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SECOND MULTINATIONAL ENERGY AND VALUE CONFERENCE
JULY 2-5 2009 ISTANBUL - TURKEY
CEYLAN INTERCONTINENTAL HOTEL
HACETTEPE UNIVERSITY
SECOND MULTINATIONAL ENERGY AND VALUE CONFERENCE

Hacettepe University

Faculty of Economics and Administrative Sciences

Edited by

Prof. Dr. Mehmet Baha KARAN
Asstn.Prof.Dr. Özgür ARSLAN

July 2-5, 2009 ISTANBUL
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Serhan Aydın; Middle East Technical University, Turkey
Coşkun Küçüközmen; Central Bank of Turkey
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LETTER OF CHAIR

Dear Colleagues,

On the eve of the event itself, I write a few notes on the Second Multinational Energy and Value Conference in the City of Istanbul, July 2-5, 2009. I hope that our international academic collaboration in the energy finance area, which commenced with the first energy and value conference in Amsterdam in 2007, will improve and reach to a sounder ground by way of this conference.

I expect that our conference will very beneficial to the energy sector, in the current situation in which the magnitude of influence of the global financial crisis particularly on the energy markets is becoming more intensive. The importance of international contacts and cooperation concerning energy finance is steadily growing in the setting of a crisis which is characterized by extremely volatile petrol prices, sharp falls in asset prices and hardship in accessing sufficient external finance for energy financing.

With an aim of providing a more organized contribution to the studies in the area of energy finance, our core group will in a short time settle their activities under the framework of the “Center for Energy and Value Issues” (CEVI). Therefore the objective is to have an institutional formation to cooperate with not only the researchers working on the energy finance, but also with the practitioners in the energy industry. Our efforts hereto will continue throughout the conference.
I am proud to announce both academic studies and practice contributions. Just as with the conference that took place in Amsterdam, also in the Istanbul conference separate sessions are organized in separate days for the presentations of the academics and the practitioners. We expect that there will be a major interest to the sessions in both of the days.

I like to refer to the symbolic significance of carrying out the conference in Turkey. It is widely known that Turkey is located between the world's energy markets and resources and hence bears the feature of being a natural bridge of energy. On the one hand, Turkey links the western and eastern economies in the energy field through the Nabucco pipe line. On the other hand, it has the role of combining the western and eastern cultures. In accord with this, our objective is to bring together academics and practitioners who work on energy finance in different countries and diverse cultures.

Our formation has started with a conference, of which the second edition is about to start now. We attempt to strengthen it with a journal soon. We will continue to develop and grow our efforts on energy and value issues all through the years.

Sincerely Yours,

Prof. Dr. Mehmet Baha Karan

Chair of the Conference
THE MIDDLE EAST TURMOIL AND TIME-VARYING RISK PREMIUM IN CRUDE OIL FUTURES

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ABSTRACT

This paper investigates the impact of the Middle East turmoil on the risk premium embedded in crude oil futures prices. The Middle East is a region that is critical for the supply of crude oil with about 65% of the world’s proved oil reserves; however, although popular opinion suggests that the instability in this region is a major force that moves the oil market, the literature has not provided any empirical evidence on a possible link. Regarding studies on price volatility in the energy market, [3] examine the impact of public announcements on the volatility of natural gas futures and find that weekly gas storage report announcements contribute to greater price volatility at the time of the release. In another study, [2] study the impact of OPEC announcements on implied volatility of crude oil options and find that highly visible biannual conferences are associated with a drop in volatility. [5] examines the impact of Enron scandal on the conditional volatility of natural gas and crude oil price changes. Although he fails to
THE UNDERPRICING OF ENERGY IPOs IN AUSTRALIA

William Dimovski

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Geelong, Victoria,Australia, 3217
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ABSTRACT

The underpricing of initial public offerings (IPOs) has been discussed in the literature for over thirty years. Underpricing is the term used when the issue price of the shares of a company raising public equity capital and seeking to list on a stock exchange is below the closing price of the shares on the first day of listing. As such, underpricing theoretically allows subscribing investors the opportunity of making a return on the day of listing. The international evidence as examined in [4] and updated in [5] has documented that subscribing investors made handsome double-digit (for example US IPOs - 15.7%, UK IPOs - 12%, Turkish IPOs - 13.1%, Greek IPOs -49.0%) or even triple-digit (for example Chinese IPOs - 256.9%) statistically significant positive first day returns, on average. These studies are generally however of industrial company IPOs.

