DEVELOPMENT OF NEW ECONOMY VIA VENTURE CAPITAL AND INITIAL PUBLIC OFFERINGS IN TURKEY

Süleyman Gökhan GÜNAY∗

ABSTRACT

Small and medium size enterprises (SMEs) have an important impact on the development of new economy but SMEs have a need for venture capital (VC) and initial public offerings (IPOs) in order to grow. Therefore, it is very important to know how owners, managers and employees in the SMEs perceive the VC and IPOs in Turkey. A questionnaire is developed to understand these types of perceptions via focus groups. The questionnaire is distributed to the owners, managers and employees of SMEs that operate in Istanbul Technical University KOSGEB, Bogazici University KOSGEB and Yıldız Technical University KOSGEB.

Key Words: Information Technologies, Venture Capital, Initial Public Offerings

INTRODUCTION

The contribution of information technology (IT) sector to the economies of the countries is well known. For example, the contribution of IT sector to the US economy is estimated to be about 35% on average between 1995 and 1998 (US DOC, 1999, p. 20). On the other hand, the experience of India has shown that countries are expected to make investment to infrastructure, give importance to research and development (R&D) and have an effective financial sector in order to increase the impact of IT sector (OECD, 2000, p.17). There are two factors that give support to the development of IT sector. The first one is venture capital (VC) and the other is initial public offerings (IPOs). For example, European Private Equity and Venture Capital Association (EVCA) has conducted a survey in 2002 in order to determine the social and economic impact of VC in Europe. Most of the firms that are

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surveyed are the small and medium-sized enterprises (SMEs) that operate in the IT industry such as internet technology, software, IT services. It is found in this study that VC is mostly used for R&D and training (EVCA, 2002, p. 7), which are important investments for innovation. These findings show the impact of VC at the level of the firm. VC also has a major impact at the level of society. For example, another study conducted by EVCA has showed that the contribution of VC to annual average employment growth rate (30.5%) between 1997 and 2004 is nearly forty-three times the annual growth rate of total employment in EU 25 member states (0.7%) between 2000 and 2004 (EVCA, 2005, p. 7). The annual growth rate in the productivity of US economy between 1996-2004 due to the indirect impact of VC industry was 3%. Moreover, the success of US in the VC industry has led to a higher income and better standard of living (NVCA, 2004, p. 12).

VC and IPOs are closely related with each other. VC industry could not be constituted without an opportunity for an exit (i.e. IPOs). US is the leader in the creation of information technology revolution, which is named as ‘new economy’ (Gordon, 2000, p. 2; Pohjola, 2002, p. 134), based on SMEs for about 25 years. The contribution of VC and IPOs to this phenomenon cannot be denied. The purpose of this study is to determine the factors that will support the development of IT sector with the help of SMEs based on VC and IPOs.

FINANCIAL INSTRUMENTS THAT CAN BE USED BY THE SMEs

VC and IPOs are two financial instruments that can be used by the IT firms. The other financial instruments which can be used by the SMEs are illustrated in Table 1. As can be seen in Table 1, a start-up firm may use many different financial instruments before using VC and IPOs. On the other hand, if an investment is very attractive then VC can also be supplied to a seed firm. Besides, VC is the best financial instrument that will let seed/start-up firms (i.e. SMEs) to finance their research and development activities (European Commission, 2007, p. 30). Moreover, VC firms also support seed/start-up firms with strategic business advice (Keuschnigg, 2003, p. 8). In other words, the pecking order of the financing alternatives depends on the needs of SMEs and attractiveness of the investments for the financiers. But if there are local impediments for the VC firms in terms of successful exists (e.g. IPOs or trade sales), then VC finance will not be available for the SMEs that operate in emerging markets (McKnight-Parker, 2001, p. 12) such as Turkey. Recently, trade sale (mergers and
acquisitions) is preffered as an exit strategy by VC financiers as in the case of YouTube’s recent sale to Google and Skype’s sale to eBay. This is the case for US market because firms such as Yahoo and Google have available cash and they are looking for opportunities to expand and grow (Knowledge@Wharton, 2007, p. 3). In other words, this is not the typical case for other countries, especially for the emerging countries. Therefore, an IPO is a better financial instrument than a trade sale because it obtains shareholder liquidity (EVCA, 2005, p. 2). As a result, VC and IPOs are still the most preffered financial instruments for the countries other than US.

