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Economic Freedom and the Motivation to Engage in Entrepreneurial Action

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Using institutional theory, the Heritage Foundation/*Wall Street Journal* 2003 Index of Economic Freedom, and the 2002 Global Entrepreneurship Monitor, we regress opportunity-motivated entrepreneurial activity (OME) and necessity-motivated entrepreneurial activity (NME) on 10 factors of economic freedom and gross domestic product (GDP) per capita for 37 nations. We find that both OME and NME are negatively associated with GDP per capita and positively associated with labor freedom, but that various other factors of economic freedom are uniquely related to either OME or NME. Specifically, we find that OME, but not NME, is positively associated with property rights, while NME, but not OME, is positively associated with fiscal freedom and monetary freedom. Thus, governmental restrictions of economic freedom appear to impact entrepreneurial activity differently depending on the particular freedom restricted by government and the entrepreneur's motive for engaging in entrepreneurial action.

Introduction

Entrepreneurship is integral to economic development (Kilby, 1971; Kirzner, 1997; North, 1990; Schumpeter, 1934) and economic growth (Carree & Thurik, 2003; Holcombe, 2000; Romer, 1986; Wenneker & Thurik, 1999). By discovering opportunities to employ resources in more productive ways (Say, 1819/1834; cited in Drucker, 1985, p. 21; Schumpeter, 1942, p. 132), entrepreneurs help an economy to achieve allocative and adaptive efficiency (DiLorenzo, 2004; North, 2005). Although entrepreneurial action can be the product of decisions made by influential agents in existing organizations (Moran & Ghoshal, 1999; North, 1990), it is more commonly associated with new venture creation (Gartner, 1990). The creation of a new organization, however, is contingent upon the belief that self-employment promises more expected utility than either employment within an existing organization or unemployment (Douglas & Shepherd, 2000; Van Praag & Cramer, 2001).

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The entrepreneurial decision to become self-employed is embedded in a matrix of institutions that influences both the motivation and uncertainty one experiences in the decision-making process (North, 2005). This matrix consists of various institutions of economic freedom within a nation (Ali & Crain, 2002; Cole, 2003, p. 196). Gwartney and Lawson (2002, p. 5) define economic freedom as "the degree to which a market economy is in place, where the central components are voluntary exchange, free competition, and protection of persons and property." Even though a number of empirical studies have demonstrated that economic freedom precedes economic growth (Heckelman, 2000) and that a positive relationship exists between economic freedom and gross domestic product (GDP) (e.g., Berggren, 2003; Cole, 2003; Grubel, 1998; Haan & Sturm, 2000; Powell, 2003), such a link has yet to be established between economic freedom and entrepreneurial action (see Stel, Carree, & Thurik, 2005 for a recent exception) despite theoretical presuppositions that a positive correlation exists (e.g., Boaz, 1997; Gilder, 1993; Wenneker & Thurik, 1999).

The purpose of this article is to investigate differences in levels of entrepreneurship among countries by gauging the existence of a relationship between government-related variables and the motivation to become an entrepreneur. By equating increases in economic freedom to reductions in transaction costs, we examine whether there is a relationship between the specific factors of economic freedom and either opportunity-motivated (OME) or necessity-motivated entrepreneurial activity (NME). OME is initiated when individuals perceive a business opportunity (i.e., they elect to start businesses as one of several possible career options). Consequently, the decision to engage in OME is not a forced choice; instead, individuals are "pulled" into entrepreneurship by the attractiveness of the opportunity. NME, on the other hand, is initiated as a last resort (i.e., individuals feel compelled to start their own businesses because all other options for work are either absent or unsatisfactory). Therefore, the decision to engage in NME is a forced choice, and the individual is "pushed" into self-employment because of an absence of attractive alternatives.

Reynolds, Bygrave, Autio, Cox, and Hay (2002, p. 17) found that 97% of the entrepreneurially active respondents surveyed in the 2002 Global Entrepreneurship Monitor (GEM) study could be classified as either OME or NME and that the categories differed systematically in terms of (1) expectations of job creation, (2) projections for out-of-country exports, (3) intention to replicate existing business activity versus creating a new niche, and (4) participation in one of four business sectors. Compared to their necessity-motivated counterparts, opportunity-motivated entrepreneurs expected to provide greater job growth, exports, and exploitation of new market niches. That is, OME tended to be more consistent with the Schumpeterian innovations thought to contribute significantly to economic growth and the relatively high standard of living found in developed nations. In contrast, NME is most prevalent in developing countries such as Thailand, India, Korea, Brazil, China, and Mexico. Because experts may lack sufficient contact with and information about necessity-motivated entrepreneurs, the GEM report suggests that programs designed to facilitate entrepreneurship may reflect a bias toward OME rather than toward NME, and concludes that "government and non-government institutions may need to develop a different set of processes and policies for the support of necessity entrepreneurship" (Reynolds et al., 2002, pp. 26–27). The development of such policies, however, requires a more detailed understanding of the relationships between various institutional conditions and NME. Consequently, this study employs data from the Heritage Foundation/*Wall Street Journal* Index of Economic Freedom (IEF), and data from the 2002 GEM study to regress NME and OME upon economic freedom and GDP per capita (GDPpc) for 37 nations.

Using North's (1990) model of institutional theory, we propose that entrepreneurial activity increases as the income-generating alternatives from employment decrease. The decision to become self-employed, therefore, depends upon the cost–benefit calculus characteristic of Rational Choice Theory, as well as an assessment of the costs of transacting which are significantly influenced by the institutional matrix in which one operates. Whereas decreases in the opportunity cost associated with foregoing employment are expected to be associated with increases in entrepreneurial activity regardless of motive, the extent to which particular economic freedoms characterize the institutional matrix in which the entrepreneur operates may impact OME and NME differently. For instance, because OME tends to be more innovative, growth oriented, and export oriented, it may be expected to exhibit a stronger relationship with particular economic freedoms such as property rights, investment freedom, and trade freedom. NME, by contrast, tends to be imitative, reducing the promise of entrepreneurial rents. This, combined with the fact that it is a forced choice, suggests that NME promises lower profit margins. Because NME's profitability is precarious, restrictions of economic freedoms, such as fiscal, monetary, and labor freedoms, may limit the discretion and autonomy of decision makers and preclude the entrepreneur from capitalizing fully on feedback from the market—feedback that would otherwise allow the entrepreneur to transform a slightly unprofitable business into a profitable and therefore sustainable enterprise.