The purpose of this paper is to investigate the underpricing returns of Australian energy IPOs from January 1994 to June 2007. Two previous studies into natural resource IPOs in Australia only made fleeting mention of energy IPOs because of the small sample sizes. [3] identified 2 solid fuel IPOs and 13 oil and gas IPOs (amongst 130 other natural resource IPOs) during
1979 to 1990 and advised average underpricing returns of 106.5% and 47.3% respectively for investors subscribing to these IPOs. [2] investigated 19 energy IPOs (amongst 96 other natural resource IPOs) from 1994 to 1999 and reported an average underpricing return of 8.3%.

The sample set of 134 used in this study is significantly greater than previous Australian studies. These 134 energy IPOs raised over $1.945 billion of public equity capital from January 1994 to June 2007. [3] reports on the importance of the natural resources sectors to Australia's economy and the fact that companies working in these sectors constitute around one third of the entities listed on the Australian Stock Exchange.

This study also follows a highly influential paper in the IPO literature by [1]. They argue that the lower the uncertainty about the value of an IPO, the lower the underpricing needed to attract subscribers. Given the linkage between uncertainty and underpricing, this study seeks to identify the factors that might influence uncertainty and hence underpricing.

The study found that the mean underpricing return for these energy IPOs is 22.8% and statistically significant. The model used to investigate variables that might help explain the level of underpricing in this industry sector is also particularly useful. An important finding in the study for new issuers, underwriters and subscribing investors is that those energy IPO firms that used underwriters had substantially lower underpricing. The other finding that larger issues are likely to have lower underpricing is consistent with prior industrial company IPO studies.

Keywords: Undepricing, Energy, IPOs

JEL Classification Code: G19
References


The objective of the Energy and Value Letter is to bring together academics and practitioners from all over the world to focus on timely valuation issues in the energy sector. It publishes news from the Centre For Energy and Value Issues, its linked organisations and others (including calls for papers), practitioners papers: short articles from institutions, firms, consultants, etceteras, as well as academic papers: short articles on theoretical, qualitative or modeling issues, empirical results and the like.

Contributions dealing with developed as well as developing countries are made public. Specific topics will always refer to energy issues and include, but are not limited to: Financial Regulation; Financial Markets; Financial Risks; Asset Pricing; Value at Risk; Capital Structure; Sourcing Capital; Corporate (Re-) Structuring; Corporate Governance; Behavioural Finance; Financial Performance; Cost Control; Financial Accounting; Fiscal and Legal Issues.
In the initial stage of the journal, virtually all of the publications are on invitation. Nevertheless, the journal welcomes unsolicited contributions. Please e-mail to energyandvalue@gmail.com, c/o Özgür Arslan, a copy of a news item or a completed paper. The cover page should include the affiliation, address, phone, and e-mail of each author together with appropriate JEL classifications. A news item should not have more than 400 words and a paper should not exceed 4,000 words.

With your readership and candid comments, the Energy and Value Letter will grow in volume and quality over time. In this first volume of the journal, some steps are set to get hold of this future. Mehmet Baha Karan writes on the 2nd international Energy and Value Issues conference and André Dorsman introduces the Centre for Energy and Value Issues. Nanne Brunia and Bert Scholten have an interesting paper on performance issues.

I leave you with one thought. Globalisation in all markets, despite the pains recently experienced in financial markets, is a desirable fact of life. Global integration of energy markets, so that prices and values (of products that can be cleanly converted into clean power generation) are truly set by supply and demand forces, is a most desirable objective. The effect will be seen in increasing the size of the global economic cake and at the same time, most importantly, increasing the well-being of the populations of developing and emerging economies.

