Regional Differences and Underwriter Location in Initial Public Offerings

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ABSTRACT

Equity capital is often an important source of funds for growing firms. In this paper we investigate the regional differences in the size of newly organized Initial Public Offerings, an important source of equity capital. We also investigate the importance of underwriter reputation and location to the size of the offering. Our findings suggest that underwriter reputation has a large positive impact on offering size even after controlling for firm specific characteristics. Finally, regional differences persist even after accounting for the relative location and reputation of the lead underwriter.

INTRODUCTION

Historically, capital investment has been an important component to economic growth. Michie (1987) finds that, in 1853, the issuance of equity accounted for 25% of the United Kingdom's capital investment. Although various systems create equity, such as venture capital and direct finance, capital formation is heavily reliant upon equity markets. It is the relationship between economic growth and equity markets that suggests the development of an intranational regional analysis. Whether used to raise money for new, start-up firms (through venture capital), convert existing firms into publicly held firms, or carve-out subsidiaries of existing publicly held firms, capital markets are a an important part of economic growth. This potential has led to a wealth of research in the field.

The evolution of commerce joins regional economics with IPOs through the consideration of firm expansion and employment. Although most IPO firms are small, 58.2% of IPO firms are in the smallest quintile of public companies (Brav and Gompers, 1997), IPO's provide growth potential within a region. The literature is divided on how many new jobs these small firms provide. Birch (1987) contends that between

1981 and 1985, firms with fewer than 100 employees created all of the net new jobs. While the "net" contribution of small firms to the creation of new jobs (Davis et al 1994) is questioned, Henderson (1997) finds small firms accounted for 55% of all jobs in the United States. If these small businesses act as an engine of growth in America, IPOs could be a vehicle for regional economic growth.

The purpose of this paper is not to prove the existence of a nexus between IPOs and regional economic growth, which has already been established (Levine 1991, Gurley and Shaw 1967), but rather identify the regional differences in IPOs. This paper strives to detail these which may explain some of the regional variations in economic growth. Given existing research on IPOs, several regional questions are currently unanswered.

The first question focuses on the regional differences in IPO proceeds: Does the size of the offering depend on the location of the firm? Even after controlling for firm specific characteristics, remaining differences would suggest unequal access to equity markets. This may disadvantage other regions when it comes to financing growth.

The second question centers on the possibility that the IPO offering size is also a function of the lead underwriter's location. This question is directed at internal underwriters (those within the IPO firm's region) and external underwriters. Although it is usually contended that capital is portable, underwriting serves as the regional infrastructure providing a portal for the capital that is collected. A lack of underwriting may imply a structural difficulty that prevents firms from acquiring proper financing. This paper tests whether the use of local underwriters results in higher offering sizes. Or, as a result of reputation, institutional contacts, and retail relationships, do national underwriters generate greater capital?

A final question addressed in this paper is whether lead underwriter reputation has a relationship with offering size. Within this hypothesis is an expectation that underwriters with stronger reputations would attract larger firms, but more importantly firms with larger potential, thus garnering larger IPOs.

LITERATURE
The preponderance of previous IPO research concentrates on returns offered to the investor. A sizeable body of research (Ritter 1991, Levis 1993, Jain and Kini 1994, Spiess and Affleck-Graves 1995, and Loughran and Ritter 1995, Teoh et al 1997 and Carter et al 1998) focuses on the fact that IPOs underperform traditional market indicators. The literatures'

emphasis on the creation of investor wealth largely ignores the impact to the firm attempting to raise capital.

There is a wealth of literature concerning credit availability through the banking sector. This literature looks to the general efficiency of the economy in distributing credit throughout a multi-regional area. An initial tenet of the neoclassical literature is that as long as regional credit markets work properly, financial resources flow perfectly from one region to another in order to fund the best investment alternatives (Moore and Nagurney 1989). When considering IPOs, an efficient market implies that the location of the underwriter and the firm are of little consequence to the offering: funds flow into a market to take advantage of investment opportunities. As a result, there should be no regional differences in the size of IPOs. This conclusion challenges earlier work by Roberts and Fishkind (1979) that determined there were interest rate differentials based on the proximity of regional financial markets to national financial centers.

