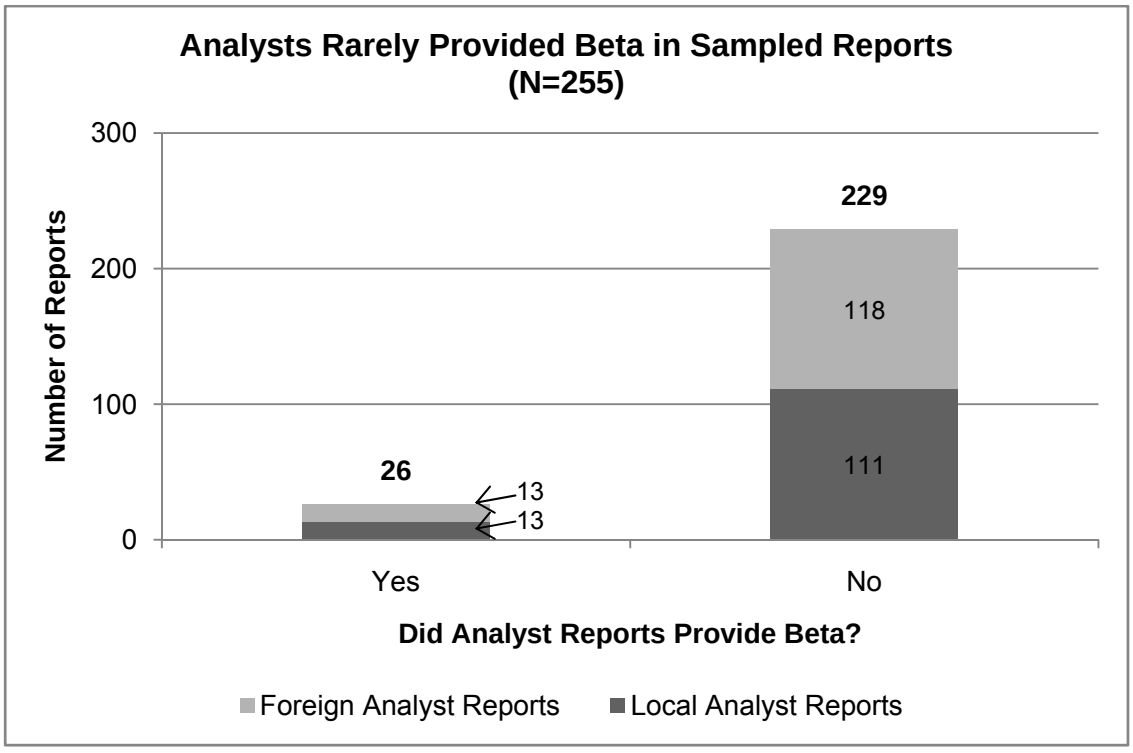



**Figure 20:Breakdown of Phase I Sample by Whether Beta was Provided**

We found this interesting. Since sell-side analysts' clients are generally sophisticated investors(Mikhail *et. al,*2007) such as portfolio managers who do large amounts of trading, we expected beta to be discussed more by analysts because it would be of interest to these investors.

### 4.5.2 Phase II - Analysts' Survey

The results of our analyst survey also suggested that analysts do not pay much attention to beta. When asked whether they provide beta in their analyst reports, only two out of 12 analysts replied yes. They both extract beta from Bloomberg. Five of 12 analysts replied no and five analysts commented that they only provide beta for selected companies such as Real Estate Investment Trusts (REITs) or if they use DCF or another valuation method that requires beta. A summary of our findings is shown in Figure21:

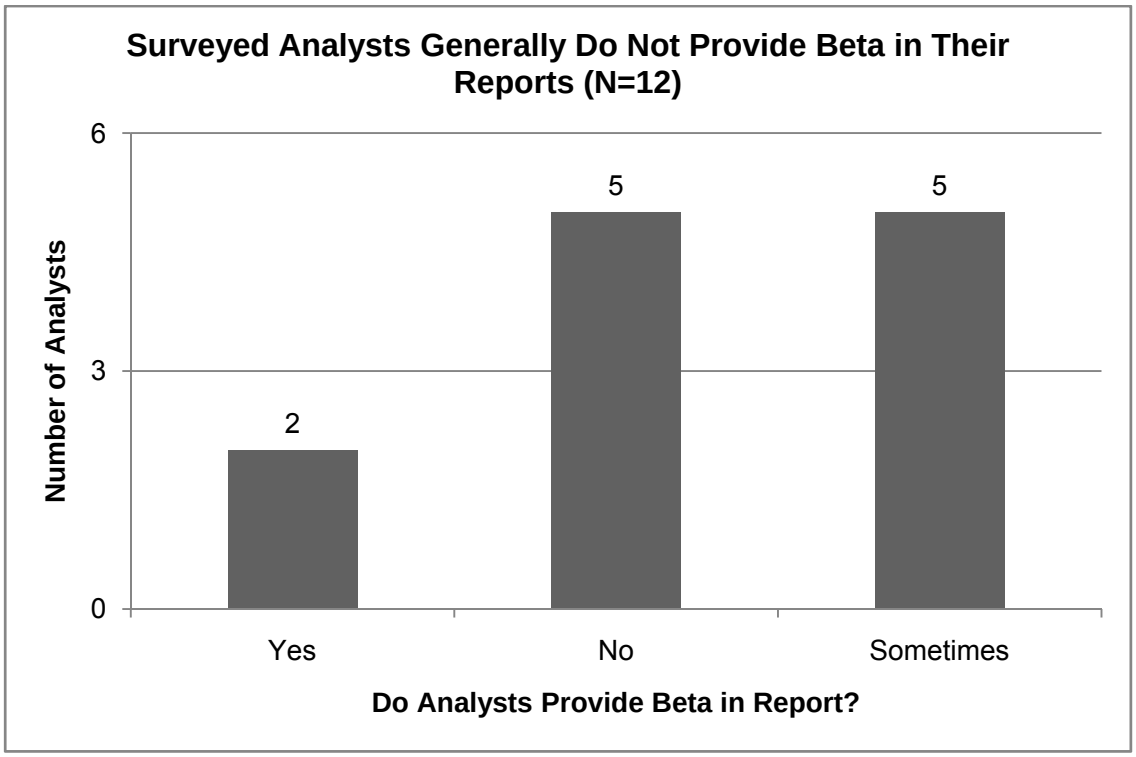



**Figure 21: Breakdown of Phase II Sample According to Whether Analysts Provide Beta in Their Reports**

Among the reasons cited for not includingbeta in the analyst reports include beta being only a rough gauge of the stock, the cyclical nature of the aviation sector andaviation stocks generally having high betasdue to earnings volatility because the KLCI, which is a proxy for the market's performance, is mainly composed of defensive stocks. One analyst also remarked that since beta can be sourced from Bloomberg, their clients can look it up themselves if they want to.

## 4.6 Reasons for Initiating Coverage

As our sample only included a small number of coverage initiation reports, data for this part of the study was collected only from our analysts' survey.

Of the 12 responses we received to our analysts' survey, 11 respondents provided multiple reasons for initiating coverage on a firm.

### a) Market capitalization and liquidity

Seven of 12 analysts agreed that market capitalization and liquidity aretwo key points that may influence their decision to initiate coverage of a share. As one analyst remarked, "We initiate research coverage because we as a firm believe we can do business or earn income from the coverage." As investment banks cater mainly to institutional investors, the counter has to have both significant market capitalization and be liquid enough to allow for trading of large blocks of shares by institutional investors. Thus, higher market capitalization and liquidity may mean higher potential commission income for the investment bank that executes the trades.

### b) Growth prospects

Besides market capitalization and liquidity, analysts also examine the share's long-term growth prospects. One analyst put it best, "issues in

the short term are fine, but if the company is in a sunset position long term, no investors will want to trade in it".

**c) Other reasons**

Other reasons cited for initiating coverage included investor demand,upside to share price, a "sellable story to investors, be it a buy, sell, or hold," the firm's track record, and potential investment banking deals for the analyst's investment bank. Quality and accessibility of management were also mentioned as big pluses.

The results of our analysts' survey in this part appeared to support our findings in Section 4.5 regarding the inclusion of beta in analyst reports. Our results suggested that analysts focus on, among others, upside to share price (which were derived from forecast earnings) to market the shares that they cover. This, essentially, may render beta irrelevant from an investor's point of view. If the main focus is on forecast earnings, then it wouldn't matter if the share has a high or low beta. What is more important is whether the firm can deliver the expected results.