Together with my co-editors-in-chief Özgür Arslan and André Dorsman, I look forward to the promotion of these ideals with colleagues and readers by way of the Energy and Value Letter.
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2nd Multinational Energy and Value Conference
Hacettepe University Faculty of Economics and Administrative Sciences
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July 2 – 5, 2009, Istanbul, TURKEY

The objective of the conference is to bring together academics and practitioners from all over the world to focus on timely valuation issues in the energy sector. Papers dealing with developed as well as developing countries are welcome. Specific topics must refer to energy issues and include, but are not limited to:

- Financial regulation
- Financial Markets
- Financial Risks
- Asset Pricing
- Value at Risk
- Capital Structure
- Sourcing
- Energy Market Regulatory Issues

Please e-mail to energyandvalue@hacettepe.edu.tr, C/O Oguz Arslan, by the 15 February 2009, a copy of a completed or nearly completed paper. The title page should include the affiliation, address, phone, and e-mail of each author together with appropriate JEL classifications. Each participant agrees to serve as a discussant of a paper of his/her own area of interests, if needed.

Selected papers will be published in the special issues of the following International double-blind-reviewed journals, “Frontiers in Finance and Economics” and “Journal of Energy and Value”.

Further information regarding conference organization and accommodation, travel arrangements, fees and advances will be published on the conference website in due course. The conference also includes a “practitioners’ day”, at an extra costs for conference presenters and discussants.

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3/08/2009
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All information about the conference of 2009, regarding the organisation of the conference, the accommodation, travel arrangements, fees and activities will be published on this regularly updated website.
The Underpricing of Energy IPOs in Australia.

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Key words: underpricing, energy, IPOs

JEL Classification: G19

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ABSTRACT

This study analyses 134 energy initial public offerings (IPOs) in Australia from January 1994 to June 2007. The study finds that energy IPOs had an average 22.8% underpricing and that those IPOs that sought to raise more equity capital and engaged underwriters had lower underpricing. The findings offer insights for issuers who seek to maximize the value of the entity at the time of the IPO, underwriters who guarantee the success of the capital raising and for investors who are looking to invest in Australian energy IPOs.
1. Introduction

The underpricing of initial public offerings (IPOs) has been discussed in the literature for over thirty years. Underpricing is the term used when the issue price of the shares of a company raising public equity capital and seeking to list on a stock exchange is below the closing price of the shares on the first day of listing. As such, underpricing theoretically allows subscribing investors the opportunity of making a return on the day of listing. The international evidence examined in Loughran, Ritter and Rydqvist (1994) and updated in Ritter (2003) has documented that subscribing investors made handsome double-digit (for example US IPOs - 15.7%, UK IPOs - 12%, Turkish IPOs – 13.1%, Greek IPOs - 49.0%) or even triple-digit (for example Chinese IPOs – 256.9%) statistically significant positive first day returns, on average. These studies are generally however of industrial company IPOs.

The purpose of this paper is to investigate the underpricing returns of Australian energy IPOs from January 1994 to June 2007. Two previous studies into natural resource IPOs in Australia only made fleeting mention of energy IPOs because of the small sample sizes. How (2000) identified 2 solid fuel IPOs and 13 oil and gas IPOs (amongst 130 other natural resource IPOs) during 1979 to 1990 and advised average underpricing returns of 106.5% and 47.3% respectively for investors subscribing to these IPOs. Dimovski and Brooks (2004) investigated 19 energy IPOs (amongst 96 other natural resource IPOs) from 1994 to 1999 and reported an average underpricing return of 8.3%.
The sample set of 134 used in this study is significantly greater than previous Australian studies. These 134 energy IPOs raised over $1.945 billion of public equity capital from January 1994 to June 2007. How (2000) reports on the importance of the natural resources sectors to Australia’s economy and the fact that companies working in these sectors constitute around one third of the entities listed on the Australian Stock Exchange.

This study also follows a highly influential paper in the IPO literature by Beatty and Ritter (1986). They argue that the lower the uncertainty about the value of an IPO, the lower the underpricing needed to attract subscribers. Given the linkage between uncertainty and underpricing, this study seeks to identify the factors that might influence uncertainty and hence underpricing. The results suggest that if the issue is underwritten, underpricing is lower and that energy IPOs that seek to raise more equity capital have lower underpricing.