However Dow and Rodriquez-Fuentes (1998) contend that inefficiencies may exist due to segmented regional credit markets. They identified three factors that create regional segmentation. The first involved regional access to information. The second is the non-homogeneity of financial assets. The third considers regional variations in the supply and demand for assets. These supply and demand variations can explain interest rate differences across regional markets.

Dow and Rodriquez-Fuentes (1998) further argue that credit rationing and inefficiencies exist due to information and monitoring cost differences. These inefficiencies create regional differences: local banks hold an advantage over outside banks, checking the entry of outside banks. Local banks have better information; lower monitoring costs and market power. As a result, the absence of outside banks creates a form of credit rationing that results in lower inter-regional capital mobility and exaggerates the inefficiencies that are reflected in the local demand for credit.

This paper also investigates the unique question of the effect underwriter location has on IPO proceeds. Location is central to the firm and financial institutions. For example, there is extensive literature in the area of the effect of commercial bank concentration on lending. This concentration occurred in throughout the 1980's and 1990's (Rhoades 2000) and has increased in the years subsequent to bank deregulation (Stiroh and Strahan 2003). Concentration exposes a concern over equitable access to capital throughout the United States. However, in terms

of capital formation, it has been shown that although venture capital formation is clustered, its distribution follows the theme of mobile and aggressive capital (Florida and Smith, Jr. 1993). Perfect markets argue that there is no distance decay. This contends that as a firm is further from the money center, its access to investments decay. There is, however, only a weak distance decay effect in terms of institutional investors and firm headquarters (Green 1993).

This is consistent with the neoclassical economic analysis which assumes portable capital. As a result, region is of little importance: capital should flow to compensate for labor costs and productivity differentials. However, additional literature demonstrates the importance of region. For example there is significant variation in the regional distribution of venture capital (Florida and Kenney 1987). They conclude that of the $1822 million in venture capital funds invested in 1982, $833 million was invested in the California/Southwest region. At the same time only $50 million was invested in the Pacific Northwest.

While earlier literature diminishes the relationship between venture capital and high-tech starts (Pennings 1982, Zook 2002) records the growing academic argument that availability is an important factor in entrepreneurial growth.

Zook continues that there continues to be a social relationship between the firm and capital, such there is a relationship between the venture capitalist and the entrepreneur. This may be analogous to the presence of regional investment banks. Friedman (1995) finds that urbanized areas with more venture capital firms have more "top" public small firms. Studies of venture capital firms' investment patterns demonstrate that while New York firms invest nationally, firms in smaller venture capital centers are regional (Green and McNaughton 1989). Even in the instances where financing needs are great, regional venture capital firms channel external venture capital into an area (Florida and Kenney 1987).

While the acquisition of venture capital provides new firms with start-up capital, IPOs are a means for existing firms to acquire capital. There are distinct differences between bank financing, the venture capital industry and equity underwriters. These differences are notable in terms of the type of ownership, the level of information sharing, the nature of subsequent management and the type of financing. It is the general acquisition of funds from private investors that provides a connection. However, the uniqueness of each method of financing suggests the value of a separate inquiry into the regional

differences in equity underwriting and the IPOs.

In addition to geographic considerations, this paper considers reputation as an important component to the IPO process. Chemmanur and Fulghieri (1994) theorize (1) the greater the reputation of the investment bank, the more effective it is in reducing the impact of equity market information asymmetry, (2) more prestigious investment banks engage in underwriting contracts with less risky client firms, (3) the greater the underwriters reputation, the higher the fees charged to the firm, (4) the net proceeds of the IPO increase with underwriter reputation, and (5) Investment banks that overprice equity subsequently lose market share. Ultimately the consideration of reputation has regional implications due to the clustering of highly regarded underwriters in money center locations.

The reputation of the underwriter enters regional analysis through the issue of capital portability. Florida and Kenney's (1987) finding of an unequal distribution of venture capital resources in the United States places the location of the highly regarded underwriter into the analysis. Carter et al (1998) show the long-run performance of IPOs is related to an underwriter's reputation. It is reasoned that prestigious

underwriters screen information more accurately, providing less risky investments for the individual.