Table 1: Financing Alternatives of SMEs

<table>
<thead>
<tr>
<th>Type of Financing</th>
<th>Amount Raised ($000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneur Personal Funds</td>
<td>5-50+</td>
</tr>
<tr>
<td>Personal Credit and Other Borrowings</td>
<td>5-30</td>
</tr>
<tr>
<td>“Friends and Family”</td>
<td>25-100</td>
</tr>
<tr>
<td>Angel Investors</td>
<td>100-500</td>
</tr>
<tr>
<td>Venture Capital</td>
<td>500-10,000</td>
</tr>
<tr>
<td>Corporate direct investment</td>
<td>2,500-5,000</td>
</tr>
<tr>
<td>Venture leasing</td>
<td>500-2,000</td>
</tr>
<tr>
<td>Mezzanine Financing</td>
<td>10,000-25,000</td>
</tr>
<tr>
<td>Merger and Acquisition</td>
<td>10,000-100,000+</td>
</tr>
<tr>
<td>Initial Public Offering</td>
<td>25,000-50,000+</td>
</tr>
<tr>
<td>Secondary/Follow-on Public Offering</td>
<td>25,000-100,000+</td>
</tr>
<tr>
<td>Private Placements-Debt&amp;Equity</td>
<td>10,000-100,000+</td>
</tr>
<tr>
<td>Buyout/Acquisition Financing</td>
<td>10,000-100,000+</td>
</tr>
<tr>
<td>Corporate Debt</td>
<td>10,000-100,000+</td>
</tr>
</tbody>
</table>


TWO FINANCIAL INSTRUMENTS THAT CAN BE USED BY THE SMEs THAT OPERATE IN THE IT SECTOR: VENTURE CAPITAL AND INITIAL PUBLIC OFFERINGS

Seed and start-up firms that operate in the IT sector of US find the capital that they need from the VC firms. Therefore, VC has played an important role in the development US economy and innovations. On the other hand, VC cannot be used effectively in Europe due to lack of exit strategies (EVCA, 2005, p. 3). The problem related with the exit strategies (i.e. IPOs) is tried to be solved by the establishment of the stock markets such as Neuer Markt in
Germany (Martin, 2001, p. 319) or EASDAQ for young and fast growing IT firms (Martin et.al, 2002, p. 131).

According to Black and Gilson (1998, p. 4), the best exit strategy for the VC firms is the IPOs because this exit strategy gives back the control of the firm from VC firms to the entrepreneurs. Besides, the study conducted by Masulis, Krishnan and Singh (2007, p. 3) has shown another relationship between VC and IPOs. They have separated the firms as VC-backed and non VC-backed firms and found that VC-backed firms showed better financial performance after an IPO due to the higher reputation of VC firms. This finding is very meaningful because VC-backed firms take strategic business advice as well as financial support from the VC firms (Keuschnigg, 2003, p. 8). As a result, VC and IPOs are closely related with one another and they are the most effective financial instruments used by the SMEs.

METHODOLOGY

The purpose of this study is to develop a qualitative research design in order to understand how owners, managers and employees of the SMEs that operate in the IT sector perceive the major problems related with VC and IPOs for the development of new economy. In others words, the purpose of this study is to determine the factors that will contribute to the development of new economy in Turkey. Focus groups, participant observation and individual in-depth interviews are suitable methods for exploratory purposes. Focus group is decided to be used for this exploratory study because this qualitative method offers flexibility between the strengths of participant observation and in-depth interviews.

The purpose of the focus group discussions is to generate variables for the scale development process. In order to achieve this goal, the following questions are asked to the members of the focus groups:

1. What are the problems related with the use of venture capital by the SMEs that operate in the information technologies sector in Turkey and what are your solutions for these problems?
2. What are the problems related with the use of initial public offerings by the SMEs that operate in the information technologies sector in Turkey and what are your solutions for these problems?

