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Supporting Regional Economic Development through Analysis and Education

THE CENTER FOR **APPLIED ECONOMICS**

PUBLIC POLICY AND ENTREPRENEURSHIP

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Abstract

Entrepreneurship is a primary catalyst for economic growth and regional development. Recognizing its importance, state and local policymakers are now devoting considerable resources to fostering entrepreneurship. After a brief discussion of the data and theories of entrepreneurship, this paper presents a framework for thinking about government's role in the entrepreneurial process. We then examine the research on macro-level determinants of entrepreneurial activity and find that policies broadly consistent with economic freedom, such as secure property rights, low taxes, and low regulations lead to a robust entrepreneurial environment.

TABLE OF CONTENTS

1. Introduction	1
2. The Definition and Measurement of Entrepreneurship	2
2.1 What is an Entrepreneur?	2
2.2 Entrepreneurial Success and Failure	2
2.3 Entrepreneurs and Wealth-Creation	3
2.4 Theories of Entrepreneurship	4
3. Inputs, Institutions, and Entrepreneurship	5
3.1 A Framework for Understanding the Entrepreneurial Process	5
3.2 Entrepreneurship and Economic Growth	5
4. Factors Affecting Entrepreneurship	7
4.1 The Questionable Relevance of Liquidity Constraints	7
4.2 Government Loan Programs are Generally Ineffective	8
4.3 Regulation Limits Entrepreneurial Opportunities	9
4.4 Taxes Distort the Decision to become an Entrepreneur	10
4.5 Institutional Quality and Economic Freedom Matter for Entrepreneurship	11
5. Productive versus Unproductive Entrepreneurship	12
6. Conclusion	16
References	17

PUBLIC POLICY AND ENTREPRENEURSHIP

I. INTRODUCTION

Over the past two decades the focus of economic development policy, and even of collegiate business programs, has shifted more heavily toward entrepreneurship. This increased interest in the entrepreneur's role in the economy has led to a growing body of research attempting to identify the factors that promote entrepreneurship.

This research has important implications for public policy. Some theories of entrepreneurship, for example, are based on the premise that there exists an "entrepreneurial spirit" that waxes and wanes for exogenous reasons. If differences in "entrepreneurial spirit" are the source of differences in entrepreneurship levels between areas, then public policy can do little to foster it. Fortunately, the evidence is clear that entrepreneurship is an omnipresent feature of human nature. What differs across areas is thus not the degree of underlying entrepreneurial spirit but instead how that spirit is channeled.

Some areas simply have more of this spirit channeled toward wealth-enhancing private-sector entrepreneurship than others. The central question then becomes identifying what policies and incentives explain this difference in the way entrepreneurial energies are channeled.

We begin first by providing an overview of the varying definitions and theories of entrepreneurship, and discussing some of the issues involved in actually measuring the rate of entrepreneurship. We then discuss the role of the entrepreneur in economic development and growth, providing some estimates of the magnitude of this relationship. Finally, we summarize the research on the factors influencing the rate of entrepreneurship within a society, making a distinction between entrepreneurial inputs (like venture capital) and the policy environment (or 'rules of the game' like taxes and regulations).

2. THE DEFINITION AND MEASUREMENT OF ENTREPRENEURSHIP

2.1 WHAT IS AN ENTREPRENEUR?

One definition of an entrepreneur is someone who discovers, evaluates, and exploits opportunities to create new goods and services (Shane and Venkataraman, 2000). While few would disagree with such a general definition, it is unclear if a person who opens an antique store should be counted the same as someone like Sam Walton or Bill Gates. If not, how do we draw a distinction? The literature has attempted to deal with this by differentiating between ‘lifestyle’ entrepreneurs and ‘gazelle’ (or ‘high growth’) entrepreneurs. Lifestyle entrepreneurs open their own businesses primarily for the non-monetary benefits associated with being their own bosses and setting their own schedules. Gazelle entrepreneurs often move from one start-up business to another, with a well-defined growth plan and exit strategy. While this distinction seems conceptually obvious, empirically separating these two groups is difficult when we can’t observe individual motives

Most applied economic research on entrepreneurship uses the number of nonfarm self-employed individuals as a share of the labor force as a measure of entrepreneurship. This definition clearly includes the lifestyle entrepreneurs too, as well as some individuals who do part-time work outside their regular jobs. As an alternative, some research has used measures of the number of new business firms, or patent activity, to isolate only gazelle entrepreneurs.

2.2 ENTREPRENEURIAL SUCCESS AND FAILURE

Entrepreneurship is important because it is the competitive behavior of entrepreneurs that drives the market process and thereby leads to economic progress (Kirzner 1973). Entrepreneurs are always in search of new possible combinations of resources. A vibrant entrepreneurial climate maximizes the number of new combinations attempted. Some of these combinations will, however, not be good ideas. In a market economy, it is the profit and loss system that is used to sort through these new

resource combinations discovered by entrepreneurs, discarding bad ideas through losses and rewarding good ones through profits. A growing, vibrant economy thus depends not only on entrepreneurs discovering, evaluating, and exploiting opportunities to create new goods and services but also on the speed at which ideas are labeled as failures or successes. Economics has long held that business failure has a positive side, as it gets rid of the bad ideas and frees up those productive resources for use by other entrepreneurs. A vibrant economy will have both a lot of new business start-ups and a lot of business failures. Minimizing business failures should not be a goal of public policy. If we are to maximize the number of new combinations attempted, we will witness lots of failures. This is a simple result of the uncertainty involved in knowing whether a new idea will meet the market test or not.

A point worth clarifying is that it is much better to have a decentralized profit and loss system sorting through these combinations than a public sector decision-making process. The reason why is that the incentives facing public officials are very different than the incentives facing venture capitalists and entrepreneurs. While each venture capitalist and entrepreneur brings different motivations to the table, ultimately their success or failure is determined by whether their idea generates wealth. The same is not true for public officials in charge of handing out tax incentives or low-interest loans as they may have other concerns beyond creating wealth. For example, officials have incentives to be concerned about *where* a new business is located in order to maximize political support.