The plan of this paper is as follows. In section 2 we briefly summarise some of the underpricing literature. Section 3 presents the model. Section 4 reports our results. Section 5 makes some concluding comments.

2. Related Literature

This section is in two parts. The first part discusses the major theoretical explanations for underpricing and the second part summarises some previous resources IPO research.
Theoretical Explanations for Underpricing

Regrettably there isn’t just one theoretical explanation for underpricing, many theories have been offered to explain underpricing. Most of the theories suggest that the issuer and the underwriter deliberately and knowingly underprice, or that the subscriber to the new issue expects the issue to be underpriced.

The first three explanations here are sometimes referred to as the information asymmetry explanations. Baron (1982) suggests that underwriters have superior information of the market conditions and the demand for the new IPO’s shares. For the underwriter to raise the required equity capital for the IPO entity, the entity allows the underwriter to determine the issue price, which allows for underpricing. Rock (1986) suggests there are two categories of investors that seek shares in IPOs - the informed and the uninformed. He argues that the informed (and likely more influential) investors crowd out the uninformed (and likely less influential) leaving the uninformed buying more of the less profitable issues. In order to compensate the uninformed for this “winner’s curse” and to induce subscribers to future IPOs, issuers underprice. The third explanation is by Allen and Faulhaber (1989) and by Welch (1989). They argue that underpricing encourages subscribing investors to see the quality of the IPO firm which later allows the firm to make subsequent equity issues at a higher price. As such, these companies recoup some of that underpricing.

The next three explanations suggest an underwriter monopsony power because underwriters have significant control over the price at which the IPOs shares are offered.
Tinic’s (1988) insurance hypothesis argues that underpricing is like an insurance policy protecting the underwriters and the issuing firm from lawsuits. Chalk and Peavy (1987) suggest that underwriters might issue shares to preferred clients but then recoup this favour by charging higher fees later for services to such clients. Benveniste and Spindt (1989) argue that underwriters allow new issues to be underpriced to encourage investors to subscribe to the IPO to fill the new issue. Investors otherwise will simply wait until listing to purchase the shares.

Ruud (1993) suggests that underpricing may not be a deliberate decision prior to the listing. She suggests that underwriters actually price support the issue after it is listed. (This is unlikely in Australia because price support activities by underwriters are illegal under the Corporations Law of Australia.)

Except for Ruud (1993), all of the explanations broadly suggest that uncertainty, issue price and underpricing are related. However, it was Beatty and Ritter’s (1986) paper, that more formally argued that reducing the uncertainty about an IPOs valuation reduces the need for underpricing. Since that study researchers have found that lower underpricing is associated in IPO firms:

- with higher issue prices [Chalk and Peavy (1987)]
- that employ higher quality underwriters [Carter and Manaster (1990)]
- that employ higher quality auditors [Beatty (1989)]
- which have existing borrowing relationships [James and Weir (1990)]
• which have high earnings potential [Koop and Li (2001)]

**Previous Australian Natural Resource IPO Research**

There are two major papers examining the underpricing of natural resource IPOs in Australia. The first was by How (2000) who investigated 130 resource IPOs over the 1979 to 1990 of which 100 were gold IPOs, 15 were Other Metals, 2 were Solid Fuels and 13 were Oil and Gas. The average underpricing returns to subscribers were 119.5%, 76.9%, 106.5 and 47.3% respectively.

Dimovski and Brooks (2004) extended How’s (2000) work by investigating 96 natural resource IPOs from 1994 to 1999. They reported average underpricing returns to subscribers of 11.3%, 56.1%, 24.7% and 8.3% for the 53 Gold IPOs, 23 Other Metals, 1, Diversified Resources and 19 Energy IPOs respectively. (There is a third paper by Dimovski and Brooks (2008) specifically on 114 Gold IPOs during 1994 to 2004 which reported an average 13.3% underpricing return.)