The remainder of this article proceeds as follows. After reviewing the institutional economics and entrepreneurship literatures, we generate a number of hypotheses to examine the relationship between each of the various factors of economic freedom and both NME and OME. We then discuss our methods, analysis, and results, which provide some of the first empirical evidence regarding economic freedom and entrepreneurial activity. Finally, we examine the implications of our study's findings for both theory and policy on entrepreneurship incentives.

Institutions and Entrepreneurial Action

Institutional theory encompasses many different theories of action (Powell & DiMaggio, 1991), ranging from sociological conceptions of symbolic action to economic conceptions based upon Rational Choice Theory (Scott, 2003). Although many of these approaches have merit, the economic orientation of our exploration has led us to use North's (1990, 2005) model of institutional theory as the lens through which to examine the relationships between institutions and entrepreneurial action.

Key to North's perspective is a distinction between the instrumental rationality of neoclassical economics and the procedural rationality of institutional theory. North (1990, p. 108) explains:

> The instrumental rationality postulate of neoclassical theory assumes that the actors possess information necessary to evaluate correctly the alternatives and in consequence make choices that will achieve the desired ends. In fact, such a postulate has implicitly assumed the existence of a particular set of institutions and information. If institutions play a purely passive role so that they do not constrain the choices of the actors and the actors are in possession of the information necessary to make correct choices, then the instrumental rationality postulate is the correct building block. If on the other hand the actors are incompletely informed, devise subjective models as guides to choices, and can only very imperfectly correct their models with information feedback, then a procedural rationality postulate is the essential building block to theorizing.

> A procedural rationality postulate . . . not only can account for the incomplete and imperfect markets that characterize much of the present and past world, but also leads the researcher to the key issues of just what it is that makes markets imperfect. That leads us to the costs of transacting.

Economic institutions, therefore, encourage the convergence of subjective models of the world by providing preexisting market constructs through which people understand the environment and solve the problems they confront (North, 1990, p. 20). In addition, they influence motivation as people contemplate the perceived costs of transacting, which consists of assessing the costs of measuring the valuable attributes of what is being exchanged and the costs of protecting rights and policing and enforcing agreements. "These measurement and enforcement costs are the sources of social, political, and economic institutions" (North, p. 27). Thus, to ask whether certain economic institutional conditions encourage entrepreneurial action is to ask which economic institutions present a cost advantage for transacting through novel means, such as self-employment, relative to transacting through existing means, such as employment within an existing organization.

Self-Employment and Opportunity Costs

The higher the promised payout of employment, the higher the opportunity costs associated with choosing self-employment over employment. An opportunity cost is the value of the next best choice that one gives up when making a decision. Opportunity cost must be considered when examining variance in entrepreneurial action across nations. Otherwise, a decrease in entrepreneurial action may be misinterpreted as reflective of an institution's structural hostility toward entrepreneurship when the decrease in entrepreneurial action may actually reflect the rising opportunity costs attributed to the higher wages that can be attained in a prosperous nation.

Therefore, as a purely income-based comparison, decreases in the income associated with employment are expected to lead to increases in the attractiveness of self-employment (Levesque, Shepherd, & Douglas, 2002). This may be obvious for NME. In such a scenario, the income of the employment option diminishes and may even vanish entirely, leaving the decision maker with the unattractive alternatives of underemployment (insufficient income) or unemployment (no income) versus self-employment (uncertain payout with the possibility of satisfactory income). In fact, the very term "necessity-motivated" conveys a lack of alternatives—a "push" into self-employment (Shapero & Sokol, 1982). Accordingly, NME is likely to increase as the income of employment decreases.

Perhaps less obvious is the likelihood that this same relationship will exist between employment and OME. The evaluation of self-employment in which an individual is "pulled" into entrepreneurial action by an attractive opportunity depends upon the payout associated with alternative courses of action. Therefore, even though the choice to engage in OME is not forced, it still represents an assessment of opportunity costs that takes into account the costs of pursuing self-employment over employment. Given the diminished value of employment, however, self-employment becomes the more rational and attractive alternative. Thus, we propose the following hypothesis:

> **Hypothesis 1:** Expected income from employment will be negatively associated with both (a) OME and (b) NME.

Self-Employment and Transaction Costs

Whereas rising opportunity costs attributable to higher and less uncertain income streams from employment are positive explanations for decreases in entrepreneurial action, the same cannot be said for inefficient institutions which discourage entrepreneurial action by contributing to the uncertainty of self-employment. In other words, entrepreneurial attempts to assess the degree and nature of the uncertainty underlying self-employment involve the formation of beliefs about the transformation costs and transaction costs that must be borne to create desired benefits. Assessments of transformation costs concern beliefs of whether one can provide a good or service at a lower price than the competition while still making enough profit to justify self-employment over employment. Regardless of an economy's institutional (in)efficiency, affirmative answers to this question are necessary if productivity improvements are to occur.

In contrast, whether individuals believe that they will be compensated adequately for the benefits that they create, should they choose to bear the costs, is a question regarding transaction costs. The answer to this question dictates the form that the value creation process will take. If institutions do not ensure that individuals are compensated for the benefits that they create for society, then little incentive exists for such behavior (Baumol, 1990, 2002). As a result, entrepreneurial action of an innovative nature is unlikely unless entrepreneurs are assured (1) that assets will not be expropriated formally by the state (e.g., nationalization) or informally by employees or external stakeholders (e.g., crime) and (2) that the value created by entrepreneurs will not be appropriated by competitors (e.g., piracy), customers (e.g., freeriders), or the state (e.g., excessive taxes) before the entrepreneurs are adequately compensated for their efforts (Dean & McMullen, 2007). Because these institutional inefficiencies create uncertainty and additional costs associated with transacting through entrepreneurial action, each of these concerns discourages productive entrepreneurial efforts.

