

## **Influential Article Review - What Influences IPO Underpricing?**

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*This paper examines finance. We present insights from a highly influential paper. Here are the highlights from this paper: This paper examines how the difference in institutional environments constitutes differential IPO underpricing across countries. Using the Heritage Foundation's Index of Economic Freedom (IEF) as a proxy for the heterogeneous institutional environment, and a sample of 3728 IPOs from 22 countries and regions over the period 1993–2014, we find that countries with higher economic freedom have significantly less serious IPO underpricing problems. Moreover, we find that among the 10 economic freedom factors covered by the IEF, financial freedom related factors play a more important role in reducing the IPO underpricing problem. Finally, consistent with the market sentiment hypothesis, we find strong evidence that pre-IPO market sentiment influences IPO first-day returns, and that the IPO underpricing problem is less severe when the market is bearish. For our overseas readers, we then present the insights from this paper in Spanish, French, Portuguese, and German.*

*Keywords: IPO underpricing, Institutional environment, Economic freedom*

### **SUMMARY**

- IPO first-day returns and economic freedom. In the regression model, the primary variable of interest is the economic freedom variable IEF. IPO Initial Returns and Economic Freedom with Additional Firm-specific Factors
- Consistent with the market sentiment hypothesis, we find that initial returns are negatively associated with the bear market dummy variable and positively associated with the bull market dummy variable. These results lend support to the «hot market» arguments and the «prospect theory»: issuers will bargain harder over the offer price when the market is bad.
- Relationship between IPO initial returns and the sub-indexes of economic freedom. In addition to testing the overall relation between IR and the institutional environment, we also test the relation between IR and each of the 10 IEF sub-indexes.
- IPO Initial Returns and the Sub-indexes of Economic Freedom. The results in Table 5 show that different aspects of economic freedom have different impacts on initial returns. In the 10 univariate regressions, five sub-indexes show significantly negative coefficients; while *freegov* shows a significantly positive coefficient.

- The significantly negative coefficient for Fin indicates that an economy with more financial market freedom would suffer less from IPO underpricing. The role of financial freedom is generally accepted by previous empirical studies on financial deregulation .
- For historical reasons, the SDC database has more IPO data on some specific countries, such as the U.S. and China. In fact, the sum of US and Chinese ipos in our sample is 2,406, which almost covers two-third of our total sample, as shown in Table 1. To alleviate the impact of this possible data-selection bias, our first robustness test is conducted by estimating the model without U.S. and Chinese ipos.
- Robustness test by including law origin. A number of previous studies suggest that the legal environment is an important institutional factor in influencing investments, and that relative to common law countries, civil law countries seem to suffer from higher cost of equity . In contrast with these traditional findings, Coffee finds that civil law countries also show dispersed ownership, and Sarkar observes that some civil law countries provide better minority shareholder protection than common law countries. Some recent studies even challenge the traditional methodology of using law origins as a basis for analysis, suggesting that most legal systems are hybrids in reality.

## HIGHLY INFLUENTIAL ARTICLE

We used the following article as a basis of our evaluation:

Chen, Y., Wang, S. S., Tong, W. H. S., & Zhu, H. (2017). Economic freedom and IPO underpricing. *Frontiers of Business Research in China*, 11(1), 1–22.

This is the link to the publisher's website:

<https://fbr.springeropen.com/articles/10.1186/s11782-017-0019-1>

## INTRODUCTION

The IPO underpricing phenomenon has been a persistent and pervasive worldwide phenomenon (Loughran et al., 1994; Krigman et al., 1999; Ritter and Welch, 2002; Chambers and Dimson, 2009). Moreover, the level of IPO underpricing varies across countries, and is generally more pronounced in emerging markets (Loughran et al., 1994). Footnote 1 Why does the degree of IPO underpricing vary so dramatically across different countries, especially between developed and developing countries? This important and interesting issue has not received much attention in the literature, and it deserves a systematic investigation.

Many explanations for the underpricing phenomenon have been provided but the focus is within markets. To explain underpricing across markets, new perspectives are needed and one of these is the difference in institutional environments, the focus of our present study.

The institutional environment is generally defined as a combination of binding regulations, contractual mechanisms, the economic environment (e.g., Miller and Holmes, 2009, 2010), legal rights and enforcement mechanisms (La Porta et al., 1998, 2006). The focus of this study rests not on IPO underpricing per se, but rather on the cross-sectional difference in the extent of IPO underpricing in different countries. We propose that differences in institutional environments are important driving factors.

Existing studies show that a favorable institutional environment, with a well-developed financial market, legal system and degree of openness has a significant impact on economic development (Lau and Lam 2002; Henry, 2007), and sets the governance environment for a firm affecting its performance (LLSV, 2002; Shleifer and Wolfenzon, 2002). The standard international asset pricing model (ICAPM) and cross-listing literature specifically suggest that stock market liberalization could reduce the liberalizing country's equity capital costs (Stapleton and Subrahmanyam, 1977; Errunza and Losq, 1989; Stulz, 1999; Henry, 2000a, 2000b). LLSV (1997, 1998) and Djankov et al. (2006) find that country-level investor protection and corporate governance are important for firms to enjoy higher valuations and a lower cost of equity

capital. More explicitly, Loughran et al. (1994) argue that lifting the binding economic contract and IPO mechanism helps to foster transparency, lower information asymmetry, and thus, alleviate IPO underpricing, although they do not formally test this assertion. Jones et al., 1999 argue that governments that allow less economic freedom should find it necessary to offer greater underpricing to signal SIP commitment. We postulate that a better institutional environment helps to reduce the IPO underpricing problem after controlling for firm-specific factors such as information asymmetry and macro factors such as market sentiment and economic development.

Unlike some previous studies that focus only on a couple of particular institutional factors, such as legal liability, price stabilization or investor protection (Hopp and Dreher, 2011; Banerjee et al., 2011; Boulton et al., 2011), we use indices of economic freedom that measure the overall institutional environment to examine its relation to IPO underpricing. As such, our analysis looks at the impact of the general institutional environment rather than specific environmental features on IPO underpricing.

Economic freedom has been widely observed to be important for economic efficiency (Smith, 1776). In theory, a free economy is defined as the so-called “Arrow-Debreu world,” where economy efficiency is guaranteed in general equilibrium (Arrow and Debreu, 1954; McKenzie, 1959; Hart, 1980). In empirical studies, economic freedom has been investigated in other macroeconomic areas, especially those on economic growth (Gwartney et al., 1999; Haan and Sturm, 2000; Heckelman, 2000; Wu and Davis, 1999), income equality (Berggren, 1999; Scully, 2002) and employment (Feldmann, 2007, 2008).

The theoretical link between economic freedom and IPO underpricing, as implied by general equilibrium theory, is that an economically free country provides a free market for IPO firms and hence improves the economic efficiency of resource allocation. More specifically, a free market makes the burden of bureaucracy and corruption smaller and provides a steady and reliable monetary environment, a free and open investment environment, a transparent and open financial system with more protection and less likelihood of government confiscation. As a whole, a free economy could help reduce the severity of asymmetric information, agency problems and transaction costs for IPO firms, which in turn reduce IPO underpricing (Rock, 1986; Ritter, 1987; Allen and Faulhaber, 1989; Brennan and Franks, 1997; Mok and Hui, 1998; Aggarwal and Conroy, 2000; Ljungqvist, 2007; Boulton et al., 2011; Ghoul et al., 2011; Boulton et al., 2014).

On the other hand, economic freedom is perceived as a comprehensive proxy for institutional environment that is strongly associated with economic liberalization and property ownership protection (e.g., Henry, 2007). Miller and Holmes (2009, 2010) illustrate at least four channels through which a free economy might affect the equity costs in financial markets. First, economic freedom lowers the external regulatory burden and enables investors to make long-term plans more easily, thus lowering the uncertainty of the investment. Second, it encourages openness, brings more foreign investors to the domestic markets and facilitates risk-sharing activities. Third, by securing property protection and punishing corruption, a free economy gives investors the willingness and confidence to undertake more risks. Fourth, it encourages banking and financial intermediaries to provide information services independently, which helps lower the information asymmetry and identify the pricing of capital. In short, an economy’s economic freedom reflects how efficiently the market allocates economic resources and achieves the price of capital.

We follow previous studies (Claessens and Laeven, 2003; Santos-Paulino and Thirlwall, 2004; Henry, 2007; Miller and Holmes, 2009; Qi et al., 2010) and use the Heritage Foundation’s Index of Economic Freedom (hereafter the IEF) as the measure of economic freedom for the sample countries. The IEF has 10 sub-indexes that measure different aspects of a country’s economic freedom level. The aggregation of the 10 sub-indexes gives a comprehensive economic freedom index value. Specifically, we predict that the overall value of the index is negatively associated with the initial returns across countries.

Using a sample of 3728 IPO observations from 22 countries between July 1993 and December 2014, we find a significant negative relation between economic freedom and IPO underpricing after controlling for other commonly used firm-specific and macro control variables. Moreover, we find that among the IEF’s 10 sub-indexes, financial freedom plays an influential role in explaining cross-country underpricing. That is, we provide direct evidence that lifting redundant financial regulatory restrictions lowers the underpricing.

Because U.S. and Chinese IPOs account for a great percentage of the total number of IPOs in the sample, we also conduct robustness tests on this potential data bias problem. The results support the main conclusion.

The remainder of this paper is organized as follows. Section 2 discusses the data, sample and model. Section 3 presents the empirical results. Section 4 provides the robustness tests and Section 5 concludes the paper.

## **CONCLUSION**

In this paper we investigate whether economic freedom plays a role in explaining the IPO underpricing phenomenon across different countries. Unlike some previous studies that focus only on a couple of particular institutional factors, our analysis looks at the impact of the general institutional environment rather than specific environmental features on IPO underpricing.

Using a large sample of IPO initial returns across 22 countries over a 21-year period from July 1993 to December 2014, we find that firms in economies with higher levels of economic freedom have less severe underpricing problems.

In addition, to examine the overall relationship between the IPO initial returns and economic freedom, we investigate the relationship between the IPO initial returns and each of the ten economic freedom factors covered by the IEF. The result that financial market liberalization (Fin) is significantly and negatively associated with IPO underpricing is consistent with the ICAPM's prediction that stock market liberation may reduce the liberalizing country's costs of equity capital (Stapleton and Subrahmanyam, 1977; Errunza and Losq, 1989; Stulz, 1999; Henry, 2000b).

Consistent with the market sentiment literature, we find that IPO initial returns are negatively associated with the bear market dummy variable and positively associated with the bull market dummy variable. Moreover, similar to the finding of Cornelli et al. (2006) and Dorn (2009) for the pre-IPO market, we find that the impact of market sentiment on IPO underpricing is much stronger for bearish markets than that for bullish markets. These results lend support to the IPO "hot issue" markets literature (Ritter, 1984) and the "prospect theory." (Loughran and Ritter, 2002). Among other control variables, we also find that IPO size is significantly and negatively associated with IPO initial returns.

This paper contributes to the IPO literature by providing country-level evidence that heterogeneous institutional environments help to explain the cross-country IPO underpricing anomaly. Specifically, we find strong and robust evidence that IPO firms from countries with higher economic freedom, especially higher financial freedom, have significantly less serious IPO underpricing problems.