**3. Data and Methods**

A total of 134 Australian energy IPOs listed on the Australian Stock Exchange from January 1994 to June 2007. The primary source of the data for this study was the *Connect 4 Company Prospectuses* database.
This study extracted variables from each of the LPT IPO prospectuses for the above period. Most of these variables have been found useful in explaining the level of underpricing return in previous studies. The variables to be tested are defined as follows:

- The issue price (ISSUEPRI) [Chalk and Peavy (1987), Ibbotson, Sindelar and Ritter (1994)];

- the logarithm of the total capital raised (LNTOTAL) [Ibbotson, Sindelar and Ritter (1994)];

- A TIMETOLIST variable that records the number of days from the date of the prospectus to the day of listing [Lee, Taylor and Walter (1996)];

- the underwritten (UWRITTEN) variable is a (0 or 1) dummy variable reflecting no underwriter (0) or an underwriter (1) was used in the IPO [Dimovski and Brooks (2004) and adapted from the underwriter reputation variables in Carter and Manaster (1990)];

- A UOPTIONS dummy (0 or 1) variable with a value of 1 if share options were available to the underwriter, or 0 if not [Dunbar (1995); Dimovski and Brooks (2004)];

- A INDEPACC dummy (0 or 1) variable with a value of 1 if the IPO used a big 5 accountant, or 0 if not [Dimovski and Brooks (2004)];

- A SHOPTIONS dummy (0 or 1) variable with a value of 1 if share options are offered to subscribers, or 0 if not [Schultz (1993), Jain (1994); How and Howe (2001)];
An ordinary least squares regression model is performed on the data. The dependent variable is underpricing return (RETURN). This is the closing price of the shares (plus any options) on the first day of listing minus the issue price, the result of which is then divided by the issue price. The closing prices were obtained from the IRESS database.

The regression model with underpricing return as the dependent variable is:

\[
\text{RETURN} = \beta_0 + \beta_1 \text{ISSUEPRI} + \beta_2 \text{LNTOTAL} + \beta_3 \text{TIMETOLIST} + \beta_4 \text{UWRITTEN} + \\
\beta_5 \text{UOPTIONS} + \beta_6 \text{INDEPACC} + \beta_7 \text{SHOPTIONS} + \varepsilon \tag{1}
\]

where all the variables are as defined previously, the \(\beta\)'s are unknown parameters to be estimated and \(\varepsilon\) is assumed \(\sim \mathcal{N}(0, \sigma^2)\).

The ISSUEPRI and LNTOTAL variables are commonly used in underpricing studies. They are expected to be negatively related to RETURN. The UWRITTEN and INDEPACC variables test whether the use of an underwriter or a top 5 independent accountant is useful in reducing the level of underpricing. In Australia, IPOs do not need to be underwritten to list. The TIMETOLIST variable is expected to have a negative coefficient as in Lee et al (1996) showing greater underpriced issues are subscribed to more quickly. The SHOPTIONS variable tests the Schultz (1993) hypothesis that these so-called "package IPOs" minimize agency costs so that if the firm's forecasted performance is not up to expectations, the future expected equity capital from those options does not flow into the firm. As such SHOPTIONS is expected to be negatively related to
RETURN. It is expected that if underwriters are willing to accept options (UOPTIONS) to buy more shares they are likely to be more certain about the value of the IPO before listing. As such UOPTIONS is expected to be negatively related to RETURN.

4. Results

Table 1 reports the summary statistics for the data set. The mean underpricing return was 22.8% while the median was 5%. One IPO was underpriced 295% while one was overpriced by 35%. The standard deviation of returns was 51.6%. The issue price ranged from 20 cents to $2 with the median average being 20 cents. The mean average capital raising by these energy IPOs was $14.5 million with the smallest being $560,000 to the largest being $1.58 billion. Around 35% of the IPOs used underwriters to guarantee the success of the capital raising and around 35% of the firms used a top 5 accounting firm. They were not the same firms. Only 10.5% of the IPOs offered options to underwriters to subscribe for more shares while 33.6% offered options to subscribers.

(Table 1 about here)

Tables 2, 3 and 4 report the ordinary least squares (OLS) regression results. There were three observations that were over 3.5 standard deviations from the mean return. These outlier observations were removed from the model and modified regression results reported. This identification of outliers over 3.5 standard deviations is consistent with How (2000). A variety of standard regression diagnostics are also reported. In testing for
non-normal errors, a Jarque-Bera statistic is reported. In testing for heteroscedasticity, a White (1980) test is applied. In testing for omitted variables or model misspecification, a Ramsey Reset test is applied and reported.