To the extent that institutions stimulate actions that contribute to the production of more valuable output, they contribute to economic growth (Eggertsson, 1990; Kasper & Streit, 1998). Berggren (2003, p. 197) notes,

> Institutions that guarantee economic freedom plausibly have the capacity to provide the growth-enhancing kind of incentives, for several reasons: they promote a high return on productive efforts through low taxation, an independent legal system, and the protection of private property; they enable talent to be allocated to where it generates the highest value (as argued in Murphy, Shleifer, and Vishny, 1991); they foster a dynamic, experimentally organized economy in which a large amount of business trial and error can take place (Johansson, 2001, chap. 2) and in which competition between different actors occurs because regulations and government enterprises are few; they facilitate predictable and rational decision making through a low and stable inflation rate; and they promote the flow of trade and capital investment to where preference satisfaction and returns are the highest.

Because it reduces the structural rigidities typically introduced by inappropriate governmental intervention, economic freedom is believed to enhance the efficiency with which entrepreneurs can allocate resources to more productive uses. This entrepreneurial action, in turn, is frequently presented as the means by which economic development and wealth creation occurs (Schumpeter, 1934). Thus, increases in economic freedom become conceptually equivalent to reductions in entrepreneurial action-inhibiting transaction costs. Consequently, as economic freedom increases, entrepreneurial action—in either its more innovative form (OME) or its more imitative form (NME)—is likely to increase.

Accordingly, we offer the following overarching proposition, the dimensions of which we hypothesize:

Proposition 1: Economic freedom will be positively associated with entrepreneurial action.

Economic freedom refers to an "absence of government coercion or constraint on the production, distribution, or consumption of goods and services beyond the extent necessary for citizens to protect and maintain liberty itself" (Beach & O'Driscoll, 2003, p. 2). Consequently, it consists of a panopoly of categories, including *trade freedom*, *fiscal freedom*, *freedom from government*, *monetary freedom*, *investment freedom*, *labor freedom*, *property rights*, *business freedom*, *freedom from corruption*, and *financial freedom*. Although indices of economic freedom tend to weigh each of these factors equally (Beach & O'Driscoll, 2003; Haan & Sturm, 2000), there is reason to suspect that the nature of their relationships with NME and OME may vary. Thus, we examine each of these economic freedoms further in the text.

Factors of Economic Freedom and Their Relationships to OME and NME

Trade Freedom. Trade freedom refers to the degree to which a nation's economy is free of governmental restrictions on the flow of foreign commerce (Haan & Sturm, 2000). Through tariffs, nontariff barriers (e.g., quotas and licensing requirements), or customs service corruption (e.g., theft or bribes to allow products to enter ports), government can hinder people's ability to pursue their economic goals by preventing specialization (Heckelman, 2000). For example, when a government impedes the importation of a certain product by taxing it directly through tariffs or indirectly through nontariff barriers, some individuals in that country will seek to fill this market gap, even though their talents and skills may be better suited for alternative endeavors (Beach & O'Driscoll, 2003). Consequently, consumers' choices and well-being suffer to the extent that foregone specialization would have produced alternative products (Ricardo, 1996). Moreover, protectionist restrictions on trade freedom prevent competitive pressures from spurring innovation (World Bank, 2005).

By impeding specialization and competition, protectionist limitations on trade freedom favor known products over innovative new products. This constrains the opportunities that individuals consider when choosing whether to engage in entrepreneurial activity. That is, protectionism curbs entrepreneurial action to the extent that new profit possibilities are excluded from the choice sets of domestic entrepreneurs. Consequently, the level of both OME and NME are likely to decrease as a result of government interference in the free flow of foreign commerce. Conversely,

Hypothesis 2: Trade freedom will be positively associated with both (a) OME and (b) NME.

Fiscal Freedom. Fiscal freedom refers to the absence of burdensome tax rates and government expenditures as a portion of GDP (Haan & Sturm, 2000). Tax rates reflect the price of engaging in entrepreneurial activity (Beach & O'Driscoll, 2003). Increases in this price are expected to correspond to fewer individuals supplying economic effort; and, this demotivating effect is likely to be even stronger for entrepreneurs who must confront novelty, bear uncertainty, and thus exert greater effort than they would as employees.

In addition to taxes, governments can restrict fiscal freedom through expenditures, whether used for consumption or for redistribution among citizens. Like taxes, these expenditures divert resources away from the private sector. DiLorenzo (2004) notes,

> If the government taxes, it takes money out of the pockets of consumers; if it borrows, it crowds out private borrowers (individuals, families, and businesses) and puts upward pressure on interest rates, which makes borrowing more expensive for private citizens; and if it prints money to finance its programs, it creates inflation, which reduces the value of privately held wealth.

Thus, the more voracious a government's appetite for private resources, the higher the top income tax rate, marginal rate for the average taxpayer, corporate tax rate, and/or government expenditures as a percent of GDP, and the higher the price of entrepreneurial activity (Beach & O'Driscoll, 2003).

This logic does not necessarily imply a decrease in the overall level of entrepreneurial activity, however. Instead, entrepreneurial talent may simply flow from the formal to the informal sector. As the World Bank (2005, p. 4) illustrates,

> Rafael runs a trading business in Guatemala. A large customer refuses to pay for equipment delivered 2 months earlier. It would take more than 4 years to resolve the commercial dispute in the courts and even then the outcome is uncertain. Rafael has no choice but to negotiate with the customer and ends up getting only a third of the amount due. With no money to pay his taxes, Rafael closes the business and goes informal. He is not alone. More than half of economic activity in Guatemala is in the informal sector.

Similarly, Dana (1997, p. 100) observes that Argentina's Tax Reform Act of April 1995 introduced a new tax on formal small businesses that contributed to the establishment of a large sector of informal, subsistence-level micro-enterprises.