Within a regional framework, an underwriter with a superior reputation will produce higher levels of capital formation for the firm due to the higher prices they command. The underwriter sways markets by choosing a specialty, successfully wooing firms, appropriately pricing new issues, and providing price support for the investor. Failure in any of these areas can result in a lack of faith in the regional underwriter. This failure may result in a shortfall of funds for IPOs.

THE DATA
The data is primarily extracted by IPO Alert. IPO Alert reviews SEC filings (primarily S-1 filings and subsequent amendments). The less rigorous filings required of smaller firms are also included. The IPO Alert database is augmented by additional author review of SEC filings through Edgar Online. The database spans the highly active period of February 1996 through December 2000. There were 1692 completed and successful IPOs with the earliest filing date for a completed IPO of February 19, 1996 and the latest file date for a completed IPO is April 4, 2000. The earliest completion date is March 21, 1996 and the latest completion date is December 11, 2000.

Although not all completed filings result in the IPO actually being priced since some are pulled during the underwriter's price discovery process the sample includes only the successfully priced IPOs, which are the most pertinent to our current investigation.

The regional determination for each IPO is based on the location of the corporate headquarters of the firms, not on the state of incorporation. Due to the use of micro-economic data, this paper provides unique insights into the regional differences among IPO's. Whereas the limited prior literature in the field (Dow and Rodriquez-Fuentes 1998, Pennings 1982, Friedman 1995, Green and McNaughton 1989, Florida and Kenney 1987) addresses the regional differences in credit availability or venture capital, we are unaware of any research into the regional differences in IPOs.

Returning to the initial question, the proceeds generated by the IPO are investigated to determine if there are any unexplained regional differences. Table 1 and 2 present the total and mean proceeds from each IPO by region and state. These descriptive statistics provide an initial look at the potential regional differences. While California was the largest in terms of the number of successful IPOs, New York generated the largest proceeds from the offerings producing 24,837 million dollars, Maine had the largest average

proceeds. Table 1 provides a regional breakdown of the IPOs. The Far West (see data appendix for definitions) had the largest number of offerings (413) followed closely by the Mideast (358).

Table 3 lists the offerings according to the IPO firm's two digit Standard Industry Classification. The Manufacturing, and Services sectors dominate the study, with SIC 70-80 representing 29.5% of the IPOs. SIC codes 60-69 and 81-99 represent 25.6%. Additionally we split the IPOs based on the percentage of the firm which was publicly held after the IPO and found 83.6% of the firms retained more than 50% of the ownership after the offer was executed. Clearly very few of the firms gave up ownership.

EMPIRICAL RESULTS

The econometric method builds a simple model to predict the total proceeds generated from an IPO. This model includes regional specific dummy variables in an attempt to capture any geographical differences. To this end table 4 presents the results from several simple regressions where in all cases the dependent variable is the log of the proceeds generated from the IPO, which are measured in millions of dollars. The proceeds are simply the number of shares the individual firm sells times the selling price of each share.

Table 1: IPOs by region

Region	# of IPOs (percent)	Total Value of IPOs in Millions of dollars	Mean Value of IPOs in Millions of dollars
1: Southeast	242	13,248	55
2: Southcentral	53	2,732	52
3: Southwest	183	18,231	100
4: Rocky Mountain	56	2,842	51
5: Far West	413	25,834	63
6: New England	131	8,697	66
7: Mideast	358	38,415	107
8: Great Lakes	170	13,592	80
9: Plains	63	3,653	58

The natural log is used as a matter of common practice in order to account for the curvilinear nature of the relationship between variables, which is expect in this case. The initial explanatory variables are simply the regional dummies with the Mideast region (which includes New York), being the excluded or reference region. Only the Southeast region dummy is significant. It is also negative in sign suggesting the proceeds from IPOs in the Southeast are on average smaller than those in the Mideast. Perhaps due to smaller, less seasoned firms the average offering size from this region is smaller. However, with an r-squared of 0.012, the regression explains very little of the variance. Therefore this may be an artifact of the failure to include other important variables such as firm size and underwriter reputation to help explain the size of the proceeds generated.