**APPENDIX**

**TABLE 1  
THE CHRONOLOGICAL DISTRIBUTION OF IPOs FOR THE SAMPLE COUNTRIES (JULY  
1993–DECEMBER 2014)**

| Country     | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Australia   |      |      | 1    | 3    |      |      |      |      |      | 6    | 20   | 32   | 29   | 23   | 29   | 3    | 3    | 2    | 8    | 3    | 6    |
| Austria     |      |      |      |      |      |      |      |      |      |      |      |      |      | 6    | 1    |      |      |      |      |      |      |
| Belgium     |      |      |      |      |      |      |      |      |      |      |      | 1    | 2    | 6    | 7    |      |      |      |      |      | 1    |
| China       |      |      | 64   | 97   |      |      |      |      |      |      |      | 109  | 31   | 100  | 142  | 71   | 100  |      |      |      | 160  |
| Finland     |      |      | 1    |      |      |      |      |      |      |      |      | 1    |      | 2    | 3    |      |      |      |      |      |      |
| Greece      |      |      |      |      |      |      | 1    | 3    | 2    | 1    | 3    | 1    | 2    | 2    |      |      |      |      |      |      |      |
| India       |      |      |      |      |      |      |      |      |      |      |      | 1    | 1    |      | 6    | 26   | 3    | 10   | 2    | 3    |      |
| Indonesia   |      |      |      |      |      |      |      |      |      |      | 2    |      |      |      |      |      |      |      |      |      |      |
| Italy       |      |      |      |      |      |      | 1    |      |      |      | 1    | 3    | 6    | 10   | 5    |      |      |      | 1    |      |      |
| Japan       |      |      |      |      |      |      |      |      |      | 60   | 73   | 51   | 35   | 47   | 44   | 17   |      | 8    | 13   | 7    | 10   |
| Malaysia    |      |      |      |      |      |      |      |      |      |      |      | 15   | 5    | 2    | 6    | 6    | 7    | 5    | 7    | 6    | 8    |
| Netherlands |      |      | 1    |      | 2    |      |      |      |      |      |      | 1    | 1    | 7    | 2    | 1    |      |      |      |      |      |
| Norway      |      |      |      |      |      |      |      | 1    |      |      |      | 2    | 2    | 1    | 4    |      |      |      |      |      |      |
| Philippines |      |      |      |      |      |      |      | 1    |      |      | 3    |      | 1    | 3    | 2    | 1    |      |      |      | 3    |      |
| Poland      |      |      |      |      |      |      |      |      |      |      |      | 4    |      | 6    | 4    |      |      |      |      | 1    |      |
| Singapore   |      |      |      |      |      |      |      |      |      | 11   | 23   | 20   | 15   | 6    | 11   | 8    | 7    | 3    | 12   | 10   | 15   |
| Spain       |      |      |      |      |      |      |      |      |      |      |      | 1    |      | 1    | 3    |      |      |      |      |      |      |
| Sweden      |      |      | 1    |      |      |      |      |      |      |      |      |      | 1    | 3    | 2    |      |      |      |      | 3    |      |
| Switzerland |      |      |      |      | 2    |      |      |      |      |      |      | 1    | 2    | 3    | 5    | 2    |      |      |      |      | 3    |
| Thailand    |      |      |      |      |      |      |      |      |      | 5    | 15   | 10   |      | 1    | 3    | 2    | 7    |      |      | 5    | 8    |
| U.K.        |      |      | 1    | 1    |      |      |      | 3    | 7    | 7    | 51   | 37   | 33   | 24   | 9    |      |      | 6    | 4    | 7    | 12   |
| U.S.        | 137  | 206  | 204  | 250  | 189  | 19   | 21   | 11   | 9    | 25   | 25   | 51   | 34   | 36   | 31   | 1    | 3    | 9    | 8    | 9    | 13   |
| Total       | 137  | 206  | 205  | 318  | 294  | 19   | 23   | 13   | 15   | 116  | 170  | 357  | 203  | 298  | 336  | 147  | 130  | 43   | 62   | 213  | 73   |

This table provides the chronological distribution of the number of IPOs for the 22 sample countries over the period July 1993–December 2014

**TABLE 2**  
**DESCRIPTIVE STATISTICS OF THE IPO INITIAL RETURNS AND THE ECONOMIC FREEDOM INDEX SCORES. (JULY 1993–DECEMBER 2014)**

| Country      | Initial Return (IR) |        |        |       | IEF Score |       |       |       |
|--------------|---------------------|--------|--------|-------|-----------|-------|-------|-------|
|              | Mean                | Max    | Min    | Std.  | Mean      | Max   | Min   | Std.  |
| Australia    | 21.11               | 180.51 | -25.14 | 31.44 | 80.91     | 83.10 | 75.59 | 1.68  |
| Austria      | 5.33                | 27.80  | -6.09  | 11.93 | 71.50     | 71.64 | 71.40 | 0.13  |
| Belgium      | 8.95                | 33.00  | -2.92  | 10.33 | 71.54     | 72.51 | 69.01 | 0.97  |
| China        | 32.08               | 254.60 | -27.14 | 43.64 | 52.78     | 54.76 | 51.20 | 0.82  |
| Finland      | 2.80                | 4.54   | -0.29  | 1.69  | 72.91     | 74.55 | 65.24 | 3.43  |
| Greece       | 29.53               | 183.39 | -12.70 | 62.55 | 59.70     | 60.98 | 58.82 | 0.89  |
| India        | 18.40               | 182.02 | -33.23 | 42.80 | 54.11     | 54.60 | 52.22 | 0.46  |
| Indonesia    | 41.27               | 91.30  | -8.77  | 70.76 | 52.95     | 52.95 | 52.95 | 0     |
| Italy        | 8.09                | 55.44  | -3.41  | 13.25 | 62.41     | 64.94 | 60.30 | 0.79  |
| Japan        | 38.78               | 248.48 | -29.98 | 53.18 | 69.86     | 73.25 | 64.28 | 3.51  |
| Malaysia     | 19.67               | 176.19 | -29.20 | 36.78 | 64.70     | 69.60 | 61.63 | 2.24  |
| Netherlands  | 9.12                | 59.38  | -9.45  | 18.91 | 74.78     | 77.35 | 69.18 | 3.05  |
| Norway       | 2.41                | 14.04  | -7.79  | 6.47  | 67.98     | 70.18 | 64.51 | 2.10  |
| Philippines  | 22.39               | 140.07 | -5.24  | 37.89 | 56.24     | 60.92 | 54.71 | 1.52  |
| Poland       | 33.95               | 131.26 | -8.53  | 38.60 | 60.56     | 67.00 | 58.11 | 2.12  |
| Singapore    | 26.42               | 177.36 | -24.43 | 39.92 | 87.99     | 89.40 | 86.10 | 0.79  |
| Spain        | -2.00               | 0.22   | -7.03  | 3.06  | 69.50     | 70.07 | 68.19 | 0.85  |
| Sweden       | 3.53                | 13.50  | -4.18  | 6.14  | 70.17     | 71.90 | 63.34 | 2.53  |
| Switzerland  | 10.45               | 35.71  | -2.50  | 12.29 | 79.62     | 81.60 | 78.03 | 1.12  |
| Thailand     | 53.17               | 198.00 | -29.79 | 61.93 | 63.33     | 65.82 | 62.31 | 0.65  |
| U.K.         | 10.76               | 146.81 | -31.07 | 15.84 | 78.35     | 80.35 | 74.10 | 2.15  |
| U.S.         | 18.65               | 242.10 | -22.86 | 26.77 | 76.81     | 81.24 | 75.43 | 1.79  |
| Whole Sample | 25.13               | 254.60 | -33.23 | 38.53 | 68.57     | 89.40 | 51.20 | 11.65 |

Provides the basic statistics of the IPO initial returns (IR) and the IEF index score for the 22 sample countries in the period from July 1993 to December 2014. The IEF score is the total score from the Heritage Foundation's Index of Economic Freedom

**TABLE 3**  
**CORRELATIONS BETWEEN IPO INITIAL RETURN AND ECONOMIC FREEDOM**  
**VARIABLES (JULY 1993–DECEMBER2014)**

|                | <i>IR</i> | <i>TotV</i> | <i>Fin</i> | <i>FreeTrd</i> | <i>PPR</i> | <i>Busi</i> | <i>Mny</i> | <i>Crup</i> | <i>Ivst</i> | <i>Fiscal</i> | <i>FreeGov</i> | <i>Labor</i> |
|----------------|-----------|-------------|------------|----------------|------------|-------------|------------|-------------|-------------|---------------|----------------|--------------|
| <i>IR</i>      | 1.000     |             |            |                |            |             |            |             |             |               |                |              |
| <i>TotV</i>    | -0.104    | 1.000       |            |                |            |             |            |             |             |               |                |              |
| <i>Fin</i>     | -0.197    | 0.797       | 1.000      |                |            |             |            |             |             |               |                |              |
| <i>FreeTrd</i> | 0.047     | 0.733       | 0.457      | 1.000          |            |             |            |             |             |               |                |              |
| <i>PPR</i>     | -0.179    | 0.865       | 0.854      | 0.615          | 1.000      |             |            |             |             |               |                |              |
| <i>Busi</i>    | -0.140    | 0.928       | 0.841      | 0.650          | 0.945      | 1.000       |            |             |             |               |                |              |
| <i>Mny</i>     | -0.047    | 0.662       | 0.400      | 0.586          | 0.702      | 0.691       | 1.000      |             |             |               |                |              |
| <i>Crup</i>    | -0.141    | 0.871       | 0.770      | 0.700          | 0.951      | 0.917       | 0.754      | 1.000       |             |               |                |              |
| <i>Ivst</i>    | -0.196    | 0.873       | 0.888      | 0.540          | 0.922      | 0.931       | 0.576      | 0.881       | 1.000       |               |                |              |
| <i>Fiscal</i>  | 0.114     | -0.017      | -0.349     | -0.118         | -0.260     | -0.155      | -0.095     | -0.241      | -0.267      | 1.000         |                |              |
| <i>FreeGov</i> | 0.144     | -0.567      | -0.630     | -0.593         | -0.725     | -0.668      | -0.519     | -0.700      | -0.700      | 0.659         | 1.000          |              |
| <i>Labor</i>   | 0.115     | 0.262       | -0.122     | 0.260          | -0.206     | -0.037      | -0.043     | -0.148      | -0.101      | 0.279         | 0.083          | 1.000        |

Reports the correlation matrix for the IPO initial returns and the Economic Freedom Index (IEF) scores. IR is the initial return. TotV is the total IEF value. Fin is the financial freedom sub-index score of the IEF; Ivst is the investment freedom sub-index score of the IEF; Busi is the business freedom sub-index score of the IEF; PPR is the property rights freedom sub-index score of the IEF; Crup is the corruption freedom sub-index score of the IEF; Fiscal is the fiscal freedom sub-index score of the IEF; FreeTrd is the trade freedom sub-index score of the IEF; FreeGov is the government size sub-index score of the IEF; Mny is the monetary freedom sub-index score of the IEF; Labor is the labor freedom sub-index score of the IEF. Bold typeface indicates significance at the 1% level. Italic typeface indicates significance at the 5% level