The distortions associated with government intervention into entrepreneurial decisions are not trivial. The economic analysis of public decision-making suggests policymakers will choose courses of actions that have clearly defined benefits with little regard to the long-run costs or benefits (Buchanan and Tullock, 1962; Weingast, Shepsle and Johnsen, 1981). One example is that press releases are issued trumpeting the number of new jobs

created when tax incentives are granted but rarely does anyone follow up to see if the jobs are ever created. When outside observers do, they usually find that the results have no effect on growth. Gabe and Kraybill (2002) studied the impact of tax incentives offered through the Ohio Department of Development and found, after controlling for other factors, that firms receiving tax incentives to expand actually had 10.8 fewer jobs at the end of two years. In addition to concluding that tax incentives do not lead to employment growth, they find that tax incentives do have a positive effect on announced job growth. They suggest that firms drastically overestimated future job growth in an effort to win tax incentives and that public officials did little to verify the accuracy of estimated employment growth since they benefited from increased “bragging rights.”

This does not mean that venture capitalists and entrepreneurs do not err. Obviously they do. For example, Ken Olson, president, chairman and founder of Digital Equipment Corporation, who was at the forefront of computer technology in 1977, stated: “There is no reason anyone would want a computer in their home.” Today that sounds funny simply because we all have computers in our homes, but even those in the infant computer industry didn’t see this coming. An even better example might be the story of Fred Smith, the founder of Federal Express Corporation. He actually wrote the business plan for FedEx as his senior project for his strategic management class at Yale. While we all know what eventually happened in retrospect, the Yale professor, one of the leading experts on business strategy wrote on his paper: “The concept is interesting and well-formed, but in order to earn better than a ‘C,’ the idea must be feasible.”

The point? Even smart professors, business leaders, and government officials cannot possibly pre-evaluate business ideas and pick those that will be most successful from those that will fail. A thriving economy depends on the ability of individual entrepreneurs to try their own ideas, without approval from anyone else, and then let the profit and loss mechanisms of the marketplace answer this question once the product is developed.

2.3 ENTREPRENEURS AND WEALTH-CREATION

It is important to recognize that from society’s perspective the profits earned by entrepreneurs represent gains to society as a whole. Because entrepreneurs must bid resources away from alternative uses, production costs reflect the value of those resources to society in their alternative uses. Thus, profit is only earned when an entrepreneur takes a set of resources and produces something worth more to consumers than the other goods that could have been produced with those resources. A loss happens when an entrepreneur produces something that consumers do not value as highly as the other goods that could have been produced with those same resources. For example, an entrepreneur who takes the resources necessary to produce a fleece blanket sold for \$50 and instead turns them into a pullover that sells for \$60 has earned a \$10 profit. Since the price of the resources used by entrepreneurs reflect the opportunity cost of their employment in other uses, the \$10 profit generated by the entrepreneur reflects the amount by which they have increased the value of those resources. By increasing the value created by our limited resources, entrepreneurs increase the overall level of wealth.

Successful entrepreneurship thus expands the size of the economic pie by allowing us to generate more wealth from our limited resources. Sam Walton, the founder of Wal-Mart, was an innovator in distribution warehouse centers and inventory control. His innovations in these areas are what allowed Wal-Mart to grow from one store in Arkansas to the largest retail chain in the world in fewer than thirty years. Consumers benefit in numerous ways from his innovations including lower prices and increased product variety. However, the business failures that result from Wal-Mart’s better ability to please consumers also result in net gains to society. The resources they consumed are now freed up to go into other new entrepreneurial businesses. Many downtown retail areas ravaged by Wal-Mart store openings subsequently turn into thriving cultural districts, with coffee shops, art galleries, and other types of businesses that could have never have competed for that downtown retail space with the general retail stores that used to need to locate there. The

entrepreneurial efforts of Walton and other entrepreneurs such as Microsoft's Bill Gates, CNN's Ted Turner, and McDonald's Ray Kroc have improved the quality of life for billions of people all over the world.

2.4 THEORIES OF ENTREPRENEURSHIP¹

The word entrepreneur originates from a 13th-century French verb, *entreprendre*, meaning "to do something" or "to undertake." By the 16th century, the noun form, *entrepreneur*, was being used to refer to someone who undertakes a business venture. The first academic use of the word by an economist was in 1730 by Richard Cantillon, who identified the willingness to bear the personal financial risk of a business venture as the defining characteristic of an entrepreneur. In the early 1800s, economists Jean Baptiste Say and John Stuart Mill further popularized the academic usage of the word "entrepreneur." Say stressed the role of the entrepreneur in creating value by moving resources out of less productive areas and into more productive ones. Mill used the term "entrepreneur" in his popular 1848 book, *Principles of Political Economy*, to refer to a person who assumes both the risk and management of a business. In this manner, Mill provided a clearer distinction than Cantillon between an entrepreneur and other business owners (such as shareholders of a corporation) who assume financial risk, but do not actively participate in the day-to-day operations or management of the firm.

Building on Cantillon and Mill, Frank Knight (1921) emphasized that entrepreneurs deal with uncertainty about the future, not with risk. Probabilities can be estimated for risky activities and thus are insurable. Entrepreneurs, however, are dealing with uncertainty about the profitability of their new combinations of resources. Since entrepreneurs cannot insure against the probability that new goods and services will not be liked, entrepreneurs bear the burden of the uncertainty associated with the market process. While Knight makes some important points with respect to the bearing of uncertainty, his work has been overshadowed by the research of two other economists, Joseph Schumpeter and Israel Kirzner

who greatly advanced our understanding of the role of the entrepreneur.

Schumpeter ([1911] 1934) stressed the role of the entrepreneur as an innovator. To Schumpeter, an entrepreneur is someone who carries out new combinations of resources to create products that did not exist previously. The result of these new combinations would be entirely new industries that open up considerable opportunities for economic advancement. From a Schumpeterian view, the entrepreneur is a disruptive force in an economy because the introduction of these new combinations leads to the obsolescence of others, a process he terms 'creative destruction'. The introduction of the compact disc, and the corresponding disappearance of the vinyl record, is just one of many examples of this process. Cars, electricity, aircraft, and personal computers are others. Schumpeter viewed this disequilibrium as a beneficial byproduct of innovation.