The inclusion of a few measures of firm size may better explain offering size. Firm size is measured by using firm sales for the most recently completed fiscal year and by the number off full time employees. Firms go public at different phases in their life cycle. Some go public early, with little sales and few employees. Other firms choose to go public after they are well established. It is expected that larger firms, as measured by sales and employees will command large offerings. Column 2 of Table 4 presents the results: both "size" variables are significant. Additionally, when size is controlled, several other regional dummies become significant. The late 1990's witnessed a large number of relatively young firms going public, particularly in the Far West, which includes California. The inclusion of the size variables results in the Southcentral region dummy becoming significant and negative, as is the Southeast dummy. On the other hand the Far West regional dummy is positive and significant, suggesting that Far West firms going public generate more proceeds from their IPO than

Table 2: IPOs by State

State:	# of IPOs	Total Value of IPOs in Millions of dollars	Mean Value of IPOs in Millions of dollars
AK	2	36	18
AL	5	114	23
AR	4	92	23
AZ	16	845	53
CA	352	23,001	65
CO	40	2,161	54
CT	30	2,092	70
DC	10	1,063	106
DE	4	591	148
FL	102	5,772	57
GA	55	2,783	51
HI	2	52	26
IA	4	386	97
ID	4	94	24
IL	63	6,459	103
IN	22	1,349	61
KA	1	6	6
KS	12	1,362	113
KY	10	835	84
LA	12	467	39
MA	87	5,595	64
MD	38	2,971	78
ME	4	666	167
MI	32	3,002	94
MN	26	737	28
MO	13	856	66
MS	4	134	34
MT	1	40	40
NC	28	953	34
ND	3	111	37
NE	4	195	49
NH	6	197	33
NJ	68	4,341	64
NM	4	447	112
NV	5	152	30
NY	172	24,837	144
OH	41	2,127	52
OK	10	1,615	162
OR	12	914	76
PA	66	4,613	70
RI	2	26	13
SC	13	672	52
TN	18	1,088	60
TX	153	15,324	100
UT	10	545	55
VA	42	3,034	72
VT	2	121	61
WA	40	1,680	42
WI	12	655	55
WV	2	34	17
WY	1	1	1

Source IPO Alert, Edgar online and author's calculations

Table 3 Completed Filings by Industry

Industry	2 digit SIC code	Completed IPOs	
		Freq.	Percent
1	01-14	35	2.07
2	15-17	15	0.89
3	20-27, 29-34, 37, 39	129	7.62
4	28	67	3.96
5	35	58	3.43
6	36	87	5.14
7	38	58	3.43
8	40-49	119	7.03
9	50-51	82	4.85
10	52-59	110	6.5
11	70-80	499	29.49
12	60-69, 81-99	433	25.59
Total		1692	100

Table 4	(1)	(2)	(3)	(4)	(5)
	lproceed	lproceed	lproceed	lproceed	lproceed
region_firm==1	-0.25127	-0.19468	-0.17949	-0.18194	-0.17910
Southeast	(0.013)*	(0.025)*	(0.036)*	(0.030)*	(0.030)*
region_firm==2	-0.21519	-0.29789	-0.27725	-0.30474	-0.26951
Southcentral	(0.188)	(0.014)*	(0.022)*	(0.013)*	(0.022)*
region_firm==3	0.09195	-0.08371	-0.07603	-0.06587	-0.08163
Southwest	(0.472)	(0.391)	(0.425)	(0.486)	(0.400)
region_firm==4	-0.39898	-0.24298	-0.19866	-0.21281	-0.26035
Rocky Mountain	(0.054)	(0.156)	(0.239)	(0.212)	(0.111)
region_firm==5	0.04028	0.18034	0.24553	0.22222	0.21423
Far West	(0.636)	(0.011)*	(0.001)**	(0.002)**	(0.002)**
region_firm==6	-0.00295	0.01647	0.06506	0.04425	0.02750
New England	(0.980)	(0.865)	(0.502)	(0.644)	(0.768)
region_firm==8	-0.00907	-0.12747	-0.13629	-0.13901	-0.10541
Great Lakes	(0.939)	(0.177)	(0.141)	(0.130)	(0.248)
region_firm==9	-0.19045	-0.15746	-0.11747	-0.14494	-0.14388
Plains	(0.226)	(0.257)	(0.411)	(0.310)	(0.317)
Lsales		0.26789	0.26790	0.26018	0.26782
		(0.000)**	(0.000)**	(0.000)**	(0.000)**
Ftemp		0.00002	0.00002	0.00002	0.00002
		(0.023)*	(0.019)*	(0.018)*	(0.016)*
perpublic			0.00716	0.00752	0.00836
			(0.000)**	(0.000)**	(0.000)**
Time				-0.00161	-0.00145
				(0.000)**	(0.000)**
dow_return				-0.00105	-0.00080
				(0.186)	(0.299)
Industry1-12					included
Constant	3.59665	2.79075	2.52540	2.73767	2.59049
	(0.000)**	(0.000)**	(0.000)**	(0.000)**	(0.000)**
Observations	1669	1581	1581	1581	1581
R-squared	0.012	0.312	0.329	0.344	0.381