Because it tends to occur in the formal sector, OME could be expected to decrease with restrictions in fiscal freedom. Limitations on fiscal freedom may also correspond with decreases in NME, but for different reasons. NME tends to be imitative in nature. Therefore, it is less likely to enjoy the entrepreneurial rents associated with innovation and more likely to yield smaller margins than OME. This would make the financial sustainability of NME particularly sensitive to increases in tax rates. Consequently, we expect restrictions of fiscal freedom to be associated with decreases in NME. Conversely,

> **Hypothesis 3:** Fiscal freedom will be positively associated with both (a) OME and (b) NME.

Freedom From Government. Freedom from government complements fiscal freedom. It refers to the absence of government intervention in the direct use of scarce resources for its own purposes (i.e., consumption), control over resources through ownership (i.e., production), and interference with capital allocation in the stock market (Heckelman, 2000). Consumption consists of net purchases of goods, services, and structures such as bridges and buildings, wages paid to government employees, net purchases of fixed assets, and inventory changes in government enterprises (Beach & O'Driscoll, 2003). In other words, freedom from government is restricted to the extent that government provides goods and services beyond public goods.

Restrictions on freedom from government preclude entrepreneurs from exploiting opportunities that otherwise could have taken place more efficiently in the private sector. For example, Dana (1997) points to the privatization of the formerly state-owned oil

company, Yacimientos Petroliferos Fiscales, in Argentina in 1993. He notes that privatization of the company increased net profitability by 176% while reducing its employee count from 51,000 (in 1990) to 6,500 (in 1994) and that some of the former employees subsequently rechanneled their energies into entrepreneurship. Thus, entrepreneurial activity can be expected to decline as government takes on functions other than the provision of public goods. Conversely,

> **Hypothesis 4:** Freedom from government will be positively associated with both (a) OME and (b) NME.

Monetary Freedom. When a government's monetary policy facilitates market pricing, individuals enjoy greater economic freedom. Keynes (1919, p. 200) pointed out, "By a continuing process of inflation, governments can confiscate, secretly and unobserved, an important part of the wealth of their citizens." Inflation distorts pricing, misallocates resources, and undermines entrepreneurship by complicating assessments of whether investments in resources are producing a good or service that consumers value more than the resources themselves (Beach & O'Driscoll, 2003). That is, inflation makes it difficult for entrepreneurs to determine whether revenues exceed costs (DiLorenzo, 2004). Thus, monetary policy that restricts economic freedom is likely to be negatively associated with entrepreneurial activity as individuals choose less uncertain income-generating alternatives.[1] Conversely,

> **Hypothesis 5:** Monetary freedom will be positively associated with both (a) OME and (b) NME.

Investment Freedom. Similar in appearance to trade freedom (which was concerned with tariffs, quotas, and other non-tariff barriers to restrict imports), investment freedom is conceived and operationalized as restrictions on (1) foreign ownership of business, (2) the industries and companies open to foreign investors, and (3) performance requirements on foreign companies. Investment freedom also addresses foreign ownership of land, equal treatment under the law for foreign and domestic companies, and availability of local financing for foreign companies. Because restrictions on foreign direct investment (FDI) limit the inflow of capital, they hamper economic freedom (Beach & O'Driscoll, 2003). FDI not only provides funds for economic expansion, it also allows for the transfer of intangibles from other countries, making knowledge spillovers possible (Acs, O'Gorman, Szerb, & Terjesen, 2007). Consequently, restrictions on FDI limit individuals' choices by constraining the array of opportunities they consider in decision making. This, in turn, is likely to decrease the rate of OME and NME. Conversely,

> **Hypothesis 6:** Investment freedom will be positively associated with both (a) OME and (b) NME.

Labor Freedom. Some governments restrict economic freedom by mandating wage and price controls. Prices convey information to producers and consumers by acting as signals

1. As with fiscal freedom, we expect this relationship to be stronger for NME than for OME owing to the thinner margins that NME is likely to generate. However, the purpose of this paper is to explore whether a relationship exists between each factor of economic freedom and NME or OME, not to determine whether there is a stronger relationship between monetary freedom and NME than monetary freedom and OME. As one of the anonymous reviewers insightfully observed, however, research may benefit from testing for such differences in the future.

that would otherwise be prohibitively costly to obtain. As Hayek (1945, p. 526) observes, "We must look at the price system as . . . a mechanism for communicating information if we want to understand its real function—a function which, of course, it fulfills less perfectly as prices grow more rigid." Consequently, when labor freedom is restricted, individuals are prevented from negotiating prices and wages and from allocating resources to their most productive uses. This undermines the entrepreneur's autonomy and marginalizes his or her function within a decentralized market economy. Thus, the entrepreneur is held responsible for the financial outcomes of an enterprise whose production function is largely outside of his or her influence. Given the importance of autonomy and locus of control to entrepreneurs (Mueller & Thomas, 2001), restrictions on labor freedom are likely to have discouraging motivational effects. Conversely,

> **Hypothesis 7:** Labor freedom will be positively associated with both (a) OME and (b) NME.

Property Rights. Property rights refer to the degree to which government creates the right to private property and enforces the laws written to protect those rights (Beach & O'Driscoll, 2003). As the primary motivating force in a market economy, the ability to accumulate private property is vital to a fully functioning free-market economy (DeSoto, 2000). As DiLorenzo (2004, pp. 20–21) observes, "When it comes down to it, what are being traded in a capitalist economy are property rights—the ownership rights in goods and services." DeSoto suggests that, for property to live a "double life" as capital, one must have legal title. Without property rights secured in the rule of law, individuals are less likely to invest in improving their assets and are required to allocate effort away from productive activities in the effort to secure legally unprotected property (DeSoto). By failing to ensure that private property is safe from expropriation, insecure property rights undermine the confidence that individuals need to initiate commercial activities, save income, and make long-term plans (Beach & O'Driscoll). Conversely,

> **Hypothesis 8:** Protection of property rights will be positively associated with both (a) OME and (b) NME.