Kirzner's (1973) view of entrepreneurship stands in stark contrast to Schumpeter's. Instead of focusing on the disequilibrating role of innovation, Kirzner views entrepreneurship as an equilibrating force in which entrepreneurs discover previously unnoticed profit opportunities and act on them. Thus Kirzner's entrepreneur initiates changes that move markets towards equilibrium. An example of such an entrepreneur would be someone in a college town who discovers that a profit opportunity has arisen in renovating houses and turning them into rental apartments because of a recent increase in college enrollment.

Entrepreneurship encompasses all of these functions. Entrepreneurs take on risk, they innovate, but they also engage in mundane activities such as arbitraging between areas of high and low demand. The thing that all entrepreneurs have in common is the desire to discover and exploit profit opportunities.

¹ This section draws heavily from Russell S. Sobel, "Entrepreneurship," in David R. Henderson (ed), *The Concise Encyclopedia of Economics*, Indianapolis, Indiana: Liberty Fund, Inc., forthcoming.

3. INPUTS, INSTITUTIONS, AND ENTREPRENEURSHIP

3.1 A FRAMEWORK FOR UNDERSTANDING THE ENTREPRENEURIAL PROCESS

To begin to think more carefully about how might be the best ways for government policy to foster entrepreneurship, it is important to understand the process by which entrepreneurial outcomes are generated. This is illustrated in Figure 1.

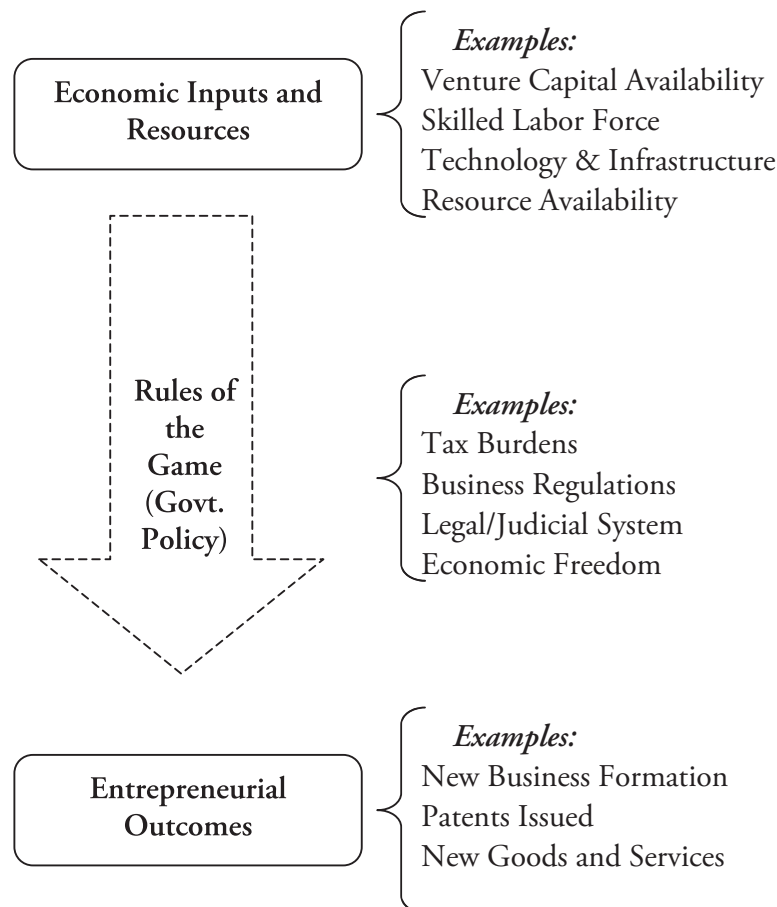
Figure 1 helps to categorize our thinking on the process of entrepreneurship. Economic inputs and resources, such as venture capital and resource availability, are converted into entrepreneurial outcomes (new businesses created or patents issued). However, the amount of entrepreneurial outcomes generated from a given amount

of economic inputs depends primarily on the rules of the game, or public policies, under which entrepreneurs operate. This model makes it clear that increasing entrepreneurship can be accomplished either by increasing the inputs into the process, or by improving the rules of the game for entrepreneurs. It is important to note, however, that when the rules of the game are unfavorable, increasing inputs might have little impact on the amount of entrepreneurial outcomes.

3.2 ENTREPRENEURSHIP AND ECONOMIC GROWTH

Entrepreneurship is important because it is a key factor contributing to economic growth, the ultimate outcome of entrepreneurial efforts. Figure 2 shows the strength of