For the overall model in Table 2, the results of the regression analysis suggest that the ISSUEPRI, LNTOTAL and UWRITTEN variables have explanatory power with regard to the amount of underpricing return. The ISSUEPRI and LNTOTMIL variables are however fairly highly correlated at .693 and multicollinearity may be a problem in our analysis hence the models are run again with either one of the ISSUEPRI (in table 3) or LNTOTAL (in table 4) variable.

Table 3 reports the UWRITTEN variable is useful. Table 4 reports the UWRITTEN and LNTOTAL variables as useful. It appears that those Australian energy IPOs that are underwritten benefit substantially in terms of lower underpricing. It also appears that the greater the amount of capital sought the lower the underpricing.

(Tables 2, 3, and 4 about here)

5. Conclusion

This study examined 134 energy IPOs in Australia for the period January 1994 to June 2007. What it found is that the mean underpricing return for these IPOs is 22.8% and statistically significant. The model used to investigate variables that might help
explain the level of underpricing in this industry sector is also particularly useful. An important finding in the study for new issuers, underwriters and subscribing investors is that those energy IPO firms that used underwriters had substantially lower underpricing. The other finding that larger issues are likely to have lower underpricing is consistent with prior industrial company IPO studies.
References


Table 1: Summary Statistics for the Underpricing of Energy IPOs in Australia Jan 1994 to June 2007

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>Std Dev</th>
<th>Min</th>
<th>Max</th>
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</thead>
<tbody>
<tr>
<td>Return</td>
<td>0.228</td>
<td>0.050</td>
<td>0.516</td>
<td>-0.350</td>
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<td>Issue Price ($)</td>
<td>0.363</td>
<td>0.200</td>
<td>0.375</td>
<td>0.200</td>
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<tr>
<td>Total Raised ($m)</td>
<td>14.516</td>
<td>687.500</td>
<td>23.440</td>
<td>0.560</td>
<td>1580.000</td>
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<tr>
<td>Time to list (days)</td>
<td>58.687</td>
<td>50.000</td>
<td>31.689</td>
<td>24.000</td>
<td>282.000</td>
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<td>Underwritten (0 or 1)</td>
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<td>0.000</td>
<td>0.479</td>
<td>0.000</td>
<td>1.000</td>
</tr>
<tr>
<td>Uptions (0 or 1)</td>
<td>0.105</td>
<td>0.000</td>
<td>0.307</td>
<td>0.000</td>
<td>1.000</td>
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<tr>
<td>Indep Account (0 or 1)</td>
<td>0.351</td>
<td>0.000</td>
<td>0.479</td>
<td>0.000</td>
<td>1.000</td>
</tr>
<tr>
<td>Share options (0 or 1)</td>
<td>0.336</td>
<td>0.000</td>
<td>0.474</td>
<td>0.000</td>
<td>1.000</td>
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Table 2: Regression Results for the Underpricing of Energy IPOs in Australia Jan 1994 to June 2007

<table>
<thead>
<tr>
<th></th>
<th>134 IPOs</th>
<th>131 IPOs</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Coef</td>
<td>Pr.</td>
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<tr>
<td>C</td>
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<tr>
<td>ISSUEPRI</td>
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<tr>
<td>LNTOTAL</td>
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<td>0.082</td>
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<td>0.232</td>
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<td>INDEPACC</td>
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<td>0.086</td>
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<td>SHOPTIONS</td>
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* White estimates and p-values

Outliers Removed *.
Table 3: Regression Results for the Underpricing of Energy IPOs in Australia Jan 1994 to June 2007
- fewer variables

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<tbody>
<tr>
<td></td>
<td>Coef</td>
<td>Pr</td>
<td>Coef</td>
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<tr>
<td>C</td>
<td>0.479</td>
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* White estimates and p-values
Table 4: Regression Results for the Underpricing of Energy IPOs in Australia Jan 1994 to June 2007
- fewer variables

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* White estimates and p-values