**TABLE 4**  
**IPO INITIAL RETURNS AND ECONOMIC FREEDOM WITH ADDITIONAL FIRM-SPECIFIC FACTORS (JULY 1993–DECEMBER 2014)**

| Regression        | (1)                  |         | (2)                  |         |
|-------------------|----------------------|---------|----------------------|---------|
|                   | Coeff                | t-Value | Coeff                | t-Value |
| Constant          | 116.687 <sup>c</sup> | 4.91    | 74.412 <sup>a</sup>  | 1.95    |
| TotV              | -0.990 <sup>c</sup>  | -3.78   |                      |         |
| Rank              |                      |         | -10.445 <sup>c</sup> | -2.87   |
| GDP               | 9.590 <sup>c</sup>   | 4.22    | 9.492 <sup>b</sup>   | 2.40    |
| Bear              | -16.628 <sup>c</sup> | -2.86   | -15.964 <sup>b</sup> | -2.38   |
| Bull              | 7.918 <sup>b</sup>   | 2.76    | 7.846 <sup>b</sup>   | 2.73    |
| AF                | 0.424                | 0.57    | 0.504                | 1.14    |
| SPS               | -0.290               | -0.45   | -0.170               | -0.26   |
| HCB               | -3.152 <sup>a</sup>  | -1.88   | -3.306 <sup>a</sup>  | -2.00   |
| Democ             | -1.891 <sup>c</sup>  | -2.94   | -1.815 <sup>c</sup>  | -3.12   |
| EM                | -0.005               | -0.01   | 0.117                | 0.22    |
| Proceeds          | -3.189 <sup>c</sup>  | -2.97   | -3.222 <sup>c</sup>  | -4.14   |
| Oversold          | -9.763 <sup>b</sup>  | -2.28   | -10.082 <sup>c</sup> | -4.01   |
| Uwrt              | 1.719                | 0.64    | 1.788                | 0.81    |
| ROE               | -0.010               | -0.28   | -0.012               | -0.39   |
| Ind               | Yes                  |         | Yes                  |         |
| Year              | Yes                  |         | Yes                  |         |
| Adjusted-R square | 0.122                |         | 0.123                |         |
| Prob(F-stat)      | 0.000                |         | 0.000                |         |
| No. of Obs        | 3728                 |         | 3728                 |         |

This table provides the regression results of the following model:  $IR_{i,t} = a_0 + a_1 IEF_{i,t} + a_2 GDP_{i,t} + a_3 Bear_{i,t} + a_4 Bull_{i,t} + a_5 AF_{i,t} + a_6 SPS_{i,t} + a_7 HCB_{i,t} + a_8 Democ_{i,t} + a_9 EM_{i,t} + a_{10} Proceeds_{i,t} + a_{11} Oversold_{i,t} + a_{12} Uwrt_{i,t} + a_{13} ROE_{i,t} + FE_{i,t} + \varepsilon_{i,t}$ , where *Total\_V* is the proxy of the economic freedom variable. *Rank* is the rank of *Total\_V*. *GDP* is the logarithm of per capital GDP of the IPO country. *Bear* and *Bull* are the pre-IPO bearish and bullish market sentiment variables, respectively. *AF* is analyst following. *SPS* is stock price synchronicity. *HCB* is the home bias index. *Democ* is democracy index. *EM* is earnings management measure. *Proceeds* is the total IPO proceeds of the issuer. *Oversold* is a dummy variable, which equals to one if the IPO has overallocation, and zero otherwise. *Uwrt* is a dummy variable, which equals to one if the underwriter of the IPO is among the top three underwriter in the country. *ROE* is the return on equity of the issuer 12 month before the IPO. Standard errors are clustered by nations and fiscal year. <sup>a</sup>, <sup>b</sup> and <sup>c</sup> represent significance at the 10, 5 and 1% levels, respectively



**TABLE 5 IPO  
INITIAL RETURNS AND THE SUB-INDEXES OF ECONOMIC FREEDOM (JULY 1993–  
DECEMBER 2014)**

| Regression        | (1)                  | (2)                  | (3)                  | (4)                  | (5)                  | (6)                  | (7)                  | (8)                  | (9)                  | (10)                 |
|-------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
|                   | Coeff                | Coeff                | Coeff                | Coeff                | Coeff                | Coeff                | Coeff                | Coeff                | Coeff                | Coeff                |
| Constant          | 64.162               | 8.128                | 37.367               | -4.492               | 70.893 <sup>b</sup>  | 72.454 <sup>a</sup>  | 58.206               | 40.675               | 58.758 <sup>a</sup>  | 116.013 <sup>a</sup> |
| PPR               | -0.644 <sup>c</sup>  |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| Crup              |                      | -0.668 <sup>c</sup>  |                      |                      |                      |                      |                      |                      |                      |                      |
| FiscalL           |                      |                      | 0.233                |                      |                      |                      |                      |                      |                      |                      |
| FreeGov           |                      |                      |                      | 0.347 <sup>c</sup>   |                      |                      |                      |                      |                      |                      |
| Busi              |                      |                      |                      |                      | -0.496 <sup>b</sup>  |                      |                      |                      |                      |                      |
| Labor             |                      |                      |                      |                      |                      | -0.122               |                      |                      |                      |                      |
| Mny               |                      |                      |                      |                      |                      |                      | 0.065                |                      |                      |                      |
| FreeTrd           |                      |                      |                      |                      |                      |                      |                      | 0.650                |                      |                      |
| Ivst              |                      |                      |                      |                      |                      |                      |                      |                      | -0.611 <sup>c</sup>  |                      |
| Fin               |                      |                      |                      |                      |                      |                      |                      |                      |                      | -0.425 <sup>b</sup>  |
| GDP               | 11.062 <sup>b</sup>  | 13.802 <sup>b</sup>  | 2.551                | 4.034                | 7.922 <sup>a</sup>   | 3.315                | 2.639                | -1.962               | 9.467 <sup>c</sup>   | 4.630 <sup>a</sup>   |
| Bear              | -16.350 <sup>b</sup> | -16.155 <sup>c</sup> | -18.349 <sup>c</sup> | -18.639 <sup>c</sup> | 16.800 <sup>b</sup>  | -17.725 <sup>c</sup> | -18.122 <sup>c</sup> | -17.966 <sup>c</sup> | -18.443 <sup>c</sup> | -19.930 <sup>c</sup> |
| Bull              | 7.701 <sup>c</sup>   | 7.773 <sup>b</sup>   | 8.353 <sup>c</sup>   | 8.186 <sup>c</sup>   | 8.284 <sup>c</sup>   | 9.034 <sup>c</sup>   | 8.534 <sup>c</sup>   | 8.443 <sup>c</sup>   | 7.743 <sup>b</sup>   | 8.048 <sup>c</sup>   |
| AF                | 0.434                | 0.088                | 0.200                | 0.184                | 0.425                | 0.283                | 0.240                | 0.242                | 0.407                | 0.545                |
| SPS               | -0.464               | 0.119                | 0.403                | 0.563                | -0.050               | 0.180                | 0.282                | 0.433                | -0.269               | -0.471               |
| HCB               | -2.359               | -2.928 <sup>a</sup>  | -4.372 <sup>c</sup>  | -4.130 <sup>b</sup>  | -2.919               | -4.040 <sup>b</sup>  | -4.131 <sup>c</sup>  | -4.010 <sup>c</sup>  | -2.126               | -3.062 <sup>b</sup>  |
| Democ             | -1.709               | -1.512 <sup>b</sup>  | -1.094               | -0.128               | -1.428 <sup>b</sup>  | -1.479 <sup>b</sup>  | -1.425 <sup>1</sup>  | -1.148               | -1.317 <sup>b</sup>  | -1.299 <sup>a</sup>  |
| EM                | 0.386                | 0.441                | 0.966                | 0.988                | 0.760                | 1.078                | 1.044                | 1.317 <sup>a</sup>   | 0.571                | 0.185                |
| Proceeds          | -2.992 <sup>c</sup>  | -2.925 <sup>c</sup>  | -2.721 <sup>c</sup>  | -2.532 <sup>b</sup>  | 3.125 <sup>c</sup>   | -3.003 <sup>c</sup>  | -2.929 <sup>c</sup>  | -2.792 <sup>c</sup>  | -2.535 <sup>b</sup>  | -2.373 <sup>c</sup>  |
| Oversold          | -0.008               | -0.006               | -0.010               | -0.011               | -0.009               | -0.010               | -0.011               | -0.006               | -0.006               | -0.004               |
| Uwrt              | -11.014 <sup>c</sup> | -11.109 <sup>b</sup> | -11.011 <sup>c</sup> | -10.904 <sup>b</sup> | -11.142 <sup>c</sup> | -10.937 <sup>b</sup> | -10.904 <sup>c</sup> | -12.718 <sup>c</sup> | -12.892 <sup>b</sup> | -12.602 <sup>c</sup> |
| ROE               | 1.333                | 1.423                | 0.754                | 0.596                | 0.22                 | 1.218                | 1.111                | 1.309                | 0.877                | 0.409                |
| Ind               | Yes                  | Yes                  | Yes                  | Yes                  | Yes                  | Yes                  | Yes                  | Yes                  | Yes                  | Yes                  |
| Year              | Yes                  | Yes                  | Yes                  | Yes                  | Yes                  | Yes                  | Yes                  | Yes                  | Yes                  | Yes                  |
| Adjusted-R square | 0.141                | 0.139                | 0.126                | 0.129                | 0.131                | 0.126                | 0.125                | 0.130                | 0.146                | 0.135                |
| Prob(F-stat)      | 0.000                | 0.000                | 0.000                | 0.000                | 0.000                | 0.000                | 0.000                | 0.000                | 0.000                | 0.000                |
| No. of Obs        | 3728                 | 3728                 | 3728                 | 3728                 | 3728                 | 3728                 | 3728                 | 3728                 | 3728                 | 3728                 |

This table provides the regression results of the relation between IPO initial returns and the 10 economic freedom sub-indexes. *IR* is the IPO initial return. The 10 sub-indexes are financial freedom (*Fin*), investment freedom (*Ivst*), business freedom (*Busi*), property rights freedom (*PPR*), corruption freedom (*Crup*), fiscal freedom (*Fiscal*), trade freedom (*FreeTrd*), government size (*FreeGov*), monetary freedom (*Mny*) and labor freedom (*Labor*) indices. *GDP* is the logarithm of per capital GDP of the IPO country. *Bear* and *Bull* are the pre-IPO bearish and bullish market sentiment variables, respectively. *AF* is analyst following. *SPS* is stock price synchronicity. *HCB* is the home bias index. *Democ* is democracy index. *EM* is earnings management measure. *Proceeds* is the total IPO proceeds of the issuer. *Oversold* is a dummy variable, which equals to one if the IPO has overallocation, and zero otherwise. *Uwrt* is a dummy variable, which equals to one if the underwriter of the IPO is among the top three underwriter in the

country. *ROE* is the return on equity of the issuer 12 month before the IPO. Standard errors are clustered by nations and fiscal year. <sup>a</sup>, <sup>b</sup> and <sup>c</sup> represent significance at the 10, 5 and 1% levels, respectively

**TABLE 6**  
**ROBUSTNESS TESTS BY DELETING U.S. AND CHINESE IPO SAMPLE**

| Regression        | (1)                  |         | (2)                  |         |
|-------------------|----------------------|---------|----------------------|---------|
|                   | Coeff                | t-Value | Coeff                | t-Value |
| Constant          | 189.057 <sup>b</sup> | 2.53    | 149.054 <sup>b</sup> | 2.10    |
| TotV              | -1.035 <sup>b</sup>  | -2.26   |                      |         |
| Rank              |                      |         | -9.054 <sup>b</sup>  | -2.13   |
| GDP               | 2.469                | 0.70    | 1.064                | 0.30    |
| Bear              | -17.618 <sup>a</sup> | -1.88   | -15.883 <sup>a</sup> | -1.75   |
| Bull              | 6.790 <sup>a</sup>   | 1.79    | 6.702 <sup>a</sup>   | 1.81    |
| AF                | 0.484                | 1.10    | 0.534                | 1.12    |
| SPS               | 0.794                | 1.35    | 0.890                | 1.44    |
| HB                | -6.159 <sup>b</sup>  | -2.41   | -5.770 <sup>b</sup>  | -2.27   |
| Democ             | -3.453 <sup>b</sup>  | -2.43   | -2.918 <sup>b</sup>  | -2.18   |
| EM                | 0.362                | 0.64    | 0.613                | 1.11    |
| Proceeds          | -4.177 <sup>c</sup>  | -5.58   | -4.389 <sup>c</sup>  | -5.61   |
| Oversold          | -3.347               | -1.36   | -3.302               | -1.34   |
| Underwriter       | -1.435               | -0.59   | -0.958               | -0.37   |
| ROE               | 0.106                | 1.52    | 0.102                | 1.48    |
| Ind               | Yes                  |         | Yes                  |         |
| Year              | Yes                  |         | Yes                  |         |
| Adjusted-R square | 0.147                |         | 0.146                |         |
| Prob(F-stat)      | 0.000                |         | 0.000                |         |
| No. of Obs        | 1322                 |         | 1322                 |         |