Figure 1. The Entrepreneurial Process

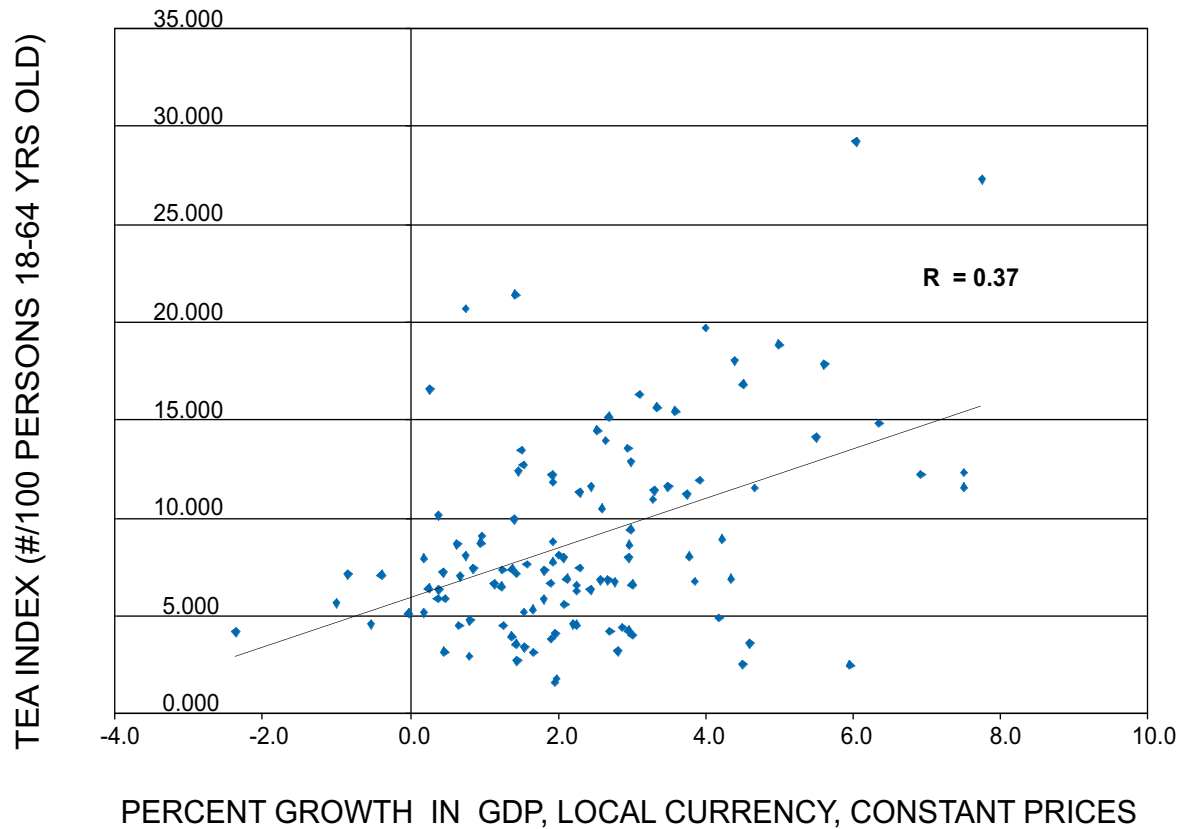


this relationship across countries taken from the *Global Entrepreneurship Monitor*.

Empirical research finds that a substantial portion of the variation in economic growth rates can be explained by differing rates of entrepreneurship. Reynolds, Hay, and Camp (1999), for example, show that different rates of entrepreneurship account for one-third of the difference in national economic growth rates, while Zacharakis, Bygrave, and Shepherd (2000) find that it can explain approximately half of the difference. This relationship has held up to testing both among subsets of, and inter-

nally within, these countries as well. Ovaska and Sobel (2005) find that differing rates of entrepreneurship explain the divergent economic paths followed by the former Soviet republics. Berkowitz and DeJong (2005) find a strong relationship between economic growth within a country over time and the rate of entrepreneurial activity within that country. Kreft and Sobel (2005) find this relationship to be true across U.S. states, and Henderson (2002) finds it to hold at the local level within the United States.

Figure 2. Entrepreneurship and Economic Growth: International GEM Findings



Source: Figure 6 from *Global Entrepreneurship Monitor* (2004).

4. FACTORS AFFECTING ENTREPRENEURSHIP

Clearly entrepreneurship is vital for economic growth. But what can government policy do to promote it? This section reviews the existing literature on how both economic inputs and public policy impact entrepreneurial outcomes in a society.

4.1 THE QUESTIONABLE RELEVANCE OF LIQUIDITY CONSTRAINTS

One factor impacting an individual's decision on whether or not to become an entrepreneur might be the availability of funding to implement their vision. In our framework, this would be one of the economic inputs to the entrepreneurial process. While some individuals may have enough personal wealth to start their own business, most must secure outside financing. The issue, however, is that many entrepreneurs may lack the ability to secure this outside financing, even in cases where the venture would be highly successful. Thus worthwhile projects may not get undertaken solely because of these 'liquidity constraints'. While it is easy to think of theoretical reasons why individuals may face liquidity constraints even in well-functioning markets (Stiglitz and Weiss 1981), it is ultimately an empirical question if liquidity constraints are actually a binding constraint holding back entrepreneurship.

The issue of liquidity constraints is very important because much of current entrepreneurship policy is predicated on the idea that potential entrepreneurs face significant liquidity constraints. The justification for the Small Business Administration, for example, is that potential entrepreneurs face barriers to capital and that government grants and subsidies can spur socially productive entrepreneurship.

A large number of studies have tested for the presence of liquidity constraints and the results have been somewhat mixed. One of the most prominent studies on liquidity constraints is Holtz-Eakin, Joulfaian and Rosen (1994b). Because every sole proprietor files a "Schedule C" on their tax return, they use data from the Internal Revenue Service to examine who became a sole proprietor between 1981 and 1985. To test the importance of

liquidity constraints on the decision to become an entrepreneur they looked at the role of inheritances on the decision to become an entrepreneur. The idea is if individuals are liquidity constrained, the influx of capital from an inheritance should increase their propensity to become an entrepreneur, other things being equal. They find an inheritance of \$100,000 would increase the probability of an individual transitioning to entrepreneurship from 19.3 percent to 22.6 percent. An important feature of their data that they were able to separate out those individuals who become entrepreneurs because they inherit businesses from those who become entrepreneurs because the inheritance helps them to overcome a liquidity constraint. Their research is clearly consistent with the presence of liquidity constraints, although it says nothing about the quality of the entrepreneurial activities undertaken by the liquidity constrained versus those who were not liquidity constrained. After all, maybe the individuals with the least access to capital are those whose ideas have the lowest probability of future payoff.

Holtz-Eakin and Rosen (2005) find that both U.S. and German entrepreneurs face liquidity constraints and that lower access to capital in Germany explains a significant portion of the difference in observed self-employment rates between the countries. Evans and Jovanovic (1989) discuss how inadequate access to capital deters individuals from pursuing self-employment. From their data set they estimate that liquidity constraints deter about 1.3 percent of the population from pursuing self-employment during the period studied. This is significant considering that the percentage of the population becoming self-employed in their study was only 3.8 percent. The implication is that removal of the liquidity constraints facing would-be entrepreneurs would increase the rate of entrepreneurship by about one-third.