+Industry1-12 Dummies were removed from the table for brevity. Robust p values in parentheses.
* significant at 5%; ** significant at 1%
Region7 is the excluded dummy variable

had they been located in the reference region, the Mideast region. It is likely that this dummy variable is picking up industry effects, such as the wave of computer related "dot.com" firms going public. We attempt to further control for that below by including industry dummy variables.

While this paper focuses on regional relationships, financial market forces cannot be totally set aside. Variables that capture important market characteristics during the price discovery process are added in Column 4 of Table 4. The variable TIME represents the number of days from when the firm filed the S-1 intention to go public until the time the IPO was actually priced. This variable allows for the realization that firm/underwriter immediacy may speed up the process due to ease of communication and relationship development. The regression confirms this with a significant, albeit small, negative coefficient on the TIME variable. Since a rising stock market may in fact put upward pressure on the price of the initial IPO, a measure of market return is added. This is measured by the average daily return of the Dow Jones Industrial Averages over the time of the price discovery process. However, it does not appear to play a role in explaining the size of the IPO.

Finally, in the regional model, dummy variables for industry are

incorporated to capture any effects associated with the types of firms going public. Including the industry dummies does not explain the regional differences. Within the regression, the industry coefficients are not significant. As a result, a failure to account for firm type[1] can not explain the differences discovered.

Turning to the question of underwriter location, splitting the IPOs based on the underwriter's location relative to the firm's yields 586 firms utilizing local underwriters. The remaining 1106 used underwriters outside the region of the firms' headquarters. Table 5 lists the means of the other variables of interest, along with splitting the sample based on the location of the underwriter. This offers some interesting results that show up in the t-test of mean differences. It appears that IPOs where the underwriter is not within the same region take less time in the price discovery process. The out of region underwriters also have a better rating than local underwriters. This is likely due to the condition where the big Mideast underwriters have superior market credibility. A continuous score (Carter et al 1998) with a minimum score of 1 for underwriters with a low reputation and a high of 9 for high reputations produces a continuous score. Following Benveniste et al (1999) a

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[1] The industry dummies were excluded from the table to save on space, the full table is available from the authors upon request.

0 is given to an underwriter not rated in Carter et al (1998).

Additional differences between the IPOs where underwriters are located in the same region and outside the region can be found in the percent of the firm publicly held after the offering. It is significantly smaller for those firms using outside underwriters. However there doesn't appear to be a statistically significant difference in the sales of full time employment of the firms, nor is there a difference in the proceeds from the IPO or the market capitalization, based solely on the location of the underwriter.

In Table 6 presents the regression with the inclusion of the underwriter variables. Column 2 incorporates a dummy variable for the location of the underwriter relative to the firm.

Table 5 Variable Sample Means and Test for Differences

Variables	All IPOs		Underwriter in region		Underwriter not in region		Differences Test	
	Mean	n	Mean	n	Mean	n	T-stats	P-value
rating_under	5.99	1692	4.91	586	6.56	1106	8.79	0.00
Ftemp	887.63	1692	725.5	586	973.5	1106	0.85	0.39
Sales	1784.70	1692	427.2	586	2504	1106	0.99	0.32
Time	106.35	1692	121.5	586	98.4	1106	-4.83	0.00
dow_return	23.70	1692	25.39	586	22.80	1106	-1.70	0.09
Nasdaq_return	29.81	1692	32.28	586	28.5	1106	-1.76	0.08
sp_return	25.23	1692	26.78	586	24.4	1106	-1.70	0.09
perpublic	34.25	1692	36.67	586	32.97	1106	-3.18	0.00
proceed	76.24	1669	77.90	575	75.37	1094	-0.24	0.81
Mktcap	317.63	1669	321.91	575	315.4	1094	-0.12	0.90

