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Formal institutions, culture, and venture capital activity: A cross-country analysis

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ABSTRACT

Why does the level of venture capital activity vary across countries? This study suggests that the variation can be attributed to the different levels of formal institutional development. Further, this study proposes that venture capitalists respond differently to the incentives provided by formal institutions depending on different cultural settings. Analysis of VC activity for 68 countries during the 1996–2006 period shows that formal institutions have a positive effect on the level of venture capital activity, but this effect is weaker in more uncertainty-avoiding societies and in more collectivist societies. This study has useful theory and policy implications for venture capital and entrepreneurship development.

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1. Executive summary

Venture capital (VC) is one of the most important sources of funding for new ventures, fostering the development and subsequent success of many of today's leading high technology companies. However, VC funding is usually surrounded with transaction problems because of uncertainty and information asymmetry. Countries seeking to encourage the emergence and growth of entrepreneurial firms need to devise ways that reduce transaction problems. Both formal institutions and (informal) cultural values can provide the proper incentives and help reduce transaction problems. Formal institutions are a set of political, economic and contractual rules that regulate individual behavior and shape human interaction. Culture is the set of values, attitudes, beliefs and underlying assumptions prevalent among individuals in a society. Though acknowledged in the theoretical literature, little empirical research has documented the effect of formal institutions on VC activity across countries depending on informal cultural constraints.

In this paper, we suggest that a nation's formal institutions influence the level of its VC activity; the more developed these institutions, the more they are likely to reduce transaction problems and encourage VC funding. Further, we propose that national culture is likely to moderate this relationship between formal institutions and VC activity. Two cultural dimensions are particularly relevant for VC development: uncertainty avoidance and collectivism. Uncertainty avoidance indicates low tolerance for risk-taking activities such as VC investment and raises the opportunity costs of risk-taking. Collectivism indicates a tendency to rely on in-group informal relationships in mitigating transaction problems. The collectivist orientation can limit the development of

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formal institutions, confine venture capitalists' deal flows to those connected to their existing network, and exclude potential venture capitalists from joining the network and investing. Therefore, we advance and test the following hypotheses:

H1. The higher the level of formal institutional development, the higher the level of VC activity in a country, ceteris paribus.

H2. The higher the level of uncertainty avoidance, the weaker the positive relationship between the level of formal institutional development and the level of VC activity in a country.

H3. The higher the level of collectivism, the weaker the positive relationship between the level of formal institutional development and the level of VC activity in a country.

We construct a panel dataset based on the VentureXpert database for up to 68 countries over the 1996–2006 period. We test the hypotheses employing the random effects generalized least squares model and the two-stage least squares model.

The empirical results support our hypotheses. Higher levels of formal institutional development in a country are associated with higher levels of VC activity (Hypothesis 1). Higher levels of uncertainty avoidance and collectivism weaken the positive relationship between formal institutions and the level of VC activity (Hypotheses 2 and 3).

The results show that both formal and informal institutions are important determinants of VC activity, and support the view that the same formal institutions used in different societies can yield different economic outcomes (North, 1990). Our study indicates that it is necessary for policymakers to factor in cultural values and norms when crafting formal policies to promote VC activities. Our study shows that collectivism is negatively associated with the level of VC activity and decreases the positive effect of formal institutions. Given that cultural norms are impervious to deliberate change, collectivist societies may serve their interests best by augmenting their relationship-based economies with formal institutions.

2. Introduction

Venture capital (VC) is a widely used form of financial intermediation that is particularly well suited to support the creation and growth of young entrepreneurial companies (Hellmann and Puri, 2000). In the U.S., for example, VC has backed many high-tech start-ups that have evolved into major companies that include Apple, Genentech, Microsoft, and Intel. VC has also been credited with stimulating job creation, innovation, and economic growth (Global Insight, 2007; Kortum and Lerner, 2000). Despite its acknowledged role in promoting entrepreneurship, evidence suggests that the level of VC activity varies considerably across countries (e.g., Wright et al., 2005). While the U.S. has the most advanced VC industry in the world, many countries have little, if any, formal VC activity. Such variations in VC levels across countries reflect their stage of economic development, which is often tied to the development of formal institutions and informal cultural constraints (Fukuyama, 1995). Presently, little empirical research exists on the effect of these institutions on differences in national levels of VC activities (Zacharakis et al., 2007).

In this study, we seek to explain variations in VC activity across countries by taking an institutional economic perspective. According to this perspective, economic activity is usually embedded in a society's institutional setting (Fukuyama, 1995; North, 1990). Institutions have formal and informal components. Formal institutions are a set of political, economic and contractual rules that regulate individual behavior and shape human interaction. Informal institutions are conventions, codes of conduct, and norms of behavior that come from socially transmitted information and as such are part of a country's cultural heritage (North, 1990).

Formal institutions and informal cultural constraints influence various economic activities and outcomes, including electric utility investment (e.g., Bergara et al., 1998); multinational market entry (Henisz, 2000); innovation (Shane, 1993, 1994) and technology alliances (Steensma et al., 2000). Formal institutions can also influence VC development. Several studies show that the level of VC activity depends on the development of financial markets (Gompers et al., 1998; Jeng and Wells, 2000), quality of specific *regulatory* policies such as labor market regulations (Jeng and Wells, 2000), tax policies (Da Rin et al., 2006), government-sponsored funds and programs (Armour and Cumming, 2006), and bankruptcy laws (Armour and Cumming, 2006). Existing studies have also examined the demand-side vs. supply-side factors affecting VC activity for *a particular country*, such as the "Labour Sponsored Venture Capital Corporation" program in Canada (Cumming and MacIntosh, 2006) and the Innovation Investment Fund program in Australia (Cumming, 2007). These existing studies investigate how specific dimensions of the formal institutional framework may promote or hamper national VC development.

In this study, we propose that formal institutions are important for VC activity but the effects of formal institutions depend also on the cultural settings. We argue that well-developed formal institutions can promote VC activity by providing the proper incentives for venture capitalists to offer risk capital to entrepreneurial companies. Having an appropriate incentive structure is critical because VC activity is fraught with information asymmetry/opportunism and uncertainty (Amit et al., 1998; Sahlman, 1990). Venture capitalists will incur significant transaction and other opportunity costs if proper institutional frameworks are not in place.

We further suggest that variations in VC activity because of the level of formal institutional development depend on informal cultural constraints such as uncertainty avoidance and collectivism. In particular, the formal institutional effects on VC activity will be weaker when a society is uncertainty-avoiding. Individuals in such societies will be reluctant to participate in economic activities whose outcomes are uncertain, and will thus be less responsive to the incentives offered by formal institutions. We also expect the formal institutional effects to be weaker in a collectivist society. A collectivist society often employs informal relationships to mitigate transaction cost problems (Fukuyama, 1995), but such reliance on relationship-based transactions can