In an important recent paper, Hurst and Lusardi (2004) find that inheritances are more than a proxy for liquidity. They find evidence that future inheritances predict past entrepreneurship, meaning that inheritances are probably a proxy for something other than liquidity constraints that is related to the probability of self-employ-

ment. Thus inheritances are probably a poor instrument to test liquidity constraints. Instead they suggest using gains in housing value as an instrument for increases in liquidity, since housing appreciation varies by region and affects a larger segment of the wealth distribution. This link should be strong as the vast majority of new small businesses are opened with bank financing secured by the entrepreneur through loans against the value of their house. Hurst and Lusardi find that households in areas with strong housing appreciation are no more likely to start businesses than households in areas with no housing appreciation. Thus, they argue, the relationship between wealth and entrepreneurship is flat over most of the wealth distribution and only increases at the high end. Hurst and Lusardi argue that business ownership is a luxury good and that wealthy individuals start business to gain power and flexibility over their work schedules and activities. This is consistent with research by Hamilton (2000) showing the non-pecuniary returns to business ownership are high. More importantly, Hurst and Lusardi conclude that:

...even if some households that want to start small businesses are currently constrained in their borrowing, such constraints are not empirically important in deterring the majority of small business formation in the United States. This may simply reflect the fact that the starting capital required for most businesses is sufficiently small. We provide evidence to this effect throughout the paper. Alternatively, even if the required starting capital for some small businesses is high, existing institutions and lending markets in the United States appear to work sufficiently well at funneling funds to households with worthy entrepreneurial projects. (p. 321-322)

Thus, they argue that liquidity constraints are not a major deterrent to entrepreneurship, although their data does not allow them to test whether or not business start-ups are insufficiently capitalized due to liquidity constraints.

There are two important things to come out of the Hurst and Lusardi (2004) paper. First, it provides a reason why the relationship observed between wealth and the prob-

ability of self-employment found in many studies (Evans and Jovanovic 1989; Evans and Leighton 1989; Fairlie 1999; Gentry and Hubbard 2001) might not be evidence of liquidity constraints but instead could reflect self-employment as a luxury good. Second, this paper demonstrates why using inheritances to test for the presence of liquidity constraints, as Holtz-Eakin, Jofainin and Rosen (1994a, 1994b) do, may be problematic. More research is needed on the presence of liquidity constraints, but Hurst and Lusardi (2004) provide some reason to think that liquidity constraints are not a relevant impediment to starting a new business.

4.2 GOVERNMENT LOAN PROGRAMS ARE GENERALLY INEFFECTIVE

The experience with government subsidized loan programs also suggests that liquidity constraints are not a significant impediment to entrepreneurial activity (Taub 2004). In addition, these programs can create a host of other problems and are generally subject to manipulation by powerful politicians and lobby groups. Lerner (1999) finds that the presence of Small Business Innovation Research (SBIR) funding alone had little relationship with sales and employment growth except in a few small geographic areas already dominated by private venture capital and a thriving high-tech sector. In the vast majority of other areas he concludes that distortions in the award process may have led to the selection of firms that really could not benefit from the funds. In addition, firms receiving multiple awards, or large awards, actually performed worse than other firms. He concludes, "additional awards appear to have had minimal positive benefits, and the pursuit of these awards may even have had detrimental effects on the firms." (Lerner 1999, pp. 312).

A Micrometrics (2002) evaluation of the Oklahoma Program for State-sponsored Venture Investing, for example, finds that the fund not only has high administrative costs, but it was also ineffective in drawing additional private equity and venture capital into the state, showed a return significantly less than half of the national average for private venture funds, and generated relatively little investment capital for startups in the state. Studies of the effectiveness of particular state venture funds are far

and few between primarily because, according to Bartik and Bingham (1997), program administrators fear the political consequences of a negative evaluation, and by not doing an evaluation it is easier to claim success. A study of the economic development programs of the Illinois Department of Commerce and Community Affairs (DCCA) in 1989 by the Illinois Auditor General showed widespread poor management of loan and grant programs and also found that officials with these programs had vastly overstated the true impact of the programs in their internal reports.

One explanation for the ineffectiveness of government loan programs comes from Taub (2004) who shows that state subsidized business loan programs simply cannot provide the managerial and technical support entrepreneurial companies need. Private venture funds on the other hand, not only provide this support but frequently *require* the firm to take this support as a condition of receiving private venture funding. Yet another explanation for the ineffectiveness of government loan programs comes from Cohen and Noll (1991) and Wallsten (2000) who conclude that government funding agencies tend to select firms based on their likelihood of success, regardless of whether government funds are needed, simply so they can claim credit for the firm's eventual success. Eisinger (1998) points out that under such programs, firms actively devote efforts to securing subsidies that directly increase their profits, but have no impact on eventual business success. With government agencies continually pressured to show successes to receive future funding, they too often invest in firms who would have been successful without government funding.

Studies such as Lerner (1999) and Carsey, Rundquist, and Fox (1997) additionally show that public officials put significant pressure on SBIR and other government grant-making agencies to fund companies in their district, and attempt to ensure loans to particular areas to secure congressional support on legislation. Even the government's own evaluations of these loan programs (US GAO 1992) suggests that a few large companies capture a disproportionate share of awards each and every year. Many of these "SBIR mills," as they are known, have staffs in Washington that focus on helping to secure the political support for the grants, and studies show

that these firms appear to commercialize projects at a significantly lower rate than other firms who don't receive government funding (Lerner 1999). The large share of funds going to these few politically connected firms even led to the passage of new federal legislation attempting to put additional criteria on funding for firms who had received awards in the past (Lerner 1999).

Other studies, such as Levy and Terleckyj (1983), Irwin and Klenow (1996) and Wallsten (2000) have also found that firms receiving government funds respond by reducing their own private R&D spending, leading many to question whether government funds have any positive impact at all on overall total R&D spending. Wallsten (2000), for example, finds that SBIR grants simply crowd out firm-financed R&D spending dollar for dollar. Perhaps the most striking evidence is that the U.S. states with the largest levels and increases in SBIR grants have shown little improvement in their rates of entrepreneurial activity.

Government loan programs, or attempts to create public venture funds are generally ineffective because they tend to put 'the cart before the horse.' Recent research by Kreft and Sobel (2005) tests for the direction of causality between venture capital and entrepreneurial activity. Their results show that exogenous increases in venture capital within a state do not increase the overall rate of entrepreneurship, but rather it is those states with the highest underlying entrepreneurial activity that attract the most venture capital. Thus, new ideas easily draw venture funding. Because capital is significantly more mobile than labor, and because venture capital firms spend enormous resources hunting out potential new ventures to invest in, there simply are very few cases where profitable entrepreneurial ventures go unfunded. Venture capital will naturally and automatically flow to those areas with more entrepreneurial ideas.

