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Information asymmetry and financing constraints in GCC

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ABSTRACT

This paper studies the information asymmetry and financing constraints in the Gulf Cooperation Council (GCC) region. The asymmetrical distribution of information between the insiders and outsiders of the firm brings forth a wedge between the costs of internal and external funds, which renders them imperfect substitutes. A sample of non-financial firms from six GCC countries is considered. The firms are grouped into sub-groups through an *ex ante* parameterization of their degree of financing constraints. The results show that the investment exhibits an excess of sensitivity to cash flow and the investment–cash flow sensitivity increases monotonically in the degree of information asymmetry's severity. The results can be explained in terms of restricted access to external finance. For instance, firms in GCC economies that finance their activities in compliance with *shari'ah* (i.e., Islamic law) have a narrower array of Islamic financial products, which renders their costs higher than those of the conventional financial products. Fostering the development of GCC financial markets and the implementation of efficient regulatory devices would improve the financing conditions and enhance the growth of firms in the Gulf region.

1. Introduction

The neoclassical investment theory claims that the only variable that should capture all variation of investment rate is marginal q, measuring the forward-looking growth opportunities. Fazzari, Hubbard, and Petersen (1988) (hereafter FHP) include financial variables into the standard q-model and show that a high sensitivity of a firm's investment to its cash flow indicates financing constraints. A booming empirical literature emerged over the last years using the investment–cash flow sensitivity as a metric to reflect the wedge between the costs of internal and external funds. Although many of studies support this stylized fact, it has been detracted by several empirical studies. The methodology pioneered by FHP is based on the empirical study of information asymmetry's impact on the sensitivity of investment to financial variables. The empirical literature[1] has been investigated by several papers (e.g., Hoshi, Kashyap, & Scharfstein, 1991; Gilchrist & Himmelberg, 1995; Hubbard, 1998; Erickson & Whited, 2000; Hennessy & Whited, 2007; and Ding, Guariglia, & Knight, 2013) whose findings have cleared on conflicting findings.

There are two main divergences in the empirical literature. The first is about the monotonicity conjecture whilst the second is about the definition of financing constraints themselves. The monotonicity conjecture maintains that the investment–cash flow sensitivity is monotonically increasing in the degree of financing constraints. The opposite view by

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[1] See Carreira and Silva (2010) for an extensive review of the empirical literature.

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Kaplan and Zingales (1997) questions the monotonicity conjecture.[2] The second divergence is about the definition of financing constraints themselves. Indeed, the question is about classifying firms using their levels of internal net worth. Indeed, the question is whether we can measure the degree of financing constraints by the shortfall of net worth. Allayannis and Mozumdar (2004) argue that a firm having a low level of net worth is probably in greater financial distress, but not necessarily facing tighter financing constraints.[3]

The objective of this paper is to study the extent to which the information asymmetry affects the financial conditions in the GCC region. The empirical design of the paper aims at testing for the presence of financing constraints in GCC inasmuch as the investment exhibits an excess of sensitivity to the firm's internally generated funds. According to the monotonicity conjecture, once the future growth opportunities are controlled for, we observe higher investment–cash flow sensitivity for the sub-group of firms that are expected to endure higher financing constraints. The growth and survival of this sub-group of firms is highly sensitive to internal funds. Caballero and Engel (1994) argue that "variables should be significant, such as the cost of capital and marginal q, seldom are; variables that should not appear in investment equations, such as cash flows and income, often do."

This paper endeavors to empirically explore whether the severity of information asymmetry[4] impairs the ability to access to external finance. The GCC region is particularly distinguished from international capital markets seeing the financial resources of its oil-rich members. Although the impairing consequences of 2008 financial crisis on the development of financial markets, the GCC country members succeeded in developing and promoting the competitiveness of their financial markets. Despite the incomparable oil and gas reserves, the GCC financial markets still are immature. Indeed, Kern (2012, p. 1) claims that "most GCC nations have made the promotion of finance as an industry a priority on their political agendas. Starting from modest bases, finance in the GCC has grown to be a vibrant industry. But, at below 1% of global assets, GCC financial markets remain small and behind their potential. There is considerable room to grow, but by international standards, the region faces tough challenges in competing with established markets in Europe and America and with their highly dynamic peers in the emerging world."

Although the dynamism of GCC financial markets was impaired by the shock that hit the international economy in 2008, they have survived and maintained stable growth rates by account of interrupted cash generated by hydrocarbons. Their development and competitiveness hinge on regulatory policies ensuring an enhancement of the supervision mechanisms, economic diversification, and efficient allocation of resources. Central banks of the Gulf countries achieved interesting evolvements in this regard.

The paper is organized as follows. Section 2 develops the model specification. Section 3 explores the empirical design and hypotheses development. Section 4 presents the data and summary statistics. Section 5 investigates the results and gives some policy implications. Finally, Section 6 concludes.

2. Model specification

The model specification[5] is based on the approach of Bond, Klemm, Newton-Smith, Syed, and Vlieghe (2004) and Blundell, Bond, and Meghir (1992). The value of the firm is equal to[6]

$$\Theta_t = \beta \mathbb{E}\left[\sum_{j=0}^{\infty} \pi_{t+j} \,\middle|\, \Omega_t\right] \tag{1}$$

where $\mathbb{E}[. \mid \Omega_t]$ is the expectations operator conditional on the information set available, β is a discount factor, and π_{t+j} is the firm's profits at time-$(t+j)$. Formally, the profits of the firm are defined as

$$\pi_t = \pi(K_t, L_t, I_t) = p_t\big[F(K_t, L_t) - C(K_t, L_t, \nu_t)\big] - \omega_t L_t - p_t^I I_t \tag{2}$$

where K_t is the level of capital stock at time-t, L_t is a vector of additional inputs including labor, I_t is gross investment, $C(.)$ is a function capturing the adjustment costs of capital stock, ω_t is the vector of prices for the additional inputs, ν_t is

[2] Chichti and Mansour (2010a) revisit the debate regarding the usefulness of the monotonicity conjecture in a moral hazard setup. The authors show that it is verified only partially. They argue that "recent studies also corroborate our findings. For instance, Hovakimian (2009) shows empirically that the investment–cash flow sensitivity is not monotonic with respect to various proxies of the degree of financing constraints. Accordingly, the firm's investment does not always respond monotonically to increases in net worth. Care needs to be exercised here regarding the usefulness of such a sensitivity." (p. 81)

[3] Throughout the paper, we define financing constraints as the "difficulty of raising external financing, or the cost differential between internal and external funds" (Allayannis & Mozumdar, 2004, p. 906).

[4] The standard works of Stiglitz and Weiss (1981) discusses the conditions under which the access to the debt market could be impossible or at least difficult even when it is at the equilibrium. This corresponds to credit rationing. The authors consider that the access to the accounting-based information is frequently difficult or costly, which renders the distinction between risky and riskless projects difficult. Their model supposes that a bank has several positive-NPV projects with similar return but with randomly driven risks. The major implications support that information asymmetry regarding the project's risk–return profile leads banks to ration credits by limiting the number of borrowed funds or more by increasing the interest rate charged on loans.

[5] For ease of exposition, we adopt the same approach of Chichti and Mansour (2010b) and Adda and Cooper (2003).

[6] This equation holds true under the assumption that the capital markets are strongly efficient. That is, the expected present value of dividends accruing to residual claimants is exactly equal to its market value.