This table provides the regression results of the relation between IPO initial returns and the Economic Freedom Index by omitting U.S. and Chinese IPOs over the whole sample period. Total\_V is the proxy of economic freedom variable. Rank is the rank of Total\_V. GDP is the logarithm of per capital GDP of the IPO country. Bear and Bull are the pre-IPO bearish and bullish market sentiment variables, respectively. AF is analyst following. SPS is stock price synchronicity. HCB is the home bias index. Democ is democracy index. EM is earnings management measure. Proceeds is the total IPO proceeds of the issuer. Oversold is a dummy variable, which equals to one if the IPO has overallotment, and zero otherwise. Uwr is a dummy variable, which equals to one if the underwriter of the IPO is among the top three underwriter in the country. ROE is the return on equity of the issuer 12 month before the IPO. Standard errors are clustered by nations and fiscal year. a, b and c represent significance at the 10, 5 and 1% levels, respectively

**TABLE 7**  
**ROBUSTNESS TESTS BY DELETING U.S. AND CHINESE IPOS AND USING SUB-INDEXES**  
**OF ECONOMIC FREEDOM (JUNE 1993–DECEMBER 2014)**

| Regression        | (1)                  | (2)                  | (3)                  | (4)                  | (5)                 | (6)                  | (7)                  | (8)                  | (9)                  | (10)                 |
|-------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
|                   | Coeff                | Coeff                | Coeff                | Coeff                | Coeff               | Coeff                | Coeff                | Coeff                | Coeff                | Coeff                |
| Constant          | 146.646 <sup>b</sup> | 102.528              | 142.552              | 124.419              | 130.124             | 160.743 <sup>a</sup> | 162.026 <sup>a</sup> | 160.800 <sup>a</sup> | 140.407 <sup>a</sup> | 203.754 <sup>b</sup> |
| PPR               | -0.701 <sup>c</sup>  |                      |                      |                      |                     |                      |                      |                      |                      |                      |
| Crup              |                      | -0.678 <sup>c</sup>  |                      |                      |                     |                      |                      |                      |                      |                      |
| FiscalL           |                      |                      | 0.214                |                      |                     |                      |                      |                      |                      |                      |
| FreeGov           |                      |                      |                      | 0.218                |                     |                      |                      |                      |                      |                      |
| Busi              |                      |                      |                      |                      | -0.671              |                      |                      |                      |                      |                      |
| Labor             |                      |                      |                      |                      |                     | 0.037                |                      |                      |                      |                      |
| Mny               |                      |                      |                      |                      |                     |                      | -0.063               |                      |                      |                      |
| FreeTrd           |                      |                      |                      |                      |                     |                      |                      | -0.550               |                      |                      |
| Ivst              |                      |                      |                      |                      |                     |                      |                      |                      | -0.619 <sup>c</sup>  |                      |
| Fin               |                      |                      |                      |                      |                     |                      |                      |                      |                      | -0.268               |
| GDP               | 4.143                | 7.097                | -4.521               | -3.607               | 2.841               | -5.133               | -4.660               | -0.812               | 3.426                | -3.405               |
| Bear              | -17.527 <sup>a</sup> | -16.608 <sup>a</sup> | -15.832 <sup>a</sup> | -16.580 <sup>a</sup> | -15.962             | 16.168               | -16.070              | -16.127              | -19.624 <sup>a</sup> | -18.301 <sup>a</sup> |
| Bull              | 5.927                | 6.017                | 6.596 <sup>a</sup>   | 6.631 <sup>b</sup>   | 6.692 <sup>b</sup>  | 6.470 <sup>b</sup>   | 6.832 <sup>b</sup>   | 6.890 <sup>b</sup>   | 6.247 <sup>a</sup>   | 6.472 <sup>a</sup>   |
| AF                | 0.374                | 0.381                | 0.843 <sup>a</sup>   | 0.760                | 0.534               | 0.777                | 0.741                | 0.674                | 0.600                | 0.906                |
| SPS               | 0.701                | 0.847                | 0.682                | 0.796                | 1.238 <sup>b</sup>  | 0.763                | 0.812                | 0.765                | 0.779                | 0.306                |
| HCB               | -6.520 <sup>b</sup>  | -6.648 <sup>b</sup>  | -5.679 <sup>a</sup>  | -5.933 <sup>a</sup>  | -5.274 <sup>a</sup> | -5.933 <sup>a</sup>  | -5.977 <sup>a</sup>  | -4.945 <sup>a</sup>  | -6.365 <sup>a</sup>  | -5.792 <sup>a</sup>  |
| Democ             | -2.527 <sup>b</sup>  | -2.923 <sup>c</sup>  | -1.607               | -1.283               | -2.750 <sup>a</sup> | -2.208               | -2.251               | -2.326               | -2.659 <sup>a</sup>  | -2.188               |
| EM                | 0.099                | 0.331                | 1.124 <sup>a</sup>   | 1.135 <sup>b</sup>   | 0.410               | 1.231 <sup>b</sup>   | 1.227 <sup>b</sup>   | 1.164 <sup>a</sup>   | 0.081                | 0.490                |
| Proceeds          | -3.737 <sup>c</sup>  | -3.922 <sup>c</sup>  | -4.174 <sup>c</sup>  | -4.012 <sup>c</sup>  | -4.261 <sup>c</sup> | -4.225 <sup>c</sup>  | -4.257 <sup>c</sup>  | -4.163 <sup>c</sup>  | -3.705 <sup>c</sup>  | -4.038 <sup>c</sup>  |
| Oversold          | 0.106                | 0.104                | 0.100                | 0.096                | 0.102               | 0.100                | 0.101                | 0.099                | 0.096                | 0.105                |
| Uwrt              | -3.225               | -2.990               | -10.283 <sup>c</sup> | -2.552               | -2.911              | -3.047               | -2.943               | -2.590               | -2.956               | -3.570               |
| ROE               | -1.694               | -1.220               | -1.512               | -1.728               | -1.249              | -1.212               | -1.205               | -1.482               | -2.696               | -1.992               |
| Ind               | Yes                  | Yes                  | Yes                  | Yes                  | Yes                 | Yes                  | Yes                  | Yes                  | Yes                  | Yes                  |
| Year              | Yes                  | Yes                  | Yes                  | Yes                  | Yes                 | Yes                  | Yes                  | Yes                  | Yes                  | Yes                  |
| Adjusted-R square | 0.155                | 0.156                | 0.134                | 0.137                | 0.146               | 0.136                | 0.133                | 0.136                | 0.161                | 0.139                |
| Prob(F-stat)      | 0.000                | 0.000                | 0.000                | 0.000                | 0.000               | 0.000                | 0.000                | 0.000                | 0.000                | 0.000                |
| No. of Obs        | 1322                 | 1322                 | 1322                 | 1322                 | 1322                | 1322                 | 1322                 | 1322                 | 1322                 | 1322                 |

This table provides the regression results of the relation between IPO initial returns and the economic freedom index by omitting U.S. and Chinese IPOs over the whole sample period. The 10 sub-indexes are the financial freedom (Fin), investment freedom (Ivst), business freedom (Busi), property rights freedom (PPR), corruption freedom (Crup), fiscal freedom (Fiscal), trade freedom (FreeTrd), government size (FreeGov), monetary freedom (Mny) and labor freedom (Labor) indices. GDP is the logarithm of per capita GDP of the IPO country. Bear and Bull are the pre-IPO bearish and bullish market sentiment variables, respectively. AF is analyst following. SPS is stock price synchronicity. HCB is the home bias index. Democ is democracy index. EM is earnings management measure. Proceeds is the total IPO proceeds of the issuer. Oversold is a dummy variable, which equals to one if the IPO has over-allotment, and zero

otherwise. Uwrts a dummy variable, which equals to one if the underwriter of the IPO is among the top three underwriter in the country. ROE is the return on equity of the issuer 12 month before the IPO. Standard errors are clustered by nations and fiscal year. a, b and c represent significance at the 10, 5 and 1% levels, respectively

**TABLE 8**  
**IPO INITIAL RETURNS, ECONOMIC FREEDOM AND LAW ORIGIN (JULY 1993–**  
**DECEMBER2014)**

| Regression        | (1)                  |         | (2)                  |         |
|-------------------|----------------------|---------|----------------------|---------|
|                   | Coeff                | t-Value | Coeff                | t-Value |
| Constant          | 90.533               | 1.59    | 64.029               | 1.10    |
| TotV              | -1.019 <sup>b</sup>  | -2.14   |                      |         |
| Rank              |                      |         | -9.561 <sup>b</sup>  | -2.40   |
| LawSys            | 3.168                | 0.30    | 1.647                | 0.24    |
| GDP               | 10.052 <sup>b</sup>  | 2.53    | 8.804 <sup>a</sup>   | 1.85    |
| Bear              | -17.178 <sup>c</sup> | -2.97   | -16.532 <sup>b</sup> | -2.48   |
| Bull              | 8.252 <sup>a</sup>   | 2.982   | 8.299 <sup>c</sup>   | 3.01    |
| AF                | 0.421                | 0.62    | 0.446                | 0.87    |
| SPS               | -0.191               | -0.25   | -0.155               | -0.20   |
| HCB               | -2.778               | -1.53   | -3.100 <sup>a</sup>  | -1.76   |
| Democ             | -1.845 <sup>c</sup>  | -2.99   | -1.694 <sup>c</sup>  | -2.84   |
| EM                | 0.712                | 1.28    | 0.810                | 1.09    |
| Proceeds          | -3.105 <sup>b</sup>  | -2.79   | -3.161 <sup>c</sup>  | -4.15   |
| Oversold          | -10.981 <sup>b</sup> | -2.48   | -10.985 <sup>b</sup> | -3.79   |
| Uwrt              | 1.618                | 0.63    | 1.690                | 0.79    |
| ROE               | -0.008               | -0.21   | -0.009               | -0.29   |
| Ind               | Yes                  |         | Yes                  |         |
| Year              | Yes                  |         | Yes                  |         |
| Adjusted-R square | 0.134                |         | 0.134                |         |
| Prob(F-stat)      | 0.000                |         | 0.000                |         |
| No. of Obs        | 3728                 |         | 3728                 |         |

This table provides the regression results of the relation between IPO initial returns, the Economic Freedom Index and the law system variable. Total\_V is the proxy of economic freedom variable. Rank is the rank of Total\_V. LawSys is the common law system dummy variable. GDP is the logarithm of per capital GDP of the IPO country. Bear and Bull are the pre-IPO bearish and bullish market sentiment variables, respectively. AF is analyst following. SPS is stock price synchronicity. HCB is the home bias index. Democ is democracy index. EM is earnings management measure. Proceeds is the total IPO proceeds of the issuer. Oversold is a dummy variable, which equals to one if the IPO has overallotment, and zero otherwise. Uwrt is a dummy variable, which equals to one if the underwriter of the IPO is among the top three underwriters in the country. ROE is the return on equity of the issuer 12 month before the IPO. Standard errors are clustered by nations and fiscal year. a, b and c represent significance at the 10, 5 and 1% levels, respectively

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## **TRANSLATED VERSION: SPANISH**

Below is a rough translation of the insights presented above. This was done to give a general understanding of the ideas presented in the paper. Please excuse any grammatical mistakes and do not hold the original authors responsible for these mistakes.