4.3 REGULATION LIMITS ENTREPRENEURIAL OPPORTUNITIES

We now turn to the impact of government imposed regulations on the level of entrepreneurship, a shift from focusing on entrepreneurial inputs to focusing on the rules of the game set by government policy. While it is difficult empirically to determine the effect of regulation on

the decision to become an entrepreneur, there is some evidence that certain types of regulation inhibit entrepreneurship. Holtz-Eakin and Rosen (2005) find evidence that at least part of the difference in entrepreneurship rates between Germany and the United States can be explained by differences in regulatory environment that discourage individuals from transitioning from wage to self-employment.

Kanniainen and Vesala (2005), using panel data on OECD countries, find that labor market regulations explain differences in the rate of enterprise formation between countries. They utilize several different definitions of labor market regulations and find that all of them have a negative impact on the self-employment rate in a country. For example, high unemployment compensation increases the opportunity costs of becoming self-employed. Their measures of labor market regulations include measures of unemployment compensation, employee protection, labor union power, trade union density, the bargaining coverage rate, and the centralization of wage bargaining in the country.

Benson (2004) notes how regulations introduce errors into markets because they divert entrepreneurial energy toward circumventing new regulations and away from society-benefiting innovations that might have otherwise occurred. Another type of labor market regulation is minimum wage laws. Garrett and Wall (2005) find evidence that minimum wage laws deter entrepreneurship. Minimum wage laws affect the probability to start a small business because the majority of small businesses rely heavily on low-wage workers. Thus mandated minimum wages might make some types of new small businesses artificially unprofitable.

One reason why entrepreneurship is stifled in developing countries is because often starting a new business requires navigating a several-year long process that involves layers of government officials who must think that the idea is worthwhile before an entrepreneur can get the go ahead to open their new business (de Soto 2000). Although far less onerous, regulations throughout the United States prevent entrepreneurs from satisfying consumer wants. A recent study on the barriers to entrepreneurship in Minnesota highlights the extent to which

regulations prevent potential entrepreneurs from realizing their goals (Dranias 2006). In Minneapolis, for example, it is illegal to hang signs without a license and licenses can take from one to twelve months to receive, if granted at all. Potential manicurists have to undergo 350 hours of training to receive a license, nearly double the training required of paramedics in the state. Barbers, plumbers, and taxi cab drivers are other potential entrepreneurial occupations where onerous regulations above minimal safety requirements protect incumbent interests at the expense of consumers. The pattern documented in Minnesota by Dranias (2006) exists throughout the United States and regulations such as these stifle productive entrepreneurial efforts, and instead encourage individuals to spend time simply attempting to get permissions, satisfy regulations, and filling out onerous government paperwork.

4.4 TAXES DISTORT THE DECISION TO BECOME AN ENTREPRENEUR

Taxation matters for entrepreneurship because it lowers the reward earned by entrepreneurs from opening a new business venture. In this manner, higher taxes unambiguously deter entrepreneurship. This relationship, however, is virtually impossible to quantify because self-employment is one of the best ways to avoid or evade taxation. Areas with high taxes generally have higher rates of self-employment, not because taxes encourage entrepreneurship *per se*, but rather because of the flexibility in realizing or hiding income that self-employment affords individuals. Also, income taxes could artificially stimulate entrepreneurship as individuals shift away from wage work, which is taxed, to self-employment that also provides significant personal non-pecuniary returns (like more flexible working hours, etc.) which are untaxed (Hamilton 2000).

Research on the effect of taxes on self-employment generally finds that the evasion effect dominates in the empirical data. Higher taxes drive a large number of people into self-employment as a way of avoiding high taxes on wages and salaries (Bruce 2000, Schuetze 2000, Bruce 2002). However, it is important to note that this avenue through which taxes increase entrepreneurship is strictly welfare reducing for society as a whole.

4.5 INSTITUTIONAL QUALITY AND ECONOMIC FREEDOM MATTER FOR ENTREPRENEURSHIP

The publication of the *Economic Freedom of the World* index, by James Gwartney and Robert Lawson (2004), has significantly advanced our understanding about the continuum of ‘economic freedom’ that exists around the world. They derive a single index measure for each country that places them on a spectrum from zero to ten, in which ten represents the highest degree of ‘economic freedom’, or reliance on laissez-faire capitalism. Because state and local policies also impact the degree of ‘economic freedom’, authors Amela Karabegovic and Fred McMahon (2002) released their *Economic Freedom of North America*, ranking U.S. states and Canadian provinces with respect to each other in terms of their degree of free-market orientation. Generally these indexes attempt to condense into a single number the degree of economic freedom individuals have in a geographic area in several key categories such as taxation, regulation, and property rights. Studies using these indices such as Farr, Lord, and Wolfenbarger (1998) and Gwartney, Lawson, and Holcombe (1999) have consistently shown that countries with higher economic freedom scores not only have larger per capita incomes, but also tend to have higher rates of economic growth.