Two homogenous and small groups are formed in order to generate ideas about the research construct in March 2005. There are 6 individuals in one of the groups (2 female and 4 male). There are 8 (3 female and 5 male) individuals in the second group. The members of these two focus groups are the owners, managers and employees of the SMEs that operate at Bogazici University KOSGEB and Yildiz University KOSGEB. One session is conducted with each group and the length of the session is about 1.5 hours for the first group and 2 hours for the second group. Interactions among group members are generated by presenting rough outlines to each group member. As a result of these interactions, group members have submitted their ideas to the group consideration. The following rough outlines are presented to the group members of each focus group to generate their ideas about the construct of the research:

- Understanding the VC related factors that contribute to the development of new economy in Turkey.
- Understanding the IPO related factors that contribute to the development of new economy in Turkey.

All of the ideas that are generated in these two focus group sessions are written on a piece of paper. The variables that are produced by group members are used to generate hypotheses that would be tested quantitatively. Besides, the information that is generated from the focus groups discussions is also used to develop a questionnaire.
The purpose of this study is to determine the factors related with VC and IPOs that will contribute to the development of new economy in Turkey. Thus, development of new economy is the dependent variable or the construct of the research. 37 items are determined during the content analysis process. These 37 items that are related to the construct of the research are categorized under two factors. These two factors are VC and IPOs, which are also independent variables of the research. Of these 37 items, 23 is under the VC factor and 14 is under IPO factor. There are six categories under the VC factor and four categories under the IPO factor. Conceptualization of the research is depicted in Figure 1. Besides, the operationalized 37 items are also shown in the appendix. Based on the dependent variable (i.e. the development of new economy) and independent variables (i.e. VC and IPO factors), three null hypotheses are developed.

These three hypotheses are as follow:

H01: VC and IPO factors are effective together in the development of new economy.
H02: IPO factor is effective in the development of new economy.
H03: VC factor is effective in the development of new economy.

Figure 1: Conceptualization of the Research
Sample design is carried out before developing a scale for the construct of this study. After the scale is designed, it will be applied to a sample. This sample should be representing the population. Therefore, there is a need for a sample design before developing a scale.

Since population of our study consists of seed/start-up SMEs that operate in IT sector, owners, managers and employees of the IT firms that operate in the KOSGEB technology development centers constitute the population of the research. SMEs rather than large size firms are chosen as the population of the study because these type of firms (i.e. seed and start-up firms) are the prospects for the development of an economy. For example, 22% of the US companies which are now in the world top 1000 in terms of market capitalization were all SMEs in the beginning of 1980s (European Commission, 2007, p. 5). Owners, managers and employees of the seed/start-up IT firms that operate at Bogazici University KOSGEB, Istanbul Technical University KOSGEB and Yildiz Technical University KOSGEB constitute the sample of the study. A probability sampling method is preferred to be used because the target population, which are the owners, managers and employees of the IT firms that operate in the KOSGEB technology development centers, is not infinite. The size of the sample is determined as 30, which is a minimum requirement for normal distribution. After the determination of the sample design, 1-to-5 likert scale has been designed for the 37 items, which can be seen in the appendix, that are generated during focus group process. After determining the sample design, a questionnaire is developed based on likert scale. This questionnaire is distributed to the owners, managers and employees of the seed/start-up IT firms that operate at Bogazici University KOSGEB, Istanbul Technical University KOSGEB and Yildiz Technical University KOSGEB in 2007.

THE EMPIRICAL FINDINGS OF THE STUDY

First of all, the first hypothesis that VC and IPO factors are effective together in the development of new economy is tested. 37 items’ entire reliability tests are carried out by computing coefficient alpha in order to test the first hypothesis. As can be seen in the Table 2, the joint impact of VC and IPO factors on the construct, the development of new economy, of the study is 75.3%. Since the purpose of this exploratory study is to find out the impact of independent variables (i.e. VC and IPO) on the construct (i.e. the development of new economy), 3 items that are found irrelevant by the SPSS software are deleted. When these 3
items (V15, V16 and V17) are deleted, the coefficient alpha increased to 80.7%. A reliability coefficient is satisfactory in terms of the minimum requirement of 70% (Peterson, 1994, p. 381). As a result, the null hypothesis that the VC and IPO factors are effective together in the development of new economy cannot be rejected based on this finding.

