

Value Creation: The Effect of Economic Freedom and Entrepreneurial Activity

*D. Ray Bagby*  
Rogers Chair of Entrepreneurship  
Baylor University  
One Bear Place  
Waco, TX 76798-8011

*Leslie E. Palich*  
Williams Chair of Entrepreneurship  
Baylor University  
One Bear Place  
Waco, TX 76798-8006

*Jeffery McMullen*  
Assistant Professor of Management  
Baylor University  
One Bear Place  
Waco, TX 76798-8006

*This paper presents the results of an exploratory study to examine the effects of both economic freedom and entrepreneurial activity on wealth creation, as measured by GDP per capita for the selected countries. As far as we know, entrepreneurial activity has not been combined with economic freedom before. The results indicate that such activity does correlate with and explain GDP levels. The association with necessity-based entrepreneurship is particularly strong. This activity along with two variables of economic freedom, do a very good job of explaining the variance in GDP.*

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Gross domestic product (GDP) per capita is often used as a measure of economic growth, income, standard of living or wealth (see for example, Powell 2003; or Grubel 1998). According to Michael and Pearce (2004, 5), who do not specify how to measure wealth, “wealth creation is an important goal of government policy.” Drawing upon a number of sources Michael and Pearce (2004) posit that innovation is the key to creating wealth and, by extension, that policies to encourage innovation are most desirable for governments. *The Economist* (2002, 1) concurs. In the technology quarterly section of the September 21, 2002 issue, it notes “(f)or want of a better explanation, the missing factor in the growth equation is often thought to be the addition of new knowledge gleaned from scientific discovery and technological progress – in short, innovation.” The article goes on to assert that innovation accounted for

more than half of the economic growth in both the United States and the United Kingdom, making it the most important ingredient in any modern economy.

Innovation has long been considered to be the purview of entrepreneurs (see for example, Drucker 1985). In fact, Drucker (1985, 30) notes that “(i)nnovation is the specific instrument of entrepreneurship. It is the act that endows resources with a new capacity to create wealth.” Even *The Economist* (2002) acknowledges that entrepreneurs have a remarkable knack for creating wealth, while bemoaning the fact that economics has been unable to explain in detail how the wealth-creation process works. Powell (2003) cites Holcombe’s 1998 theory in which the entrepreneur is the engine for economic growth. Further, he quotes Holcombe (1998, 58-59),

When entrepreneurship is seen as the engine of growth, the emphasis shifts toward the creation of an environment within which opportunities for entrepreneurial activity are created, and successful entrepreneurship is rewarded. ... When the key role of entrepreneurship is taken into account, it is apparent that emphasis should be placed on market institutions rather than production function inputs.

He then goes on to discuss Harper’s 1998 examination of appropriate conditions with the thesis that the more (economic) freedom people have, the more likely they are to participate in entrepreneurial activity. Thus, we will use measures of entrepreneurial activity as surrogates for innovation.

While many studies have looked at the relationship between economic freedom and economic growth (see for example, Grubel 1998; de Haan and Sturm 2000; Heckelman 2000; Berggren 2003; Cole 2003; and Powell 2003), none have considered the effect of entrepreneurial activity/innovation. Thus this paper seeks to offer an exploratory analysis of the combined effects of economic freedom and entrepreneurial activity upon wealth creation in countries as measured by the GDP per capita (GDPpc).

### ***The Index of Economic Freedom***

Although economic freedom has been a concept for many years, its measurement was facilitated by the development of a number of indices over the past 10-15 years. For the purpose of this study, we have elected to use the Index of Economic Freedom (IEF) developed by the Heritage Foundation and *Wall Street Journal* (WSJ). These organizations have been publishing the IEF annually since 1995. The 2003 Index includes 161 countries and the executive summary of the associated report indicates that it "...is more than just a dataset based on empirical study; it is a careful theoretical analysis of the factors that most influence the institutional setting of economic growth." Further, it reports that "(t)he countries with the most economic freedom also have higher rates of long-term economic growth and are more prosperous than are those with less economic freedom (O'Driscoll, Feulner, and O'Grady 2003, 1)."

"Economic freedom is defined as the 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, 2). The IEF uses 50 independent variables grouped into 10 categories to score countries. The categories include trade policy, fiscal burden of government, government intervention in the economy, monetary policy, capital flows and foreign investment, banking and finance, wages and prices, property rights, regulation and black market activity. The index now weights each of these factors equally because it is not yet clear which factors are more important than others for economic freedom, and although it is not known which factors are more important, it seems clear that the

achievement of long-term growth and economic well-being requires a country to perform well in all ten factors. Each factor is scored on a scale of 1 to 5, where a score of 1 indicates conditions most conducive to economic freedom and 5 is least conducive. The data is obtained from other sources, such as Transparency International's Corruption Perception Index, for example.