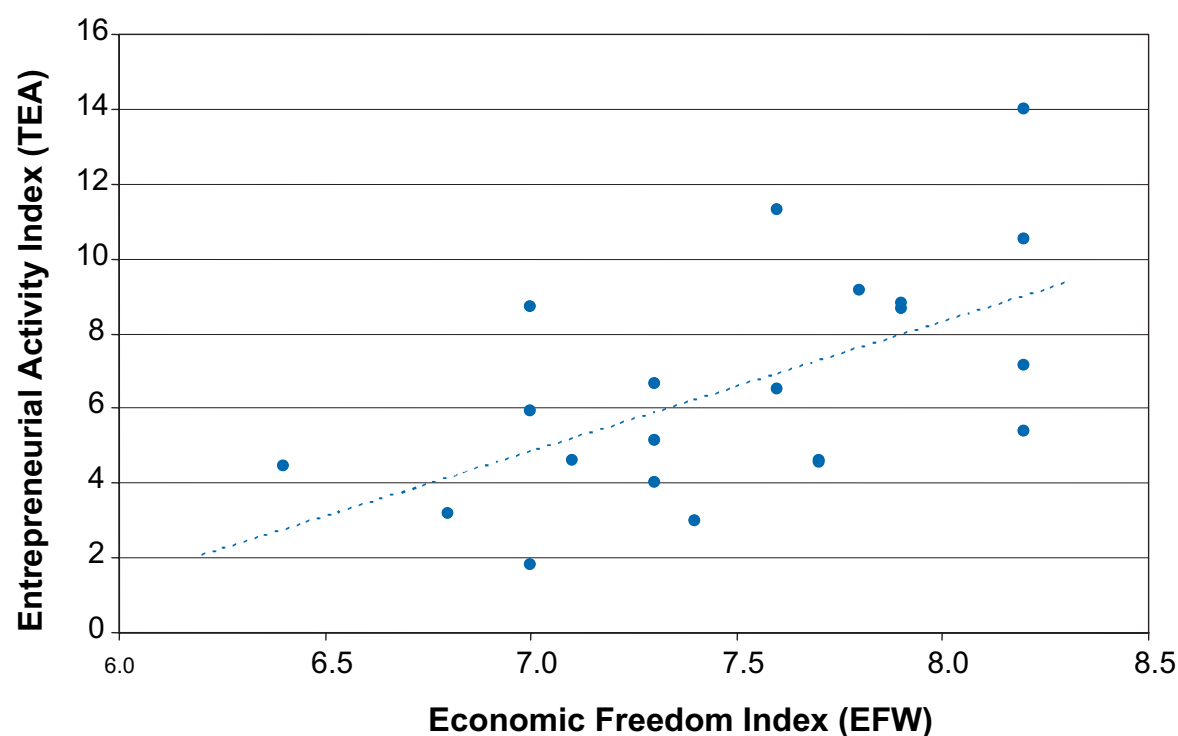
5. PRODUCTIVE VERSUS UNPRODUCTIVE ENTREPRENEURSHIP

One strand of literature suggests that entrepreneurship causes the majority of economic growth, while the other suggests that the quality of prevailing institutions causes the majority of economic growth. Can these two seemingly separate ‘fundamental’ explanations for economic growth be synthesized? Baumol’s (1990) theory of ‘productive and unproductive entrepreneurship’ provides the answer. His theory is founded in the idea that the level of underlying entrepreneurial spirit is fairly constant across people and regions. This multitude of entrepreneurs, however, exploits profit opportunities not only within private markets but also within the political and legal arenas. Thus, differences in measured rates of *private sector* entrepreneurship are due to the different directions entrepreneurial energies are channeled by prevailing economic and political institutions, through

the rewards and incentive structures they create for entrepreneurial individuals.

In areas with institutions providing secure property rights, a fair and balanced judicial system, contract enforcement, and effective limits on government’s ability to transfer wealth through taxation and regulation, creative individuals are more likely to engage in productive market entrepreneurship—activities that create wealth (e.g. product innovation). In areas without strong institutions, these same individuals are instead more likely to engage in attempts to manipulate the political or legal process to capture transfers of existing wealth through unproductive political and legal entrepreneurship—activities that destroy wealth (e.g. lobbying and lawsuits). This reallocation of effort occurs because the institutional structure largely determines the relative personal and fi-

Figure 3. Economic Freedom and Entrepreneurship in OECD Countries, 2002



Sources: *Global Entrepreneurship Monitor* (2004) and *Economic Freedom of the World: 2004 Annual Report* (2004).

nancial rewards to investing entrepreneurial energies into productive market activities versus investing those same energies instead into unproductive political and legal activities. For example, a steel entrepreneur might react to competition by trying to either find a better way of producing steel (productive entrepreneurship), or by lobbying for subsidies, tariff protection, or filing anti-trust lawsuits against competitors (unproductive entrepreneurship).

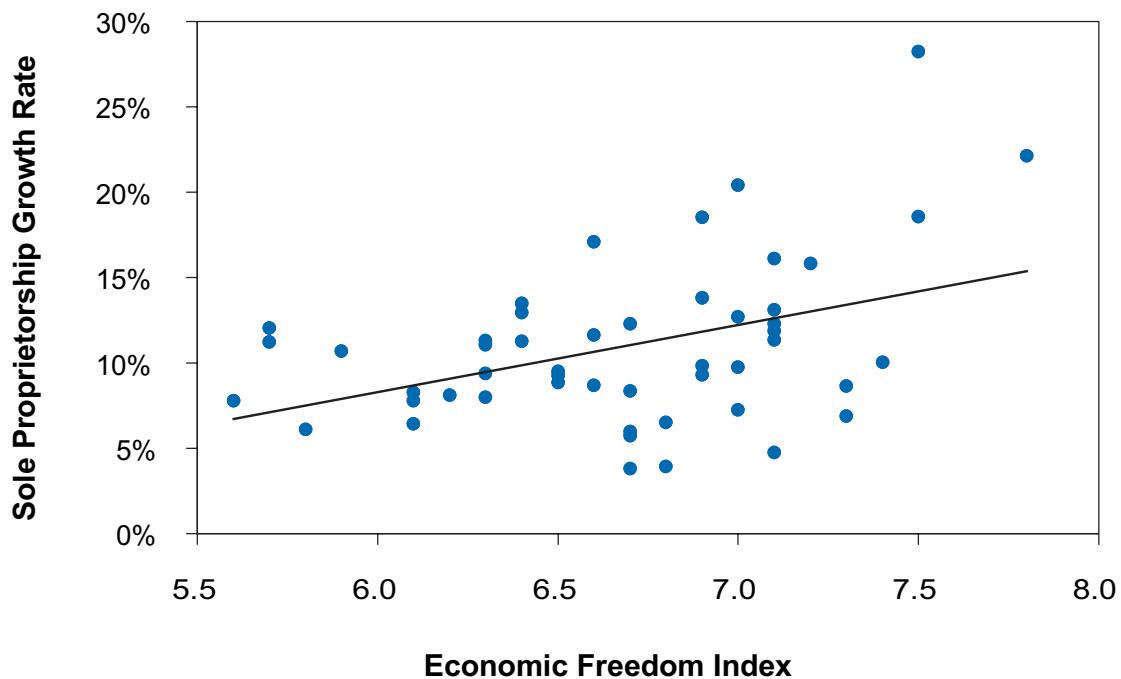
The index of economic freedom measures precisely those institutional structures that should lower the return to unproductive entrepreneurship, promoting productive entrepreneurship over unproductive entrepreneurship. Thus, underlying economic freedoms generate economic growth *because* they more heavily promote productive entrepreneurial activity, which is the source of economic growth. Both sets of literature are indeed correct, economic freedom and entrepreneurship are both highly correlated with economic growth. It is the institutional

structure as measured by economic freedom, however, which promotes productive, wealth-generating entrepreneurial activity which is the source of economic growth (Ovaska and Sobel 2005; Krefl and Sobel 2005).