Table 2: Reliability Analysis for the Factors (Dimensions) that Determine the Construct

<table>
<thead>
<tr>
<th>Number of Cases</th>
<th>Number of Items</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>VC and IPO Factors Together</td>
<td>30</td>
<td>37</td>
</tr>
<tr>
<td>VC and IPO Factors Together (V15, V16 and V17 Exc.)</td>
<td>30</td>
<td>34</td>
</tr>
<tr>
<td>VC Factor</td>
<td>30</td>
<td>23</td>
</tr>
<tr>
<td>VC Factor (V15, V16 and V17 Exc.)</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td>IPO Factor</td>
<td>30</td>
<td>14</td>
</tr>
<tr>
<td>IPO Factor (V28, V31 and V32 Exc.)</td>
<td>30</td>
<td>11</td>
</tr>
</tbody>
</table>

The reliabilities of the two factors, VC factor and IPO factor, are also tested in order to test the second and third hypotheses. 23 items’ entire reliability tests are carried out by computing coefficient alpha in order to test the second hypothesis. As can be seen in Table 2, VC factor has a reliability coefficient of 68.9%. When 3 items (V15, V16 and V17) are deleted due to their irrelevance, the coefficient alpha increased to 80.9%. Based on this finding, the second hypothesis could not be rejected also. Finally, 14 items’ entire reliability tests are carried out by computing coefficient alpha in order to test the third hypothesis. As can be seen in Table 2, IPO factor has a reliability coefficient of 71.2%, which is higher than the minimum requirement, 70%. Since the purpose of this exploratory study is to find out the impact of dependent variable (i.e. IPO factor) on the construct (i.e. the development of new economy), 3 items that are found irrelevant by the SPSS software are deleted. When these 3 items, V28, V31 and V32 are extracted, the coefficient alpha increased to 79.9%. Based on this finding, the third hypothesis could not be rejected also. In sum, this exploratory study has shown us that VC factor, which is operationalized by 23 items, or IPO factor, which is
operationalized by 14 items, or VC and IPO factors together, which are operationalized by 37 items, are effective in determining the development of new economy.

<table>
<thead>
<tr>
<th>Number of Cases</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>V13</td>
<td>4,566</td>
<td>0.817</td>
</tr>
<tr>
<td>V10</td>
<td>4,566</td>
<td>0.678</td>
</tr>
<tr>
<td>V14</td>
<td>4,533</td>
<td>0.681</td>
</tr>
<tr>
<td>V37</td>
<td>4,266</td>
<td>0.944</td>
</tr>
<tr>
<td>V29</td>
<td>4,200</td>
<td>0.761</td>
</tr>
<tr>
<td>V12</td>
<td>4,200</td>
<td>1.030</td>
</tr>
<tr>
<td>V06</td>
<td>4,133</td>
<td>0.860</td>
</tr>
<tr>
<td>V01</td>
<td>4,133</td>
<td>0.973</td>
</tr>
<tr>
<td>V08</td>
<td>4,100</td>
<td>1.124</td>
</tr>
<tr>
<td>V34</td>
<td>4,066</td>
<td>0.980</td>
</tr>
<tr>
<td>V03</td>
<td>3,933</td>
<td>0.907</td>
</tr>
<tr>
<td>V35</td>
<td>3,833</td>
<td>0.912</td>
</tr>
<tr>
<td>V02</td>
<td>3,833</td>
<td>0.874</td>
</tr>
<tr>
<td>V31</td>
<td>3,833</td>
<td>0.985</td>
</tr>
<tr>
<td>V30</td>
<td>3,733</td>
<td>1.201</td>
</tr>
<tr>
<td>V27</td>
<td>3,733</td>
<td>0.827</td>
</tr>
<tr>
<td>V07</td>
<td>3,733</td>
<td>1.112</td>
</tr>
<tr>
<td>V05</td>
<td>3,733</td>
<td>1.048</td>
</tr>
<tr>
<td>V11</td>
<td>3,700</td>
<td>1.178</td>
</tr>
<tr>
<td>V15</td>
<td>3,633</td>
<td>1.473</td>
</tr>
<tr>
<td>V33</td>
<td>3,600</td>
<td>1.191</td>
</tr>
<tr>
<td>V26</td>
<td>3,600</td>
<td>1.162</td>
</tr>
<tr>
<td>V25</td>
<td>3,600</td>
<td>1.037</td>
</tr>
<tr>
<td>V24</td>
<td>3,500</td>
<td>1.074</td>
</tr>
</tbody>
</table>
In addition to the test of 3 hypotheses, the means and standard deviations of the items are also illustrated in a descending order in Table 3. These findings will give us a chance to determine which issues are the major problems for owners, managers and employees of the SMEs that operate in the IT sector. In order to compare the mean scores of the items, the 1-to-5 point Likert Scale is divided into three pieces in order to determine the cut-off scores for agreement, disagreement and indecisiveness of the subjects. Thus, a mean score between 1 and 2.33 shows the disagreement of the subjects with one of the statements. A mean score of 2.33 and 3.66 shows the indecisiveness of the subjects with a statement. Finally, a mean score between 3.66 and 5 shows the agreement of the subjects with a statement. In other words, a mean score of 3.66 is used as a cut-off point in order to show the important items for the development of new economy by the subjects. As can be seen in Table 3, there are nineteen items (V13, V10, V14, V37, V29, V12, V06, V01, V08, V34, V03, V35, V02, V31, V30, V27, V07, V05, V11) that are above the cutoff point. In other words, these nineteen items are deemed important for the development of new economy by most of the subjects. When a cut-off score of 4 is used in order to show the strong agreement of the subjects with the items, there are only 10 items with mean scores above 4. These 10 items are V13, V10, V14, V37, V29, V12, V06, V01, V08 and V34. Five of these items (V10, V12, V13, V14 and V37) are related with the infrastructure and government subsidies. These five items can also be seen in
the appendix. In other words, the owners, managers and employees of the SMEs that operate in the IT sector perceive the infrastructure and government subsidies as the most important issues related with VC and IPOs for the development of new economy. Since four of items are under the dimension of VC factor, this finding also shows us that the owners, managers and employees of the SMEs that operate in the IT sector strongly believe that the infrastructure and government subsidies are closely related with the VC industry in Turkey.