Table 6	(1)	(2)	(3)
	lproceed	lproceed	Lproceed
region_firm==1	-0.17910	-0.30882	-0.22890
Southeast	(0.030)*	(0.001)**	(0.004)**
region_firm==2	-0.26951	-0.39287	-0.26913
Southcentral	(0.022)*	(0.001)**	(0.010)*
region_firm==3	-0.08163	-0.22728	-0.19164
Southwest	(0.400)	(0.032)*	(0.041)*
region_firm==4	-0.26035	-0.40617	-0.27452
Rocky Mountain	(0.111)	(0.014)*	(0.052)
region_firm==5	0.21423	0.10570	0.03997
Far West	(0.002)**	(0.154)	(0.535)
region_firm==6	0.02750	-0.14045	-0.09843
New England	(0.768)	(0.175)	(0.308)
region_firm==8	-0.10541	-0.22611	-0.22946
Great Lakes	(0.248)	(0.019)*	(0.009)**
region_firm==9	-0.14388	-0.25507	-0.21078
Plains	(0.317)	(0.077)	(0.094)
lsales	0.26782	0.26505	0.20343
	(0.000)**	(0.000)**	(0.000)**
ftemp	0.00002	0.00002	0.00002
	(0.016)*	(0.018)*	(0.009)**
perpublic	0.00836	0.00841	0.01024
	(0.000)**	(0.000)**	(0.000)**
time	-0.00145	-0.00134	-0.00079
	(0.000)**	(0.000)**	(0.012)*
dow_return	-0.00080	-0.00071	-0.00056
	(0.299)	(0.354)	(0.397)
Industry1-12+	Included	Included	included
region_under		-0.24606	-0.10193
		(0.000)**	(0.061)
rating_under			0.12448
			(0.000)**
Constant	2.59049	2.78270	2.13448
	(0.000)**	(0.000)**	(0.000)**
Observations	1581	1581	1581
R-squared	0.381	0.388	0.511
+Industry1-12 Dummies were removed from the table for brevity. Robust p values in parentheses			
* significant at 5%; ** significant at 1%			
Region7 and Industry12 are the excluded dummy variables			

Accounting for location of the underwriter also alters the impact of the regional dummies. Now the

Southeast, Southcentral, Southwest, Rocky Mountain, and Great Lakes regions are all significant and negative. The Far West region is no longer significant. As a result much of the difference we tried to explain earlier can be explained by the underwriter.

As the location of the underwriter was probably a proxy for the underwriter's rating its inclusion. Now the region of the underwriter is insignificant, but the r-squared jumped to 0.511. The underwriter rating has a large impact on the size of the proceeds generated from the IPO. If the underwriters rating increases you can expect an increase in the size of the offer, which is likely due to the increased demand that a better underwriter faces, a better syndicate of smaller underwriters, and implicit arrangements with large mutual funds. All of these factors combined yield a larger offering size than if a less reputable underwriter had been used.

Returning to the initial question of the regional differences in size of IPOs, it appears that even after controlling for the reputation of the underwriter there remains a premium for the Far West and the Mideast relative to the other regions. There are a few plausible theories for why these regional differences persist. It is possible that firms with headquarters in the Mideast find it easier to shop their IPO around. During the time period under investigation

financial cable channels became enormously popular; it was quite common to have a CEO discussing their firm's performance on the air. There are also likely important social networks that advantage firms in the area when it comes to selling their IPOs to institutional investors.

It is also possible that we are capturing effects of particular industries going public. This study uses a two digit industry classification. Classification systems like this can by their very nature obfuscate important differences rather than illuminate them. Despite this possibility we do find there are significant regional differences in the funds generated from IPOs which would benefit from further exploration.

CONCLUSIONS

The regressions conducted provide these results: the location of an underwriter is unimportant to the size of an IPO. However, the underwriter's reputation is significant. The results also suggest IPOs in all regions except the Far West and Plains witness significantly smaller average IPO's when compared to the Mideast. This situation reduces the returns from going public. As a result, the benefits accrued to a firm through an IPO are not fully realized.