Business Freedom. Regulation refers to the ease or difficulty of opening and operating a business (Heckelman, 2000). The more that government imposes regulations on business, the harder it is for entrepreneurs to create them. For example, licensing new companies can involve completion of a single form and take as little as a few hours in some countries—e.g., Hong Kong (World Bank, 2005)—while in others it may require navigation through a sea of red tape—e.g., India and parts of South America (World Bank; DeSoto, 2000). Even after the business is open, government regulation does not necessarily subside, and in some countries may even intensify (Beach & O'Driscoll, 2003). Furthermore, two countries with similar sets of regulations may impose them differently. The first may apply them evenly and transparently, allowing businesses to make long-term plans. By contrast, the second may apply them inconsistently, creating an unpredictable business environment in which entrepreneurs are uncertain about which regulations must be obeyed. This creates potential for corruption by regulators (Beach & O'Driscoll). Finally, regulation includes state planning agencies that interfere with market mechanisms by setting production limits and quotas (Haan & Sturm, 2000). Thus, excessive regulation in terms of licensing requirements; registration difficulties; bureaucratic corruption; and arbitrarily enforced labor, environmental, or safety regulations are all expected to discourage OME and NME. Conversely,

Hypothesis 9: Business freedom will be positively associated with both (a) OME and (b) NME.

Freedom From Corruption. Freedom from corruption assesses the perception of corruption in the business environment. It includes levels of legal, judicial, and administrative corruption (Haan & Sturm, 2000). Black markets are the direct result of some kind of government intervention in the marketplace (Beach & O'Driscoll, 2003). "In some circumstances, corruption may be preferable to honest enforcement of bad rules. For example, outcomes may be worse if a regulation that prohibits some useful economic activity is thoroughly enforced rather than circumvented through bribes" (Barro, 2000, p. 36). However, Chafuen and Guzman (2000, p. 53) observe that "corruption is the cost of obtaining privileges that only the State can 'legally' grant, such as favoritism in taxation, tariffs, subsidies, loans, government contracting, and regulation." Thus, a black market activity is one that the government taxed heavily, regulated in a burdensome manner, or simply outlawed (Beach & O'Driscoll). Consequently, "black market" refers to smuggling, piracy of intellectual property, or supplying excessively taxed or illegal goods ranging from agriculture to manufacturing to transportation (Haan & Sturm).

The existence of a black market is a market response to a lack of economic freedom. Corruption weakens the rule of law, gradually replacing it with the rule of man. Whereas the rule of law is predictable and facilitative of entrepreneurial plans and actions, the rule of man suffers from capricious and arbitrary enforcement of laws, rights, contracts, etc., and therefore undermines the stability and reliability of these institutions when deciding whether to act entrepreneurially. Increases in entrepreneurial activity attributable to the growth of a black market are unlikely therefore to compensate for the entrepreneurial activity discouraged by the lack of economic freedom that caused the need for the black market. Consequently, a large black market is expected to be negatively associated with OME and NME. Conversely,

Hypothesis 10: Freedom from corruption will be positively associated with both (a) OME and (b) NME.

Financial Freedom. Banks lend money to start businesses and provide the financial services that facilitate economic growth in most countries (Beach & O'Driscoll, 2003). Even though commercial banks are relatively less important in developed countries where OME is most prevalent, the role they play in terms of extending credit, offering insurance and securities, and simply acting as a reservoir for savings, remains integral to many developing nations (Beach & O'Driscoll). Virtually all countries provide some type of prudential supervision of banks and other financial services, but if opening a bank account is too expensive and time-consuming, people will avoid banks. This reduces the capital available to other entrepreneurs who wish to launch substantive businesses. Therefore, restrictions of economic freedom attributable to banking refer to burdensome government regulation that goes beyond simply ensuring basic fiduciary responsibilities to include, for example, restrictions that prevent foreign banks from opening branches and subsidiaries. Because credit is an essential precursor to entrepreneurial activity (Schumpeter, 1934), we expect excessive bank regulations to be negatively associated with OME and NME. Conversely,

Hypothesis 11: Financial freedom will be positively associated with both (a) OME and (b) NME.

Methodology

The Sample

To determine whether relationships exist between opportunity costs, transaction costs, and entrepreneurial activity of an opportunity-motivated and necessity-motivated nature, we created a database from the intersection of available data from (1) the 2003 IEF, developed by the Heritage Foundation and the *Wall Street Journal* and (2) the 2002 GEM, developed by Babson College, London Business School, and the Kauffman Foundation. Published annually since 1995, the IEF includes 161 countries. The GEM data set, however, is limited to 37 countries, each of which was included in the 2003 IEF. Thus, our sample consists of Argentina, Australia, Belgium, Brazil, Canada, Chile, China, Croatia, Denmark, Finland, France, Germany, Hong Kong, Hungary, Iceland, India, Ireland, Israel, Italy, Japan, Jordan, Korea, Mexico, the Netherlands, New Zealand, Norway, Poland, Russia, Singapore, Slovenia, South Africa, Spain, Sweden, Switzerland, Thailand, the United Kingdom, and the United States. The GEM began analyzing entrepreneurial processes in 1999 using data from 10 countries. With 37 countries, the 2002 GEM sample was significantly larger than prior and subsequent years and therefore more comparable to the 2003 IEF which covered approximately the same time period: the second half of 2001 and the first half of 2002.

Dependent Variables

Data on NME and OME are taken from the GEM Adult Population Survey. This database contains various entrepreneurial measures that are constructed on the basis of surveys, which consist on average of some 3,000 respondents per country (Stel et al., 2005). Total Entrepreneurial Activity (TEA) consists of OME and NME and is defined as the percentage of the adult population (18–64 years old) that is either actively involved in starting a new venture or is the owner/manager of a business that is less than 42 months old (Reynolds et al., 2002, pp. 5–6). In 2002 the TEA rate (per 100 adults) ranged from values above 15 in Chile, Thailand, and India, to 10.5 in the United States, to values below four in Russia, Belgium, France, Japan, Croatia, and Hong Kong (See Stel et al., Appendix A).