The strength of this relationship between economic freedom and entrepreneurship is illustrated in Figures 3 and 4. Figure 3 shows the relationship, for OECD countries, between their levels of economic freedom and entrepreneurship (as measured by the *Global Entrepreneurship Monitor* score for Total Entrepreneurial Activity, TEA).

In Figure 3, it is clear that those countries with the most broadly constrained and limited governments (those with the highest freedom scores) have the most entrepreneurship. In those nations where governments are involved to the greatest extent through taxes, subsidies, property takings, and regulations, entrepreneurship is lowest. This relationship also holds among the U.S. states as is illustrated in Figure 4.

Figure 4. State Economic Freedom and Growth of Entrepreneurial Activity



Sources: *State and Local Area Data* (2006) and *Economic Freedom of North America: 2002 Annual Report* (2002).

While this area of research on how good institutions channel entrepreneurial energies into productive wealth-enhancing activities is relatively new, it has found some interesting results. For example, while government funded entrepreneurial education programs in K-12 education have almost all been discontinued or cut due to their lack of proven success, Sobel and King (2005) have found that the adoption of school choice programs, that reduce government involvement in schooling, are having a large positive impact on increasing youth entrepreneurship, simply because young adults are going to school each day in an environment that is more entrepreneurial and competitive than traditional public schools. Witnessing their teachers and school administrators being more innovative and entrepreneurial on an every day basis seems to have a large impact on students' likelihood of becoming entrepreneurs.

To grow richer, states and nations need more productive entrepreneurship and less unproductive entrepreneurship. The specific reforms necessary are those that: (a) increase the relative reward to productive market entrepreneurship, and/or (b) decrease the relative reward to unproductive political and legal entrepreneurship. A reduction in state corporate income taxes or a reduction in regulatory barriers for new entrepreneurs would be ways to accomplish (a). The reward to unproductive entrepreneurship can be reduced through reforms that increase the security of private property rights, create a fairer and more balanced judicial and liability system, strengthen contract enforcement, lessen government "pork-barrel" spending, and more effectively limit government's ability to transfer wealth through taxation, regulation, and subsidies. Here is a list of specific programmatic reforms, based on Baumol's theory of productive and unproductive entrepreneurship, which could accomplish these goals. All of these reforms either lower the reward to political/legal entrepreneurship or increase the reward to productive market entrepreneurship. Those that are also explicitly part of the Economic Freedom of North America Index calculation are denoted by [EFNA]. Thus, reform-minded policymakers could:

- ❖ reduce state corporate income taxes [EFNA];
- ❖ reduce state personal income taxes [EFNA];

- ❖ eliminate state turnover, business, or occupation taxes [EFNA];
- ❖ reform workers compensation through privatization or tougher rule enforcement [EFNA];
- ❖ reform medical malpractice;
- ❖ reform the judicial system to minimize the effect of politics and electoral pressures;
- ❖ eliminate state minimum and maximum price and wage limits and restrictions [EFNA];
- ❖ enact constitutional limits on public land takings such as eminent domain;
- ❖ reduce occupational licensing requirements;
- ❖ reduce government employment and public ownership of resources (such as land holdings), freeing these resources to be employed in the private sector [EFNA];
- ❖ simplify the tax code to reduce the ability of (and incentive for) groups to lobby for exemptions and credits;
- ❖ and, reduce the returns to lobbying through legislative reform that makes it more difficult to pass pork-barrel legislation.

As one will notice by looking at this list, the real contribution of recent economic theory, as presented in Figure 1, which depicts the entire entrepreneurial process, is that it shifts attention toward institutional reform as the way to promote entrepreneurship. This is a rather large change in thinking given the conventional wisdom in the 1990s, which advocated promoting entrepreneurship through enacting additional public sector education programs, subsidies, and interventions in venture capital markets. Given the ever continuing search for new ways to promote entrepreneurship, institutional theory and its policy implications could potentially form the foundation of 21st century economic development policy. After all, good institutional reforms have already allowed countries such as Ireland to greatly increase its rate of economic growth, and as well as some of the former Soviet republics such as Estonia. At the same time, states

like West Virginia, whose economic freedom ranks lower than that of Estonia, have struggled economically and will continue to do so without significant institutional reform.

The policy implications are clear; rather than focusing on expanding government programs like subsidized loans, workforce education, or programs aimed at increasing ‘entrepreneurial inputs’ as a way to foster entre-

preneurship, the better path is through institutional reform that increases the return to productive entrepreneurship and lowers the return to unproductive entrepreneurship. Government-sponsored programs too often encourage entrepreneurial individuals to devote effort toward figuring out how to obtain public funds and transfer payments, rather than devoting those efforts toward satisfying consumers and creating wealth.

6. CONCLUSION

The importance of entrepreneurship to job creation and economic growth is clearly not lost on policymakers. The rise in state venture capital programs, targeted small business subsidies, and other forms of aid to those interested in starting new businesses is abundant evidence that policymakers understand the importance of entrepreneurship to economic development. An increasing amount of economic evidence, however, indicates that such an ad hoc programmatic approach to promoting entrepreneurship is not effective. Policymakers can create more success for their stakeholders if they instead focus on institutional reforms that increase economic freedom and the relative return to productive entrepreneurship.

This paper has presented a framework for thinking about the process of entrepreneurship and the role of public policy in that process. The amount of positive-sum entrepreneurship such as new business creations or patent activity is dependent on the rules of the game created by policymakers. Policies consistent with economic freedom keep the payoffs to positive-sum entrepreneurial activity high and discourage investment in activities that do not lead to mutually-beneficial exchange. Or, as Adam Smith ([1776] 1998) said: “Little else is requisite to carry a state to the highest degree of opulence from the lowest barbarism, but peace, easy taxes, and a tolerable administration of justice; all the rest being brought about by the natural course of things.”

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