## **VERSION TRADUCIDA: ESPAÑOL**

A continuación se muestra una traducción aproximada de las ideas presentadas anteriormente. Esto se hizo para dar una comprensión general de las ideas presentadas en el documento. Por favor, disculpe cualquier error gramatical y no responsabilite a los autores originales de estos errores.

## **INTRODUCCIÓN**

El fenómeno de los precios subprecios de la OPI ha sido un fenómeno mundial persistente y generalizado (Loughran et al., 1994; Krigman et al., 1999; Ritter y Welch, 2002; Chambers y Dimson, 2009). Además, el nivel de subprecio de la OPI varía en los países y, en general, es más pronunciado en los mercados emergentes (Loughran et al., 1994). Nota al pie de página 1 ¿Por qué el grado de subprecio de la OPI varía tan dramáticamente en los diferentes países, especialmente entre los países desarrollados y los países en desarrollo? Este importante e interesante tema no ha recibido mucha atención en la literatura, y merece una investigación sistemática.

Se han proporcionado muchas explicaciones para el fenómeno de subprecio, pero el enfoque está dentro de los mercados. Para explicar el subprecio entre los mercados, se necesitan nuevas perspectivas y una de ellas es la diferencia en los entornos institucionales, el enfoque de nuestro estudio actual.

El entorno institucional se define generalmente como una combinación de reglamentos vinculantes, mecanismos contractuales, el entorno económico (por ejemplo, Miller y Holmes, 2009, 2010), derechos legales y mecanismos de observancia (La Porta et al., 1998, 2006). Este estudio no se centra en el subprecio de la OPI, sino en la diferencia transversal en el alcance de la subomega de la OPI en diferentes países. Proponemos que las diferencias en los entornos institucionales sean factores importantes.

Estudios existentes muestran que un entorno institucional favorable, con un mercado financiero bien desarrollado, un sistema jurídico y un grado de apertura tiene un impacto significativo en el desarrollo económico (Lau y Lam 2002; Henry, 2007), y establece el entorno de gobernanza para una empresa que afecta a su desempeño (LLSV, 2002; Shleifer y Wolfenzon, 2002). El modelo estándar de fijación de precios internacionales de los activos (ICAPM) y la literatura de la lista cruzada sugieren específicamente que la liberalización del mercado de valores podría reducir los costos de capital social del país liberalizador (Stapleton y Subrahmanyam, 1977; Errunza y Losq, 1989; Stulz, 1999; Henry, 2000a, 2000b). LLSV (1997, 1998) y Djankov et al. (2006) encuentran que la protección de los inversionistas a nivel de país y el gobierno corporativo son importantes para que las empresas disfruten de valoraciones más altas y un menor costo de capital social. Más explícitamente, Loughran y otros (1994) aducen que el levantamiento del contrato económico vinculante y el mecanismo de la OPI ayuda a fomentar la transparencia, reducir la asimetría de la información y, por lo tanto, aliviar el subprecio de la OPI, aunque no prueban formalmente esta afirmación. Jones et al., 1999 argue que los gobiernos que permiten menos libertad económica deberían encontrar necesario ofrecer un mayor subprecio para señalar el compromiso sip. Postulamos que un mejor entorno institucional ayuda a reducir el problema de los precios de la OPI después de controlar factores específicos de las empresas, como la asimetría de la información y factores macro, como el sentimiento del mercado y el desarrollo económico.

A diferencia de algunos estudios anteriores que se centran sólo en un par de factores institucionales particulares, como la responsabilidad legal, la estabilización de precios o la protección de los inversores (Hopp y Dreher, 2011; Banerjee et al., 2011; Boulton et al., 2011), utilizamos índices de libertad económica que miden el entorno institucional general para examinar su relación con el subprecio de la OPI. Por lo



tanto, nuestro análisis examina el impacto del entorno institucional general en lugar de las características ambientales específicas en la subvaloración de la OPI.

Se ha observado ampliamente que la libertad económica es importante para la eficiencia económica (Smith, 1776). En teoría, una economía libre se define como el llamado "mundo Arrow-Debreu", donde la eficiencia económica está garantizada en equilibrio general (Arrow y Debreu, 1954; mckenzie, 1959; Hart, 1980). En los estudios empíricos, se ha investigado la libertad económica en otras áreas macroeconómicas, especialmente las del crecimiento económico (Gwartney et al., 1999; Haan y Sturm, 2000; Heckelman, 2000; Wu y Davis, 1999), igualdad de ingresos (Berggren, 1999; Scully, 2002) y empleo (Feldmann, 2007, 2008).

El vínculo teórico entre la libertad económica y el subprecio de la OPI, como implica la teoría del equilibrio general, es que un país económicamente libre proporciona un mercado libre para las empresas de OPI y, por lo tanto, mejora la eficiencia económica de la asignación de recursos. Más específicamente, un mercado libre reduce la carga de la burocracia y la corrupción y proporciona un entorno monetario estable y confiable, un entorno de inversión libre y abierto, un sistema financiero transparente y abierto con más protección y menos probabilidad de confiscación gubernamental. En su conjunto, una economía libre podría ayudar a reducir la gravedad de la información asimétrica, los problemas de los organismos y los costos de transacción de las empresas de OPI, que a su vez reducen el subprecio de la OPI (Rock, 1986; Ritter, 1987; Allen y Faulhaber, 1989; Brennan y Franks, 1997; Mok y Hui, 1998; Aggarwal y Conroy, 2000; Ljungqvist, 2007; Boulton et al., 2011; Ghoul et al., 2011; Boulton et al., 2014).

Por otro lado, la libertad económica se percibe como un apoderado integral para el entorno institucional que está fuertemente asociado con la liberalización económica y la protección de la propiedad (por ejemplo, Henry, 2007). Miller y Holmes (2009, 2010) ilustran al menos cuatro canales a través de los cuales una economía libre podría afectar los costos de capital en los mercados financieros. En primer lugar, la libertad económica reduce la carga regulatoria externa y permite a los inversores hacer planes a largo plazo con mayor facilidad, lo que reduce la incertidumbre de la inversión. En segundo lugar, fomenta la apertura, atrae a más inversores extranjeros a los mercados nacionales y facilita las actividades de reparto de riesgos. En tercer lugar, al asegurar la protección de la propiedad y castigar la corrupción, una economía libre ofrece a los inversores la voluntad y la confianza para asumir más riesgos. En cuarto lugar, alienta a los servicios bancarios y financieros a proporcionar servicios de información de forma independiente, lo que ayuda a reducir la asimetría de la información e identificar los precios del capital. En resumen, la libertad económica de una economía refleja la eficiencia con la que el mercado asigna recursos económicos y alcanza el precio del capital.

Seguimos estudios previos (Claessens y Laeven, 2003; Santos-Paulino y Thirlwall, 2004; Henry, 2007; Miller y Holmes, 2009; Qi et al., 2010) y utilizar el índice de libertad económica de la Heritage Foundation (en adelante, el IEF) como la medida de la libertad económica para los países de muestra. El IEF tiene 10 subíndices que miden diferentes aspectos del nivel de libertad económica de un país. La agregación de los 10 subíndices proporciona un valor completo del índice de libertad económica. Específicamente, predcimos que el valor global del índice está asociado negativamente con los rendimientos iniciales entre países.

Utilizando una muestra de 3728 observaciones de la OPI de 22 países entre julio de 1993 y diciembre de 2014, encontramos una relación negativa significativa entre la libertad económica y la suboperización de la OPI después de controlar otras variables de control de empresas y macro de uso común. Además, encontramos que entre los 10 subíndices del IEF, la libertad financiera desempeña un papel influyente en la explicación de la subpreocia entre países. Es decir, proporcionamos pruebas directas de que el levantamiento de las restricciones regulatorias financieras redundantes reduce el subprecio.

Debido a que las OPI de Estados Unidos y China representan un gran porcentaje del número total de OPI en la muestra, también realizamos pruebas de solidez sobre este posible problema de sesgo de datos. Los resultados respaldan la conclusión principal.

El resto de este documento se organiza de la siguiente manera. En la Sección 2 se describen los datos, la muestra y el modelo. La Sección 3 presenta los resultados empíricos. La Sección 4 proporciona las pruebas de robustez y la Sección 5 concluye el documento.

## **CONCLUSIÓN**

En este documento investigamos si la libertad económica desempeña un papel en la explicación del fenómeno de la subvaloración de la OPI en diferentes países. A diferencia de algunos estudios anteriores que se centran sólo en un par de factores institucionales particulares, nuestro análisis examina el impacto del entorno institucional general en lugar de las características ambientales específicas en la subprecio de la OPI.

Utilizando una gran muestra de rendimientos iniciales de la OPI en 22 países durante un período de 21 años, desde julio de 1993 hasta diciembre de 2014, constatamos que las empresas en economías con mayores niveles de libertad económica tienen problemas de subprecio menos graves.

Además, para examinar la relación global entre los rendimientos iniciales de la OPI y la libertad económica, investigamos la relación entre los rendimientos iniciales de la OPI y cada uno de los diez factores de libertad económica cubiertos por el IEF. El resultado de que la liberalización del mercado financiero (Fin) se asocia significativa y negativamente con la subomepulación de la OPI es coherente con la predicción de la ICAPM de que la liberación del mercado de valores puede reducir los costos de capital social del país liberalizador (Stapleton y Subrahmanyam, 1977; Errunza y Losq, 1989; Stulz, 1999; Henry, 2000b).

En consonancia con la literatura de sentimientos del mercado, encontramos que los rendimientos iniciales de la OPI están asociados negativamente con la variable ficticia del mercado bajista y se asocian positivamente con la variable ficticia del mercado alcista. Además, al igual que el hallazgo de Cornelli et al. (2006) y Dorn (2009) para el mercado anterior a la OPI, constatamos que el impacto del sentimiento del mercado en la subvaloración de la OPI es mucho más fuerte para los mercados bajistas que el de los mercados alcistas. Estos resultados respaldan la literatura de mercados de la OPI (Ritter, 1984) y la "teoría de las perspectivas". (Loughran y Ritter, 2002). Entre otras variables de control, también encontramos que el tamaño de la OPI está significativamente asociado con los rendimientos iniciales de la OPI.

Este documento contribuye a la literatura de la OPI proporcionando pruebas a nivel de país de que los entornos institucionales heterogéneos ayudan a explicar la anomalía de subvaloración de la OPI entre países. Concretamente, encontramos pruebas sólidas y sólidas de que las empresas de OPI de países con mayor libertad económica, especialmente una mayor libertad financiera, tienen problemas de opi significativamente menos graves.

## **TRANSLATED VERSION: FRENCH**

Below is a rough translation of the insights presented above. This was done to give a general understanding of the ideas presented in the paper. Please excuse any grammatical mistakes and do not hold the original authors responsible for these mistakes.

## **VERSION TRADUITE: FRANÇAIS**

Voici une traduction approximative des idées présentées ci-dessus. Cela a été fait pour donner une compréhension générale des idées présentées dans le document. Veuillez excuser toutes les erreurs grammaticales et ne pas tenir les auteurs originaux responsables de ces erreurs.

## **INTRODUCTION**

Le phénomène de sous-prix de l'introduction en bourse a été un phénomène mondial persistant et omniprésent (Loughran et coll., 1994; Krigman et coll., 1999; Ritter et Welch, 2002; Chambers et Dimson, 2009). En outre, le niveau de sous-prix des PAPE varie selon les pays et est généralement plus prononcé dans les marchés émergents (Loughran et coll., 1994). Note de bas de page 1 pourquoi le degré de sous-prix des PAPE varie-t-il si considérablement d'un pays à l'autre, en particulier entre les pays développés et les

pays en développement? Cette question importante et intéressante n'a pas reçu beaucoup d'attention dans la littérature, et elle mérite une enquête systématique.