About 61% of the entrepreneurially active adults in the GEM 2002 countries were voluntarily pursuing an attractive business opportunity, and therefore engaged in OME as opposed to the remaining 37%, who were engaged in entrepreneurship out of necessity—that is, they could find no other suitable work and were therefore engaged in NME (Reynolds et al., 2002, p. 16)

Independent Variables

As a proxy of the opportunity costs associated with self-employment, we used the logarithm of GDPpc from the 2002 GEM data set. GDPpc ranged from $517 for India to $37,142 for Norway and is regularly considered a measure of both standard of living and average income (see for example, Powell, 2003, or Grubel, 1998). GDPpc tends to be inclusive of both the formal and informal sectors of the economy and is therefore preferable to measures of wages which typically reflect income from only the formal sector. This is important because many of the developing countries included in the GEM data set have a significant informal sector in which individuals could presumably seek employment.

As a proxy of the transaction costs associated with self-employment, we used data from the 2003 Heritage/*Wall Street Journal* IEF. The IEF uses 50 independent variables grouped into 10 categories to score countries. The categories include *trade freedom*, *fiscal freedom*, *freedom from government*, *monetary freedom*, *investment freedom*, *financial freedom*, *labor freedom*, *property rights*, *business freedom*, and *freedom from corruption*, each of which is defined and described in detail in the section outlining hypotheses 2–11. Currently, the index weights each of these factors equally and scores them on a scale of 1 to 5, in which 1 indicates conditions most conducive to economic freedom and 5 is least conducive. The data are obtained from other sources, such as Transparency International's Corruption Perception Index, for example, and provide rankings for countries similar to other sources (Haan & Sturm, 2000).

Analysis and Results

Because prior research (e.g., Bosma & Harding, 2006; Stel et al., 2005) has suggested that entrepreneurial activity may have a curvilinear relationship with GDP, we conducted curve estimation to explore the relationship between each of the independent variables—the logarithm of GDP per capita (LogGDPpc) and each of the respective economic freedoms—and the dependent variables—OME and NME. Estimated curve fits revealed that curvilinear models did not provide significant improvement over linear models. Table 1 presents the variables, means, standard deviations, and bivariate correlations of the multivariate tests. Table 2 presents the results of the multiple regression in which OME (Adj. $R^2 = .27$; $F^*_{(11,25)} = 2.2$; $p < .05$) and NME (Adj. $R^2 = .49$; $F^*_{(11,25)} = 4.18$; $p < .01$) were each regressed on LogGDPpc and the 10 dimensions of economic freedom.

A review of the intercorrelation matrix showed that *freedom from corruption* and *trade freedom* were highly correlated ($r > .70$) with each other and some of the other economic freedom variables, suggesting possible multicollinearity. Thus, we examined tolerance values; all were acceptably above the .10 cutoff (Hair, Babin, Money, & Samouel, 2003). Next, we ran regression models, excluding *freedom from corruption* and *trade freedom* from the model. We found that the coefficients were indeed stable and that no significant relationships had gone undetected (Hair et al.). Finally, we used a modified Gram-Schmidt procedure to orthogonalize the variables (Cohen & Cohen, 1983; Kutner, Nachtsheim, & Neter, 2004). This technique partials out common variance to create transformed variables that are uncorrelated with one another (orthog command, STATA). The significance and direction of the transformed variables did not change from our original analysis. Thus, multicollinearity was not an issue.

Results revealed a significant negative relationship between LogGDPpc and OME ($R^2 = .15$; $F^*_{(1,25)} = 4.41$; $p < .05$), and LogGDPpc and NME ($R^2 = .25$; $F^*_{(1,25)} = 8.41$; $p < .01$), controlling for the economic freedom variables. These results support hypotheses 1a and 1b, which expected increases in LogGDPpc to be negatively associated with OME and NME. Of the economic freedom variables, only labor freedom was positively associated with entrepreneurial activity in both models—OME ($R^2 = .10$; $F^*_{(1,25)} = 2.92$; $p < .10$) and NME ($R^2 = .11$; $F^*_{(1,25)} = 2.96$; $p < .10$), over and above the other variables in the model. These results provide marginal but substantive support for hypotheses 7a and 7b. Only one economic freedom variable (property rights) was significantly associated with OME. Results revealed a significant positive relationship between property rights and OME ($R^2 = .18$; $F^*_{(1,25)} = 5.43$; $p < .05$), providing support for hypothesis 8a. However, no such relationship existed between property rights and NME. Finally, two of the economic freedom variables were associated exclusively with NME, fiscal freedom ($R^2 = .12$;

Table 1

Descriptive Statistics and Intercorrelation Matrix

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Opportunity-motivated entrepreneurial activity	1.95	2.10	1.00											
2. Necessity-motivated entrepreneurial activity	5.62	3.17	0.43**	1.00										
3. GDP per capita (log)	4.07	.48	–0.30†	–0.70***	1.00									
4. Trade freedom	2.51	.99	0.24	0.64***	–0.84***	1.00								
5. Fiscal freedom	3.59	.78	0.05	–0.17	0.09	0.01	1.00							
6. Freedom from government	2.53	.72	0.03	0.11	–0.01	0.04	–0.11	1.00						
7. Monetary freedom	1.65	.92	–0.13	0.14	–0.47**	0.42**	–0.37*	–0.07	1.00					
8. Investment freedom	2.22	.82	0.08	0.36*	–0.53***	0.65***	0.02	–0.11	0.25	1.00				
9. Labor freedom	2.11	.46	–0.15	0.22	–0.60***	0.55***	–0.06	–0.09	0.42**	0.38*	1.00			
10. Property rights	1.86	1.03	–0.12	0.47*	–0.71***	0.78***	–0.04	0.02	0.48**	0.69***	0.56***	1.00		
11. Business freedom	2.70	.78	–0.06	0.33*	–0.59***	0.60***	0.19	–0.04	0.32	0.50**	0.64***	0.64***	1.00	
12. Freedom from corruption	2.11	1.04	0.04	0.51**	–0.82***	0.79***	–0.06	0.02	0.52***	0.64***	0.61***	0.88***	0.66***	1.00
13. Financial freedom	2.24	.98	0.05	0.44**	–0.57***	0.70***	–0.02	0.21	0.25	0.66***	0.37*	0.72***	0.61***	0.65***

† $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.
n = 37.