CONCLUSION

The purpose of this exploratory research is to define the factors related with VC and IPOs that contribute to the development of new economy. It is found in this exploratory study that VC and IPO factors are effective in the development of new economy in Turkey. Three hypotheses are tested for this purpose, and all of them are accepted. In other words, owners, managers and employees of the SMEs that operate in the IT sector believe that a new economy can be developed via VC and IPOs. The second important finding of this exploratory research is the perception that ‘issues related with the infrastructure and government subsidies’ are seen as the most important issues for the development of new economy by the subjects that are surveyed. As a result, if VC and IPOs can be used effectively by the support of the government then it is perceived by the owners, managers and employees of the SMEs that operate in the IT sector that the new economy will develop in Turkey. This finding is parallel to the applications of the countries in all over the world in terms of government infrastructure and subsidies (e.g. taxes) for the development of new economy via VC and IPOs. Government infrastructure and subsidies are especially more meaningful when the findings of this study is considered based on the recent global economic crisis that started in 2008. It is very well known that the growth of the new economy will slow in all over the world. Therefore, it would not be wrong to argue that government infrastructure and subsidies are critical for the development of new economy in Turkey due the impact of the recent global economic crisis to the new economy.

Although government policies are important for the development of new economy, they are not adequate by themselves to achieve this goal. In other words, the development of a new economy is closely related with the interaction of all the actors such as SMEs, VC firms, IT firms, banks, and government. These interactions among the related parties are expected to
generate solutions for the development of new economy. As a result, co-operation among the related stakeholders (SMEs, VC firms, IT firms, banks, and government) is expected to make significant contributions to the development of new economy in Turkey via VC and IPOs.
REFERENCES


APPENDIX: GROUPED STATEMENTS THAT ARE USED IN THE QUESTIONNAIRE

I. Statements Related with the VC Factor

*Statements Related with the VC Firms*

**V1.** VC is generally given for the products that are completed and sold in the market. VC firm do not give financial support to seed IT firms.

**V2.** There are no suitable structure for the VC (There is no suitable structure for submitting our projects to the VC firms.)

**V3.** VC firms invest in the areas that have high profit margin and high technology. But there is a high competition in the IT sector. Therefore, VC firms should also invest to the IT firms that have low profit margin and low technology.