De nombreuses explications du phénomène de sous-prix ont été fournies, mais l'accent est mis sur les marchés. Pour expliquer la sous-prix entre les marchés, de nouvelles perspectives sont nécessaires et l'une d'entre elles est la différence dans les environnements institutionnels, au centre de notre étude actuelle.

L'environnement institutionnel est généralement défini comme une combinaison de règlements contraignants, de mécanismes contractuels, de l'environnement économique (p. Ex., Miller et Holmes, 2009, 2010), des droits juridiques et des mécanismes d'application (La Porta et coll., 1998, 2006). L'objectif de cette étude n'est pas de sous-évaluer les pays en soi, mais plutôt de la différence transversale dans l'étendue de la sous-évaluation des PAPE dans différents pays. Nous proposons que les différences dans les environnements institutionnels soient des facteurs déterminants importants.

Les études existantes montrent qu'un environnement institutionnel favorable, avec un marché financier bien développé, un système juridique et un degré d'ouverture, a un impact significatif sur le développement économique (Lau et Lam, 2002; Henry, 2007), et établit l'environnement de gouvernance d'une entreprise qui affecte sa performance (LLSV, 2002; Shleifer et Wolfenzon, 2002). Le modèle international standard de tarification des actifs (ICAPM) et la documentation croisée suggèrent spécifiquement que la libéralisation des marchés boursiers pourrait réduire les coûts en capital des actions du pays libéralisant (Stapleton et Subrahmanyam, 1977; Errunza et Losq, 1989; Stulz, 1999; Henry, 2000a, 2000b). LLSV (1997, 1998) et Djankov et coll. (2006) constatent que la protection des investisseurs au niveau des pays et la gouvernance d'entreprise sont importantes pour que les entreprises bénéficient d'évaluations plus élevées et d'un coût inférieur du capital-actions. Plus explicitement, Loughran et coll. (1994) soutiennent que la levée du contrat économique contraignant et du mécanisme d'introduction en bourse contribue à favoriser la transparence, à réduire l'asymétrie de l'information et, par conséquent, à atténuer la sous-évaluation des PAPE, bien qu'ils ne testent pas formellement cette affirmation. Jones et coll., 1999 argue selon lesquelles les gouvernements qui permettent moins de liberté économique devraient trouver nécessaire d'offrir une plus grande sous-évaluation pour signaler l'engagement du SIP. Nous postulons qu'un meilleur environnement institutionnel contribue à réduire le problème de sous-évaluation des PAPE après avoir tenu compte de facteurs propres à l'entreprise tels que l'asymétrie de l'information et les facteurs macroéconomiques tels que le sentiment du marché et le développement économique.

Contrairement à certaines études antérieures qui se concentrent uniquement sur quelques facteurs institutionnels particuliers, comme la responsabilité juridique, la stabilisation des prix ou la protection des investisseurs (Hopp et Dreher, 2011; Banerjee et coll., 2011; Boulton et coll., 2011), nous utilisons des indices de liberté économique qui mesurent l'environnement institutionnel global pour examiner sa relation avec la sous-évaluation des PAPE. En tant que tel, notre analyse examine l'impact de l'environnement institutionnel général plutôt que des caractéristiques environnementales spécifiques sur la sous-évaluation des PAPE.

On a largement observé que la liberté économique était importante pour l'efficacité économique (Smith, 1776). En théorie, une économie libre est définie comme le soi-disant « monde Arrow-Debreu », où l'efficacité économique est garantie en équilibre général (Arrow et Debreu, 1954; McKenzie, 1959; Hart, 1980). Dans des études empiriques, la liberté économique a été étudiée dans d'autres domaines macroéconomiques, en particulier ceux sur la croissance économique (Gwartney et coll., 1999; Haan et Sturm, 2000; Heckelman, 2000; Wu et Davis, 1999), l'égalité des revenus (Berggren, 1999; Scully, 2002) et l'emploi (Feldmann, 2007, 2008).

Le lien théorique entre la liberté économique et la sous-évaluation des PAPE, comme l'implique la théorie de l'équilibre général, est qu'un pays économiquement libre offre un marché libre aux entreprises d'introduction en bourse et améliore ainsi l'efficacité économique de l'allocation des ressources. Plus précisément, un marché libre réduit le fardeau de la bureaucratie et de la corruption et offre un environnement monétaire stable et fiable, un environnement d'investissement libre et ouvert, un système financier transparent et ouvert avec plus de protection et moins de chances de confiscation du gouvernement. Dans l'ensemble, une économie libre pourrait aider à réduire la gravité de l'information asymétrique, des problèmes d'agence et des coûts de transaction pour les sociétés d'introduction en bourse,

ce qui réduirait la sous-évaluation des PAPE (Rock, 1986; Ritter, 1987; Allen et Faulhaber, 1989; Brennan et Franks, 1997; Mok et Hui, 1998; Aggarwal et Conroy, 2000; Ljungqvist, 2007; Boulton et coll., 2011; Ghoul et coll., 2011; Boulton et coll., 2014).

D'autre part, la liberté économique est perçue comme un indicateur global de l'environnement institutionnel fortement associé à la libéralisation économique et à la protection de la propriété (p. Ex., Henry, 2007). Miller et Holmes (2009, 2010) illustrent au moins quatre canaux par lesquels une économie libre pourrait influencer sur les coûts des actions sur les marchés financiers. Premièrement, la liberté économique abaisse le fardeau réglementaire externe et permet aux investisseurs de faire des plans à long terme plus facilement, réduisant ainsi l'incertitude de l'investissement. Deuxièmement, il encourage l'ouverture, amène davantage d'investisseurs étrangers sur les marchés intérieurs et facilite les activités de partage des risques. Troisièmement, en assurant la protection des biens et en punissant la corruption, une économie libre donne aux investisseurs la volonté et la confiance d'entreprendre plus de risques. Quatrièmement, il encourage les services bancaires et financiers à fournir des services d'information de façon indépendante, ce qui contribue à réduire l'asymétrie de l'information et à identifier le prix du capital. En bref, la liberté économique d'une économie reflète l'efficacité avec laquelle le marché alloue des ressources économiques et atteint le prix du capital.

Nous suivons des études antérieures (Claessens et Laeven, 2003; Santos-Paulino et Thirlwall, 2004; Henry, 2007; Miller et Holmes, 2009; Qi et coll., 2010) et utiliser l'Indice de liberté économique de la Heritage Foundation (ci-après le FEI) comme mesure de la liberté économique pour les pays échantillonnés. L'IEF dispose de 10 sous-indices qui mesurent différents aspects du niveau de liberté économique d'un pays. L'agrégation des 10 sous-indices donne une valeur globale de l'indice de liberté économique. Plus précisément, nous prévoyons que la valeur globale de l'indice est négativement associée aux rendements initiaux entre les pays.

À l'aide d'un échantillon de 3 728 observations d'introductions en bourse provenant de 22 pays entre juillet 1993 et décembre 2014, nous constatons une relation négative importante entre la liberté économique et la sous-valeur des PAPE après avoir contrôlé d'autres variables de contrôle spécifiques à l'entreprise et macro couramment utilisées. En outre, nous constatons que parmi les 10 sous-indices de l'ief, la liberté financière joue un rôle influent dans l'explication de la sous-prix à travers le pays. C'est-à-dire que nous fournissons la preuve directe que la levée des restrictions redondantes à la réglementation financière réduit la sous-valeur.

Étant donné que les introductions en bourse aux États-Unis et en Chine représentent un pourcentage important du nombre total d'introductions en bourse dans l'échantillon, nous effectuons également des tests de robustesse sur ce problème potentiel de biais de données. Les résultats appuient la conclusion principale.

Le reste de ce document est organisé comme suit. La section 2 traite des données, de l'échantillon et du modèle. La section 3 présente les résultats empiriques. La section 4 fournit les tests de robustesse et l'article 5 conclut l'article.

## **CONCLUSION**

Dans ce document, nous étudions si la liberté économique joue un rôle dans l'explication du phénomène de sous-prix de l'introduction en bourse dans différents pays. Contrairement à certaines études antérieures qui se concentrent uniquement sur quelques facteurs institutionnels particuliers, notre analyse examine l'impact de l'environnement institutionnel général plutôt que des caractéristiques environnementales spécifiques sur la sous-évaluation des PAPE.

À l'aide d'un large échantillon de déclarations initiales d'introduction en bourse dans 22 pays sur une période de 21 ans, de juillet 1993 à décembre 2014, nous constatons que les entreprises des économies ayant des niveaux plus élevés de liberté économique ont des problèmes de sous-évaluation moins graves.

En outre, afin d'examiner la relation globale entre les déclarations initiales d'introduction en bourse et la liberté économique, nous étudions la relation entre les déclarations initiales de premier appel public à l'épargne et chacun des dix facteurs de liberté économique couverts par le FEI. Le résultat que la libéralisation des marchés financiers (Fin) est significativement et négativement associée à la sous-valeur

des PAPE est conforme à la prédiction de l'icapm selon laquelle la libération des marchés boursiers pourrait réduire les coûts du capital-actions du pays libéralisé (Stapleton et Subrahmanyam, 1977; Errunza et Losq, 1989; Stulz, 1999; Henry, 2000b).

Conformément à la documentation sur le sentiment du marché, nous constatons que les rendements initiaux des PAPE sont négativement associés à la variable factice du marché baissier et positivement associés à la variable factice du marché haussier. De plus, à l'égard de la constatation de Cornelli et coll. (2006) et de Dorn (2009) pour le marché avant le PAPE, nous constatons que l'incidence du sentiment du marché sur la sous-valeur des PAPE est beaucoup plus forte pour les marchés baissiers que celle des marchés haussiers. Ces résultats appuient la documentation sur les marchés de l'introduction en bourse (Ritter, 1984) et la « théorie des perspectives ». (Loughran et Ritter, 2002). Entre autres variables de contrôle, nous constatons également que la taille des PAPE est associée de façon significative et négative aux rendements initiaux des PAPE.

Cet article contribue à la documentation sur les PAPE en fournissant des preuves au niveau des pays que des environnements institutionnels hétérogènes contribuent à expliquer l'anomalie de l'introduction en bourse à l'échelle du pays. Plus précisément, nous trouvons des preuves solides et solides que les entreprises d'introduction en bourse de pays où la liberté économique est plus élevée, en particulier une plus grande liberté financière, ont des problèmes de sous-prix beaucoup moins graves.

## **TRANSLATED VERSION: GERMAN**

Below is a rough translation of the insights presented above. This was done to give a general understanding of the ideas presented in the paper. Please excuse any grammatical mistakes and do not hold the original authors responsible for these mistakes.

## **ÜBERSETZTE VERSION: DEUTSCH**

Hier ist eine ungefähre Übersetzung der oben vorgestellten Ideen. Dies wurde getan, um ein allgemeines Verständnis der in dem Dokument vorgestellten Ideen zu vermitteln. Bitte entschuldigen Sie alle grammatikalischen Fehler und machen Sie die ursprünglichen Autoren nicht für diese Fehler verantwortlich.

## **EINLEITUNG**

Das Phänomen der IPO-Unterbewertung war ein anhaltendes und allgegenwärtiges weltweites Phänomen (Loughran et al., 1994; Krigman et al., 1999; Ritter und Welch, 2002; Chambers and Dimson, 2009). Darüber hinaus schwankt das Niveau der IPO-Unterpreise in den einzelnen Ländern und ist in den Schwellenländern im Allgemeinen stärker ausgeprägt (Loughran et al., 1994). Fußnote 1 Warum schwankt der Grad der IPO-Unterbewertung in den einzelnen Ländern, insbesondere zwischen Industrie- und Entwicklungsländern, so dramatisch? Dieses wichtige und interessante Thema hat in der Literatur wenig Beachtung gefunden, und es verdient eine systematische Untersuchung.