Table 2

Opportunity-Motivated Entrepreneurial Activity (OME) and Necessity-Motivated Entrepreneurial Activity (NME) Regressed on the Logarithm of GDP per Capita and the 10 Factors of Economic Freedom

	OME β	NME β
Intercept	30.32*	20.44**
GDP per capita (log)	–4.45*	–3.39**
Trade freedom	1.30	0.66
Fiscal freedom	–0.03	–0.71†
Freedom from government	–0.18	0.11
Monetary freedom	–0.59	–0.71†
Investment freedom	0.53	–0.18
Labor freedom	–2.48†	–1.37†
Property rights	–2.51*	0.38
Business freedom	–0.23	0.28
Freedom from corruption	0.42	–0.35
Financial freedom	0.04	–0.17
Model		
R^2	0.49	0.65
Adj. R^2	0.27*	0.49**

† $p < .10$; * $p < .05$; ** $p < .01$.
Note: Coefficients are unstandardized.

$F^*_{(1,25)} = 3.35$; $p < .10$) and monetary freedom ($R^2 = .14$; $F^*_{(1,25)} = 3.92$; $p < .10$). Thus, hypothesis 3b and 5b were marginally but substantively supported. No support was found for hypotheses 2, 4, 6, 9, 10, and 11.

Discussion

Despite a highly conservative statistical test (small sample with relatively few degrees of freedom), we find support for the notion that entrepreneurial action increases with decreases in opportunity costs and transaction costs. Whereas an opportunity cost is the value of the next best choice that one gives up when making a decision, a transaction cost is defined as the costs of making an economic exchange—i.e., measuring what is being exchanged and enforcing agreements. By using GDPpc as a proxy of the opportunity costs associated with foregoing employment in favor of pursuing self-employment, our study suggests that, for better or worse, high salaries associated with stable employment options are likely to curb entrepreneurial activity, and that as these options decrease, so do the opportunity costs associated with choosing the entrepreneurial option of becoming self-employed. This appears to be true regardless of the motive for the entrepreneurial activity.

The relationship between transaction costs and entrepreneurial action was slightly more complex, owing to the fact that scholars are still uncertain of the relative importance of various dimensions of economic freedom in predicting entrepreneurial activity. That

said, our findings do show that entrepreneurial activity and economic freedom are related and that this relationship differs depending on whether the entrepreneurial activity is motivated by necessity or opportunity. For instance, limits on economic freedom attributable to fiscal freedom (freedom from high tax rates and heavy government expenditures), monetary freedom (freedom from inflation and governmental intervention), and labor freedom (freedom from wage and price controls), each exhibited a positive relationship with necessity-motivated entrepreneurship. Although each of these hypotheses was only marginally supported, the effect size of each variable suggests that fiscal freedom, monetary freedom, and labor freedom were highly substantive, accounting for 12, 14, and 11%, respectively, of the variance in NME, over and above the other variables in the model. Thus, we believe that, as the number of countries added to the GEM survey increases in future years and, with it, the degrees of freedom for models like the one we have proposed, these marginal findings are likely to become significant. In fact, we created a more parsimonious model using only the economic freedom variables discovered in this study to be associated with entrepreneurial activity and found that increases in the statistical power of the model (from dropping the variables associated with the six unsupported hypotheses) not only improved the variance explained by the model, but also caused several variables to meet the .05 threshold (e.g., monetary freedom). Because the literature examining the relationship between economic freedom and entrepreneurial activity is in its exploratory stages, we suggest that future studies may wish to employ the economic freedom variables more judiciously, at least until the GEM survey expands its coverage or a different proxy for entrepreneurial activity that uniformly measures more countries is identified.

It is not surprising that fiscal freedom, monetary freedom, and labor freedom are associated with the decision to engage in entrepreneurial activity. After all, each speaks directly to the rationality of entrepreneurial decisions and actions. For instance, high tax rates could be expected to act as a disincentive for entrepreneurial activity as they reallocate the returns generated by the entrepreneur to those who did not bear the risk associated with its creation (Baumol, 2002). Similarly, government's failure to facilitate market pricing and curb inflation undermines the stability and reliability of the information needed to make decisions regarding the value of production-related inputs and outputs (DiLorenzo, 2004). This not only makes the costs and benefits of new activities more difficult to estimate, it also introduces a significant opportunity cost to the individual entrepreneur and society, as time and energy must be allocated to monitor continuously the fluctuating value of assets as opposed to seeking ways to improve effectiveness (i.e., innovative ways to serve customers better) or efficiency (i.e., productivity gains). Finally, government intervention regarding labor freedom again removes decision-making discretion from the entrepreneur and reassigns it to the government. Wages comprise much of the cost side of the production equation while prices constitute its benefits. As a result of government interference in wages and prices, the entrepreneurial function begins to resemble a role in which one enjoys responsibility for an enterprise without any of the power or authority necessary to ensure its success—a highly unappealing prospect for any rational decision maker.

The earlier discussion suggests why certain restrictions of economic freedom may curb entrepreneurial activity, but the question remains of why only one of these variables (labor freedom) is associated with OME as well as NME. Why are both fiscal freedom and monetary freedom positively associated with NME but not to OME? We believe that the answer may be a matter of the differences in profit margins associated with OME and NME, which in turn may be traced back to the motivation responsible for initiating the entrepreneurial activity in the first place.

For example, whereas OME tends to involve innovative attempts to exploit new market niches, NME is more consistent with imitative ventures (Reynolds et al., 2002). Because entrepreneurial rents are partially a function of the innovativeness of the goods or services offered by the entrepreneur (Schumpeter, 1934), OME is likely to enjoy more of them than NME because the former tends to be more innovative than NME. In turn, opportunity-motivated entrepreneurs are likely to enjoy wider profit margins and less sensitivity to changes in tax rates and inflationary pressures than their necessity-motivated counterparts.