**V4.** VC firms should invest to the IT firms that develop high technology and have high profit margin. If one out of ten is successful then there is a need for a high profit margin.

**V5.** The managers of domestic VC firms do not arrange meetings with the managers of IT firms. But managers of international VC firms arrange these type of meetings

**V6.** There is no advertisement in the newspaper about VC firms or a publicity that introduces us how to apply to VC firms.

**V7.** VC firms do not want to take risk. They do not give support to the projects of SMEs.

**V8.** VC finance is given to the large size firms that have a research and development department. VC finance is not given to the SMEs.

*Statements Related with the Infrastructure and Government Subsidies*

**V9.** Government do not exempt IT firms in terms of taxes.

**V10.** Government should support the IT sector. For example, government provide loans to IT firms by taking collateral. If government behaves in this way, the IT sector will not develop.

**V11.** There is no regulator government institution that will evaluate the feasibility of the IT firms’ projects.

**V12.** There are companies that gather the savings of the individuals who want to fund these type of risky investments in the US. There is no such a structure in the VC sector in Turkey.

**V13.** Distribution of the capital must be switched from large firms to SMEs. The policies that the government will produce about this issue is very important.

**V14.** There is no culture for project development in Turkey. Education about the process of project development must be given to the university students in engineering departments in order to constitute this type of culture.
**Statements Related with the Economy**

**V15.** There is capital inadequacy in Turkey.

**V16.** There must be an environment of trust in terms of economy and foreign direct investment must come.

**V17.** Since there was a crisis about the internet based firms in the world, there was also a crisis in VC sector.

**Statements Related with the Culture**

**V18.** There is no culture of turning an idea to a product and making money in Turkey.

**V19.** The owners of the capital are afraid of the technology in Turkey.
Statements Related with the VC Factor (Continue)

Statements Related with the IT Firms

V20. There is no institutionalization (i.e. considering the new ideas, having R&D department and employing professional staff) in the IT firms.

V21. If the owners of the IT firms see risks in making investment in the area of IT then it is very normal for the VC firms to be reluctant to invest in the IT firms.

V22. A VC firm invests to a firm and then exit with an IPO in the world. The VC firms become the owners of the IT firms that they invest and the owners of these firms are excluded. This type of structure is a wrong one.

Statements Related with the IT Firms’ Customers

V23. The customers that conduct transactions with the IT firms have an inadequate knowledge about technology. Therefore, they do not want to invest in IT.

II. Statements Related with the IPO Factor

Statements Related with the IT Firms

V24. An IPO is a financial instrument that can be used when the firm is at the stage of maturity. IPO can only be used by the firms that have a ten or twenty years of past. Investors would like to know how the IT firms perform in the past.

V25. A firm should have the legal status of incorporated company. However, the most suitable legal status for the SMEs is limited corporation.

V26. Issuing IPOs is impossible for the SMEs because of their inadequate size.

V27. The consulting costs for issuing an IPO is very high.

V28. The balance sheet and income statements of IT firms should be transparent. These financial statements are not transparent in the SMEs.

V29. The firms that operate in the IT sector should be institutionalized in order to issue IPOs in the New Economy Market.

V30. An IPO cannot be issued without a firm reputation and finished product.

V31. IT firms do not know the procedure for issuing IPOs.

V32. There is no need for a firm to have a long history in the market in order to issue an IPO in the New Economy Market. For example, if experienced firms establish a firm together then this new firm can issue an IPO in a very short period of time.

Statements Related with the Banking Sector

V33. Bank should mediate for issuing an IPO. Since SMEs face too many problems in borrowing loans from the banks, it is hardly possible for the banks to perform this...
task.

V34. Banks do not have any policies for evaluating the firms that operate in IT sector. All the sectors are evaluated in the same way.

V35. SMEs can take loans from the banks in order to fulfill the conditions of IPOs, and then they can pay back their loans after issuing their IPOs.

Statements Related with the VC Firms

V36. Institutionalization cannot be achieved without a VC, and IPOs cannot be issued without institutionalization.

Statements Related with the Infrastructure

V37. Government can arrange the required regulation, and government agencies can audit the IT firms whether they achieved certain standards for issuing IPOs or not.