Es wurden viele Erklärungen für das Phänomen der Unterpreisung geliefert, aber der Fokus liegt auf den Märkten. Um die Unterpreisung über die Märkte hinweg zu erklären, sind neue Perspektiven erforderlich, und eine davon ist der Unterschied in den institutionellen Rahmenbedingungen, der Schwerpunkt unserer aktuellen Studie.

Das institutionelle Umfeld ist im Allgemeinen definiert als eine Kombination aus verbindlichen Regelungen, vertraglichen Mechanismen, dem wirtschaftlichen Umfeld (z. B. Miller und Holmes, 2009, 2010), gesetzlichen Rechten und Durchsetzungsmechanismen (La Porta et al., 1998, 2006). Der Schwerpunkt dieser Studie liegt nicht auf der IPO-Unterbewertung an sich, sondern auf dem Querschnittsunterschied im Ausmaß der IPO-Unterbewertung in verschiedenen Ländern. Wir schlagen vor, dass Unterschiede im institutionellen Umfeld wichtige treibende Faktoren sind.

Bestehende Studien zeigen, dass ein günstiges institutionelles Umfeld mit einem gut entwickelten Finanzmarkt, einem Rechtssystem und einem hohen Maß an Offenheit erhebliche Auswirkungen auf die wirtschaftliche Entwicklung hat (Lau und Lam 2002; Henry, 2007) und legt das Governance-Umfeld für ein Unternehmen fest, das seine Leistung beeinflusst (LLSV, 2002; Shleifer und Wolfenzon, 2002). Das Standardmodell für internationale Asset Pricing (ICAPM) und die Cross-Listing-Literatur deuten ausdrücklich darauf hin, dass die Liberalisierung der Aktienmärkte die Eigenkapitalkosten des liberalisierenden Landes senken könnte (Stapleton und Subrahmanyam, 1977; Errunza und Losq, 1989; Stulz, 1999; Henry, 2000a, 2000b). LLSV (1997, 1998) und Djankov et al. (2006) sind der Natur, dass Anlegerschutz auf Länderebene und Corporate Governance für Unternehmen wichtig sind, um höhere Bewertungen und niedrigere Eigenkapitalkosten zu erhalten. Genauer gesagt argumentieren Loughran et al. (1994), dass die Aufhebung des verbindlichen Wirtschaftsvertrags und des IPO-Mechanismus dazu beiträgt, die Transparenz zu fördern, die Informationsasymmetrie zu verringern und damit die Unterbewertung des Börsengangs zu mildern, obwohl sie diese Behauptung nicht formal prüfen. Jones et al., 1999 argue, dass Regierungen, die weniger wirtschaftliche Freiheit zulassen, es für notwendig halten sollten, eine stärkere Unterbewertung anzubieten, um SIP-Engagement zu signalisieren. Wir postulieren, dass ein besseres institutionelles Umfeld dazu beiträgt, das Problem der IPO-Unterbewertung zu reduzieren, nachdem wir unternehmensspezifische Faktoren wie Informationsasymmetrie und Makrofaktoren wie Marktstimmung und wirtschaftliche Entwicklung kontrolliert haben.

Im Gegensatz zu einigen früheren Studien, die sich nur auf einige besondere institutionelle Faktoren wie rechtliche Haftung, Preisstabilisierung oder Anlegerschutz konzentrieren (Hopp und Dreher, 2011; Banerjee et al., 2011; Boulton et al., 2011), verwenden wir Indizes der wirtschaftlichen Freiheit, die das gesamte institutionelle Umfeld messen, um seine Beziehung zur IPO-Unterbewertung zu untersuchen. Unsere Analyse untersucht daher die Auswirkungen des allgemeinen institutionellen Umfelds und nicht auf spezifische Umweltmerkmale auf die Unterbewertung des Börsengangs.

Die wirtschaftliche Freiheit wurde weithin als wichtig für die wirtschaftliche Effizienz beobachtet (Smith, 1776). Theoretisch wird eine freie Wirtschaft als die so genannte "Arrow-Debreu-Welt" definiert, in der die Wirtschaftlichkeit im allgemeinen Gleichgewicht garantiert ist (Arrow und Debreu, 1954; McKenzie, 1959; Hart, 1980). In empirischen Studien wurde die wirtschaftliche Freiheit in anderen makroökonomischen Bereichen untersucht, insbesondere in den Bereichen des Wirtschaftswachstums (Gwartney et al., 1999; Haan und Sturm, 2000; Heckelman, 2000; Wu and Davis, 1999), Einkommensgleichheit (Berggren, 1999; Scully, 2002) und Beschäftigung (Feldmann, 2007, 2008).

Der theoretische Zusammenhang zwischen wirtschaftlicher Freiheit und IPO-Unterbewertung, wie es die allgemeine Gleichgewichtstheorie impliziert, besteht darin, dass ein wirtschaftlich freies Land IPO-Unternehmen einen freien Markt bietet und damit die wirtschaftliche Effizienz der Ressourcenallokation verbessert. Insbesondere verringert ein freier Markt die Bürokratie- und Korruptionslast und bietet ein stabiles und zuverlässiges monetäres Umfeld, ein freies und offenes Investitionsumfeld, ein transparentes und offenes Finanzsystem mit mehr Schutz und geringerer Wahrscheinlichkeit staatlicher Einziehung. Insgesamt könnte eine freie Wirtschaft dazu beitragen, die Schwere asymmetrischer Informationen, Agenturprobleme und Transaktionskosten für IPO-Unternehmen zu verringern, was wiederum die Unterbewertung des Börsengangs verringert (Rock, 1986; Ritter, 1987; Allen und Faulhaber, 1989; Brennan and Franks, 1997; Mok und Hui, 1998; Aggarwal und Conroy, 2000; Ljungqvist, 2007; Boulton et al., 2011; Ghoul et al., 2011; Boulton et al., 2014).

Andererseits wird die wirtschaftliche Freiheit als umfassender Stellvertreter für das institutionelle Umfeld wahrgenommen, das stark mit wirtschaftlicher Liberalisierung und Eigentumsschutz verbunden ist (z. B. Henry, 2007). Miller und Holmes (2009, 2010) veranschaulichen mindestens vier Kanäle, über die eine freie Wirtschaft die Eigenkapitalkosten an den Finanzmärkten beeinflussen könnte. Erstens verringert die wirtschaftliche Freiheit den externen Regulierungsaufwand und ermöglicht es Investoren, langfristige Pläne leichter zu erstellen, wodurch die Unsicherheit der Investition verringert wird. Zweitens fördert sie Offenheit, bringt mehr ausländische Investoren auf die inländischen Märkte und erleichtert die Risikoteilung. Drittens gibt eine freie Wirtschaft den Anlegern durch die Sicherung des Eigentumsschutzes und die Bestrafung von Korruption die Bereitschaft und das Vertrauen, mehr Risiken einzugehen. Viertens

ermutigt sie Banken und Finanzintermediäre, Informationsdienste unabhängig anzubieten, was dazu beiträgt, die Informationsasymmetrie zu senken und die Preisgestaltung des Kapitals zu ermitteln. Kurz gesagt, die wirtschaftliche Freiheit einer Volkswirtschaft spiegelt wider, wie effizient der Markt wirtschaftliche Ressourcen zuweist und den Kapitalpreis erreicht.

Wir verfolgen frühere Studien (Claessens und Laeven, 2003; Santos-Paulino und Thirlwall, 2004; Henry, 2007; Miller und Holmes, 2009; Qi et al., 2010) und verwenden den Index der wirtschaftlichen Freiheit der Heritage Foundation (im Folgenden IEF) als Maß für die wirtschaftliche Freiheit für die Stichprobenländer. Der IEF verfügt über 10 Teilindizes, die verschiedene Aspekte des wirtschaftlichen Freiheitsniveaus eines Landes messen. Die Aggregation der 10 Teilindizes ergibt einen umfassenden Indexwert für die wirtschaftliche Freiheit. Insbesondere sagen wir voraus, dass der Gesamtwert des Index negativ mit den anfänglichen Renditen in den einzelnen Ländern verknüpft ist.

Anhand einer Stichprobe von 3728 IPO-Beobachtungen aus 22 Ländern zwischen Juli 1993 und Dezember 2014 stellen wir einen signifikanten negativen Zusammenhang zwischen wirtschaftlicher Freiheit und IPO-Unterbewertung fest, nachdem wir andere häufig verwendete unternehmensspezifische und makrokontrollrechtliche Variablen kontrolliert haben. Darüber hinaus stellen wir fest, dass unter den 10 Subindizes des IEF die finanzielle Freiheit eine einflussreiche Rolle bei der Erklärung der länderübergreifenden Unterbewertung spielt. Das heißt, wir liefern direkte Beweise dafür, dass die Aufhebung redundanter finanzieller Regulierungsbeschränkungen die Unterbewertung verringert.

Da U.S. und Chinese ipos einen großen Prozentsatz der Gesamtzahl der ipos in der Stichprobe ausmachen, führen wir auch Robustheitstests zu diesem potenziellen Problem mit der Datenverzerrung durch. Die Ergebnisse stützen die wichtigste Schlussfolgerung.

Der Rest dieses Papiers ist wie folgt organisiert. In Abschnitt 2 werden die Daten, das Beispiel und das Modell erläutert. Abschnitt 3 stellt die empirischen Ergebnisse vor. Abschnitt 4 enthält die Robustheitsprüfungen, und Abschnitt 5 schließt das Papier ab.

## **SCHLUSSFOLGERUNG**

In diesem Beitrag untersuchen wir, ob wirtschaftliche Freiheit eine Rolle bei der Erklärung des Phänomens der IPO-Unterbewertung in verschiedenen Ländern spielt. Im Gegensatz zu einigen früheren Studien, die sich nur auf einige besondere institutionelle Faktoren konzentrieren, untersucht unsere Analyse die Auswirkungen des allgemeinen institutionellen Umfelds und nicht spezifische Umweltmerkmale auf die Unterbewertung des Börsengangs.

Anhand einer großen Stichprobe von IPO-Erstrenditen in 22 Ländern über einen Zeitraum von 21 Jahren von Juli 1993 bis Dezember 2014 stellen wir fest, dass Unternehmen in Volkswirtschaften mit einem höheren Maß an wirtschaftlicher Freiheit weniger gravierende Unterpreisprobleme haben.

Um den Gesamtzusammenhang zwischen den anfänglichen IPO-Renditen und der wirtschaftlichen Freiheit zu untersuchen, untersuchen wir außerdem den Zusammenhang zwischen den Erstrenditen des Börsengangs und jedem der zehn vom IEF erfassten wirtschaftlichen Freiheitsfaktoren. Das Ergebnis, dass die Liberalisierung der Finanzmärkte (Fin) signifikant und negativ mit der Unterbewertung des Börsengangs verbunden ist, steht im Einklang mit der Vorhersage der ICAPM, dass die Börsenbefreiung die Eigenkapitalkosten des liberalisierenden Landes senken könnte (Stapleton und Subrahmanyam, 1977; Errunza und Losq, 1989; Stulz, 1999; Henry, 2000b).

In Übereinstimmung mit der Marktstimmungsliteratur stellen wir fest, dass IPO-Anfangsrenditen negativ mit der Bärenmarkt-Dummy-Variablen und positiv mit der Bullenmarkt-Dummy-Variable in Verbindung gebracht werden. Darüber hinaus stellen wir, ähnlich wie Cornelli et al. (2006) und Dorn (2009) für den Markt vor dem Börsengang fest, dass die Auswirkungen der Marktstimmung auf die IPO-Unterbewertung für bärische Märkte viel stärker sind als für bullische Märkte. Diese Ergebnisse unterstützen die IPO-"Hot Issue"-Marktliteratur (Ritter, 1984) und die "Prospekttheorie". (Loughran und Ritter, 2002). Neben anderen Kontrollvariablen stellen wir auch fest, dass die IPO-Größe signifikant und negativ mit ipo-Anfangsrenditen verbunden ist.