Differences in the innovativeness of OME and NME may result from the motivation for the entrepreneurial activity. OME is primarily self-determined, whereas NME tends to be environmentally determined. In the case of OME, for instance, individuals enjoy the luxury of evaluating alternative courses of action from a state of motivational stability. Consequently, they may pass on a number of opportunities until they are "pulled" into entrepreneurship by an opportunity that promises abnormally high returns on investment (Shapero & Sokol, 1982). In such a scenario, entrepreneurs face a choice of whether to give up the relatively certain payout associated with the status quo for the uncertain promise of achieving a return that is believed to be worth the risk (McMullen & Shepherd, 2006a). Because the strength of this pull can be attributed to the lure of profit, and because the profit potential in competitive markets tends to be associated with innovation (Schumpeter, 1934), it is little surprise that OME tends to involve the introduction of new goods or services under uncertainty (Knight, 1921; Shackle, 1972).

In contrast, NME is largely determined by circumstance. Having been thrust into a state of motivational unrest, the necessity-motivated entrepreneur chooses entrepreneurship as the most attractive opportunity available at the time of the decision. This is less conducive to the planning and forethought needed to launch substantively innovative new enterprises (Penrose, 1959). As a result, the conditions that initiate NME may encourage individuals to adopt sub-optimal goals and to initiate imitative enterprises with narrower profit margins. Consequently, the narrower profit margins of necessity-motivated entrepreneurial ventures make them highly sensitive to government impinging upon the entrepreneur's fiscal freedom or monetary freedom.

Just as NME exhibited a relationship with variables that OME did not, we found that OME was associated significantly with property rights while NME was not. Again, we attribute this discrepancy to OME's tendency to be more innovative than NME (Reynolds et al., 2002). Innovative entrepreneurial activity often involves knowledge creation (Schumpeter, 1942), and because knowledge can be considered a pure public good (Romer, 2004), property rights must be protected to encourage it (Baumol, 2002). That is, strong property rights protection acts as an incentive for entrepreneurial action of an innovative nature (Rosenberg & Birdzell, 1986). Thus, as governmental protection of private property through law enforcement increases, OME increases.

In economies that are characterized by strong political institutions, in which the law is known and enforced evenhandedly, it is often the right to property—as opposed to the property itself—that is traded (DeSoto, 2000). In contrast, economies plagued by subjectively determined rules that go unenforced or which are arbitrarily enforced, are unlikely to encourage productive entrepreneurship of a highly innovative nature (Baumol, 2002). Instead, entrepreneurial activity takes a more imitative form. For instance, Reynolds and colleagues noted that 93% of entrepreneurially active adults surveyed in the 2002 GEM data set considered their business to be a replication of an existing business activity and that only a small minority (7%) of ventures—primarily of an opportunity-motivated nature occurring in developed countries—expected their new firms to create a significant new market niche or economic sector. Thus, for NME, emphasis on knowledge creation

is minimal and therefore property rights play a relatively diminished role in one's decision of whether to engage in entrepreneurial activity.

Limitations and Directions for Future Research

In this study, we sought to explore the relationships between opportunity costs, transaction costs, and both NME and OME. Our use of correlational analysis, however, prevented us from being able to conclude whether decreases in opportunity costs and transaction costs are the determinants of either opportunity-motivated or necessity-motivated entrepreneurial activity. To determine causality, future researchers may wish to conduct longitudinal analysis, although we recognize the challenges of doing so given the lack of available time series data comparable across countries. Alternatively, future research may benefit by employing decision-making methods, such as policy capturing (Zacharakis, McMullen, & Shepherd, 2007) or conjoint analysis (McMullen & Shepherd, 2006b) to examine whether and how the various dimensions of economic freedom shape the allocation of attention when deciding whether to act entrepreneurially. Our study highlights some of the potentially more meaningful dimensions that could be included as factors in this decision-making process. If complemented with interview data and more micro-level data methods, policy makers may be better equipped to understand and manipulate the institutional environment in such a way as to encourage both the likelihood of entrepreneurial action and the form that it will take. For example, conjoint studies could examine the effect that reductions in taxes or enhanced property rights protection have on individuals' decisions to engage in entrepreneurial action.

Future research may also wish to apply factor analysis to the ten dimensions of economic freedom to determine whether there are factors within the IEF index that are less relevant to entrepreneurial action and that could be dropped from future analyses. The relatively small sample size of 37 countries limited the number of variables that could be included in our model. Thus, the variables in the OME model accounted for only 27% of the variance. This suggests that one or more key variables may be missing from the model. Sociocultural institutions (e.g., Stark, 2005; Weber, 1930), for example, may help to explain more of the variance in OME and NME. Because a uniform measure of entrepreneurial activity exists for only a very small fraction of the countries on the globe, developing parsimonious models of entrepreneurial activity across countries is critical. Using either confirmatory factor analysis, wherein the dimensions could be categorized according to some underlying theoretical similarity, or exploratory factor analysis, in which a more empirically driven distinction could be made, discriminating and removing economic freedom variables could increase degrees of freedom, contribute to the statistical power of future models, and allow researchers to begin examining a number of interesting interactions and/or configural effects.

In conclusion, we find that the opportunity cost of foregoing employment is significantly and negatively associated with entrepreneurial activity, suggesting that high salaried employment opportunities are likely to discourage entrepreneurial action, regardless of the motive for engaging in it. By equating increases in economic freedom to reductions in transaction costs, we find that entrepreneurial activity is indeed positively associated with increases in economic freedom, but that the nature of this relationship depends on the motive for engaging in entrepreneurial activity. Thus, NME is positively associated with increasing economic freedom in terms of fiscal freedom, monetary freedom, and labor freedom, while OME is positively associated with increasing economic freedom in terms of property rights and labor freedom. We believe that these differences can be attributed

to the profit margins associated with particular forms of entrepreneurial action. For instance, OME tends to be more innovative and, therefore, to enjoy entrepreneurial rents that may be less sensitive to changes in transaction costs, whereas NME tends to be more imitative and therefore likely to be more sensitive to transaction costs. However, we also recognize that this study is simply an early step in what promises to be a fruitful line of inquiry for researchers and policy makers interested in entrepreneurship incentives.

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