Offering size is crucial to the decision to go public. Ultimately, the proceeds are a vehicle to capitalize a firm. Capital provides

opportunities to invest in plant and equipment, opportunities for current owners to divest and reallocate assets, and opportunities for the firm to expand through merger and acquisition. Larger offerings provide regions with greater opportunity. If regional differences exist, these opportunities may be limited. If ignored they may be fatal.

Caution should be exercised in extrapolating the results to other markets. Future research should be directed at identifying if the regional effects we find are indeed an artifact of the "hot" market or a more systematic phenomenon. While we think that the large sample of IPOs we analyze allows us to be confident in our conclusions we are certainly aware that the time period under investigation is considered unique.

The disproportionate distribution of IPO revenue size between regions creates three initial concerns. First, an unequal incentive system for firms to go public. Second, the potential for insufficient capital for firms. Third, a possibility of unequal capital flows between regions, which is open for further study.

This paper offers a few possible extensions. The most immediate suggestion is to track the future performance of these same stocks to see if the regional differences persist. The second suggestion is to investigate the unsuccessful IPOs to determine if regional differences. A final, and rather ambitious extension would be to track the firm's use of the IPO funds to determine if there are any regional differences.

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Data Appendix
Variable Definitions

rating_under	this is the Carter and Manaster (1990) rating of the underwriters reputation, where unrated firms where assigned a 0 as in Benveniste et al. (1999)
ftemp	the number of full time employees at time of filing
Sales	the sales of the firm in the previous fiscal year in millions of dollars
Time	the number of days spent in the price discovery process, the completed date minus the date of the initial filing
dow_return	the average daily return of the Dow Jones Industrial Averages over the price discovery process annualized
Nasdaq_return	the average daily return of the NASDAQ over the price discovery process annualized
sp_return	the average daily return of the Standard and Poor's 500 over the price discovery process annualized
perpublic	the percentage of total outstanding shares that are being offered, the amount of the firm that will be publicly held(outsiders) after the offering.
proceed	in millions of dollars, the proceeds from the offering.
industry	dummy variables based on two digit SIC code see industry table
region_firm	dummy variable representing the region the firm is headquartered in see region table
region_under	a dummy variable that takes the value of 1 when the underwriter is located in the same region as the firm, 0 otherwise

BEA Multistate Regions

Region 1*	Region 2*	Region 3
SOUTHEAST	SOUTHCENTRAL	SOUTHWEST
Florida	Alabama	Arizona
Georgia	Arkansas	New Mexico
North Carolina	Kentucky	Oklahoma
South Carolina	Louisiana	Texas
Virginia	Mississippi	
West Virginia	Tennessee	

Region 4	Region 5	Region 6
ROCKY MOUNTAIN	FAR WEST	NEW ENGLAND
Colorado	Alaska	Connecticut
Idaho	California	Maine
Montana	Hawaii	Massachusetts
Utah	Nevada	New Hampshire
Wyoming	Oregon	Rhode Island
	Washington	Vermont

Region 7	Region 8	Region 9
MIDEAST	GREAT LAKES	PLAINS
Delaware	Illinois	Iowa
District of Columbia	Indiana	Kansas
Maryland	Michigan	Minnesota
New Jersey	Ohio	Missouri
New York	Wisconsin	Nebraska
Pennsylvania		North Dakota
		South Dakota

*BEA classifies these two regions as one large region

	Two Digit SIC Code	Description
industry=1	01-14	Agriculture, forestry, & fishing (01-09) , Mining (10-14)
industry=2	15-17	Construction (15-17)
industry=3	20-27, 29-34, 37, 39	Manufacturing (20-39)
industry=4	28	Manufacturing (20-39)
industry=5	35	Manufacturing (20-39)
industry=6	36	Manufacturing (20-39)
industry=7	38	Manufacturing (20-39)
industry=8	40-49	Transportation & pub. utilities (40-49)
industry=9	50-51	Wholesale trade (50-51)
industry=10	52-59	Retail trade (52-59)
industry=11	70-80	Services (70-89)
industry=12	60-69, 81-99	Finance, insurance, & real estate (60-67) Public administration (91-97) Nonclassifiable establishments (99)