Dieses Papier trägt zur IPO-Literatur bei, indem es auf Länderebene Beweise dafür liefert, dass heterogene institutionelle Rahmenbedingungen dazu beitragen, die länderübergreifende IPO-Unterbewertung skrupieren zu haben. Insbesondere finden wir starke und robuste Beweise dafür, dass IPO-Firmen aus Ländern mit höherer wirtschaftlicher Freiheit, insbesondere höherer finanzieller Freiheit, deutlich weniger ernsthafte IPO-Unterpreisprobleme haben.

## **TRANSLATED VERSION: PORTUGUESE**

Below is a rough translation of the insights presented above. This was done to give a general understanding of the ideas presented in the paper. Please excuse any grammatical mistakes and do not hold the original authors responsible for these mistakes.

## **VERSÃO TRADUZIDA: PORTUGUÊS**

Aqui está uma tradução aproximada das ideias acima apresentadas. Isto foi feito para dar uma compreensão geral das ideias apresentadas no documento. Por favor, desculpe todos os erros gramaticais e não responsabilize os autores originais responsáveis por estes erros.

## **INTRODUÇÃO**

O fenómeno da subvaloridade do IPO tem sido um fenómeno persistente e abrangente a nível mundial (Loughran et al., 1994; Krigman et al., 1999; Ritter e Welch, 2002; Chambers e Dimson, 2009). Além disso, o nível de subvalorização do IPO varia em países, e é geralmente mais pronunciado nos mercados emergentes (Loughran et al., 1994). Nota de rodapé Quando o grau de subvalorizado do IPO varia tão drasticamente em diferentes países, especialmente entre países desenvolvidos e países em desenvolvimento? Esta importante e interessante questão não tem recebido muita atenção na literatura, e merece uma investigação sistemática.

Foram fornecidas muitas explicações para o fenómeno da subpescagem, mas o foco está nos mercados. Para explicar a subvalorização dos mercados, são necessárias novas perspetivas e uma delas é a diferença nos ambientes institucionais, o foco do nosso estudo atual.

O ambiente institucional é geralmente definido como uma combinação de regulamentos vinculativos, mecanismos contratuais, ambiente económico (por exemplo, Miller e Holmes, 2009, 2010), direitos legais e mecanismos de execução (La Porta et al., 1998, 2006). O foco deste estudo não se centra na subvalorização do IPO em si, mas sim na diferença transversal na extensão da subvalorização do IPO em diferentes países. Propomos que as diferenças em ambientes institucionais sejam fatores de mutação importantes.

Os estudos existentes mostram que um ambiente institucional favorável, com um mercado financeiro bem desenvolvido, um sistema jurídico e um grau de abertura têm um impacto significativo no desenvolvimento económico (Lau e Lam 2002; Henry, 2007), e define o ambiente de governação para uma empresa que afeta o seu desempenho (LLSV, 2002; Shleifer e Wolfenzon, 2002). O modelo internacional de preços dos ativos (ICAPM) e a literatura de listagem cruzada sugerem especificamente que a liberalização do mercado de ações poderia reduzir os custos de capital próprio do país liberalizador (Stapleton e Subrahmanyam, 1977; Errunza e Losq, 1989; Stulz, 1999; Henry, 2000a, 2000b). LLSV (1997, 1998) e Djankov et al. (2006) consideram que a proteção dos investidores a nível nacional e a governação das empresas são importantes para que as empresas usufruam de avaliações mais elevadas e de um menor custo de capital próprio. Mais explicitamente, Loughran et al. (1994) argumentam que o levantamento do contrato económico vinculativo e do mecanismo de IPO ajuda a fomentar a transparência, a redução da assimetria da informação e, assim, aliviar a subvaloridade do IPO, embora não testem formalmente esta afirmação. Jones et al., 1999 argue que os governos que permitem menos liberdade económica devem achar necessário oferecer uma maior subvalor para sinalizar o compromisso do SIP. Postulamos que um melhor ambiente institucional ajuda a reduzir o problema da subvalorização do IPO depois de controlar fatores



específicos da empresa, como a assimetria da informação e os fatores macro, como o sentimento do mercado e o desenvolvimento económico.

Ao contrário de alguns estudos anteriores que se focam apenas em alguns fatores institucionais específicos, tais como responsabilidade legal, estabilização de preços ou proteção dos investidores (Hopp e Dreher, 2011; Banerjee et al., 2011; Boulton et al., 2011), usamos índices de liberdade económica que medem o ambiente institucional global para examinar a sua relação com a subvalorização do IPO. Como tal, a nossa análise analisa o impacto do ambiente institucional geral e não as características ambientais específicas na subvalorização do IPO.

A liberdade económica tem sido amplamente observada como importante para a eficiência económica (Smith, 1776). Em teoria, uma economia livre é definida como o chamado "mundo Arrow-Debreu", onde a eficiência da economia é garantida em equilíbrio geral (Arrow e Debreu, 1954; mckenzie, 1959; Hart, 1980). Nos estudos empíricos, a liberdade económica foi investigada noutras áreas macroeconómicas, especialmente as relativas ao crescimento económico (Gwartney et al., 1999; Haan e Sturm, 2000; Heckelman, 2000; Wu e Davis, 1999), igualdade de rendimentos (Berggren, 1999; Scully, 2002) e emprego (Feldmann, 2007, 2008).

A ligação teórica entre a liberdade económica e a subvalorização do IPO, tal como implícita na teoria do equilíbrio geral, é que um país economicamente livre proporciona um mercado livre às empresas do IPO e, conseqüentemente, melhora a eficiência económica da atribuição de recursos. Mais concretamente, um mercado livre diminui o peso da burocracia e da corrupção e proporciona um ambiente monetário estável e fiável, um ambiente de investimento livre e aberto, um sistema financeiro transparente e aberto, com mais proteção e menos probabilidade de confisco governamental. No seu conjunto, uma economia livre poderia ajudar a reduzir a gravidade da informação assimétrica, dos problemas das agências e dos custos de transação para as empresas do IPO, que, por sua vez, reduzem a subpricing do IPO (Rock, 1986; Ritter, 1987; Allen e Faulhaber, 1989; Brennan e Franks, 1997; Mok e Hui, 1998; Aggarwal e Conroy, 2000; Ljungqvist, 2007; Boulton et al., 2011; Ghoul et al., 2011; Boulton et al., 2014).

Por outro lado, a liberdade económica é vista como um representante abrangente para o ambiente institucional fortemente associado à liberalização económica e à proteção da propriedade (por exemplo, Henry, 2007). Miller e Holmes (2009, 2010) ilustram pelo menos quatro canais através dos quais uma economia livre pode afetar os custos de capital nos mercados financeiros. Em primeiro lugar, a liberdade económica reduz os encargos regulamentares externos e permite que os investidores tornem os planos a longo prazo mais facilmente, reduzindo assim a incerteza do investimento. Em segundo lugar, incentiva a abertura, traz mais investidores estrangeiros para os mercados internos e facilita as atividades de partilha de riscos. Em terceiro lugar, ao garantir a proteção imobiliária e punir a corrupção, uma economia livre confere aos investidores a vontade e a confiança para assumirem mais riscos. Em quarto lugar, incentiva os consultores bancários e financeiros a prestarem serviços de informação de forma independente, o que ajuda a reduzir a assimetria da informação e a identificar os preços do capital. Em suma, a liberdade económica de uma economia reflete a eficiência com que o mercado aloca recursos económicos e atinge o preço do capital.

Seguimos estudos anteriores (Claessens e Laeven, 2003; Santos-Paulino e Thirlwall, 2004; Henry, 2007; Miller e Holmes, 2009; Qi et al., 2010) e usar o Índice de Liberdade Económica da Heritage Foundation (doravante o IEF) como medida de liberdade económica para os países da amostra. O IEF tem 10 subíndices que medem diferentes aspetos do nível de liberdade económica de um país. A agregação dos 10 subíndices dá um valor global do índice de liberdade económica. Especificamente, prevemos que o valor global do índice está negativamente associado aos retornos iniciais entre países.

Utilizando uma amostra de 3728 observações do IPO de 22 países entre julho de 1993 e dezembro de 2014, encontramos uma relação negativa significativa entre a liberdade económica e a subvaloridade do IPO após o controlo de outras variáveis de controlo de empresas e macro-controlo comumente utilizadas. Além disso, constatamos que, entre os 10 subíndices do IEF, as liberdades financeiras têm um papel influente na explicação da subvaloridade entre países. Ou seja, fornecemos provas diretas de que o levantamento das restrições de regulamentação financeira redundantes reduz a subvaloridade.

Uma vez que os ipos dos EUA e da China representam uma grande percentagem do número total de ipos na amostra, também realizamos testes de robustez neste potencial problema de distorção de dados. Os resultados apoiam a conclusão principal.

O resto deste trabalho é organizado da seguinte forma. A secção 2 discute os dados, a amostra e o modelo. A secção 3 apresenta os resultados empíricos. A secção 4 fornece os testes de robustez e a Secção 5 conclui o papel.

## CONCLUSÃO

Neste artigo investigamos se a liberdade económica desempenha um papel na explicação do fenómeno da subvaloridade do IPO em diferentes países. Ao contrário de alguns estudos anteriores que se concentram apenas num par de fatores institucionais específicos, a nossa análise analisa o impacto do ambiente institucional geral e não as características ambientais específicas na subvalorização do IPO.

Utilizando uma grande amostra de retornos iniciais do IPO em 22 países durante um período de 21 anos, de julho de 1993 a dezembro de 2014, verificamos que as empresas em economias com níveis de liberdade económica mais elevados têm problemas de subvaloridade menos graves.

Além disso, para examinar a relação global entre os retornos iniciais do IPO e a liberdade económica, investigamos a relação entre os retornos iniciais do IPO e cada um dos dez fatores de liberdade económica abrangidos pelo IEF. O resultado de que a liberalização do mercado financeiro (Fin) está significativa e negativamente associada à subpescimento do IPO é consistente com a previsão do ICAPM de que a libertação do mercado bolsista pode reduzir os custos de capital próprio do país liberalizador (Stapleton e Subrahmanyam, 1977; Errunza e Losq, 1989; Stulz, 1999; Henry, 2000b).

Em consonância com a literatura de sentimento de mercado, verificamos que os retornos iniciais do IPO estão negativamente associados à variável manequim do mercado de ursos e positivamente associada à variável manequim do mercado de touros. Além disso, à semelhança do que acontece com a Cornelli et al. (2006) e do Dorn (2009) para o mercado pré-IPO, constatamos que o impacto do sentimento de mercado na subvalor do IPO é muito mais forte para os mercados bearish do que para os mercados em alta. Estes resultados apoiam a "questão quente" do IPO mercados de literatura (Ritter, 1984) e a "teoria das perspetivas". (Loughran e Ritter, 2002). Entre outras variáveis de controlo, também descobrimos que o tamanho do IPO está significativa e negativamente associado aos retornos iniciais do IPO.

Este trabalho contribui para a literatura do IPO, fornecendo provas a nível nacional de que ambientes institucionais heterogéneos ajudam a explicar a anomalia do IPO transnacional. Concretamente, encontramos provas fortes e sólidas de que as empresas do IPO de países com maior liberdade económica, especialmente a maior liberdade financeira, têm problemas de subvalorismo significativamente menos graves do IPO.