A more detailed description of the ten factors is provided below:

1) Trade policy: the degree to which government hinders the free flow of foreign commerce, such as tariffs or non-tariff barriers (import quotas or licensing requirements, for example).

2) Fiscal burden of the government: the tax rates and level of government expenditures which discourage entrepreneurial effort in the marketplace or divert resources away from private choices and goals.

3) Government intervention in the economy: the direct use of scarce resources for its own purposes or its control of resources through ownership, which includes both government consumption and production.

4) Monetary policy: the extent to which market pricing is facilitated or inflation is controlled.

5) Capital flows and foreign investment: the measure of restrictions (or lack thereof) on foreign investment.

6) Banking and finance: the presence/absence of bank regulation and the openness of organized securities markets.

7) Wages and prices: the extent to which the market sets prices and wages without government regulation or intervention.

8) Property rights: the extent to which government protects private property through law enforcement and how safe it is from expropriation.

9) Regulation: the ease or difficulty in starting or operating a business, including some effects of corruption.

10) Black market: the extent of corruption in the country, primarily as reflected in the CPI.

The overall score is the average of the sum of the ten factors. Based upon the overall score, countries can be classified as free (< 1.95), mostly free (between 2.00 and 2.95), mostly unfree (between 3.00 and 3.95), or repressed (> 4.00). Because the IEF is computed every year, it provides a measure of whether countries are improving, declining or remaining the same.

Cole (2003, 196) concluded from his study that “economic freedom is a significant factor in economic growth, regardless of the basic theoretical framework. Heckelman (2000) found that economic freedom preceded economic growth. And de Haan and Sturm (2000) found that the Heritage Foundation/WSJ index provided similar rankings for countries as other sources.

The data for the 2003 IEF came from the period which covered the second half of 2001 and the first half of 2002. For this reason, we decided to compare it to the 2002 data of the Global Entrepreneurship Monitor (GEM) which was derived from a more comparable period.

### ***Methodology***

The GEM began to analyze entrepreneurial processes in 1999 using data from 10 countries. It is the only known source of entrepreneurial activity measures and also gathers information similar to that of the IEF, such as

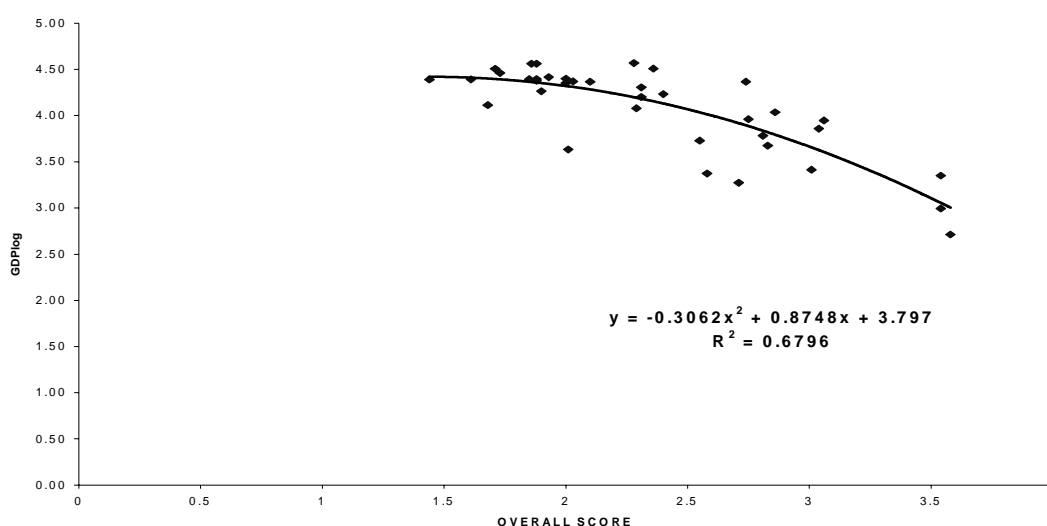
property rights, government policies, access to infrastructure, etc., from country experts. For the reason noted above, we executed our study using data from the 2002 GEM project, which offers data on 37 countries (the sample) from around the globe, all of which are contained in the IEF. The focus of this paper is compare the effects of economic freedom on GDP per capita (GDPpc), the relationship between the three measures of entrepreneurial activity (total entrepreneurial activity – TEA, necessity-based entrepreneurship – NBE, and opportunity-based entrepreneurship – OBE) and GDP per capita, and finally to explore which of the factors explain GDP per capita.

Because GDP per capita data ranges from the hundreds to ten thousands, while most of the other variables range from one to five, with the highest being in the teens, we decided to use the *LOG* of the GDPpc variable for analysis purposes.

### **Results**

As we expected, there was a strong correlation between GDPpc and the IEF as represented by the overall score (refer to Figure 1 below).

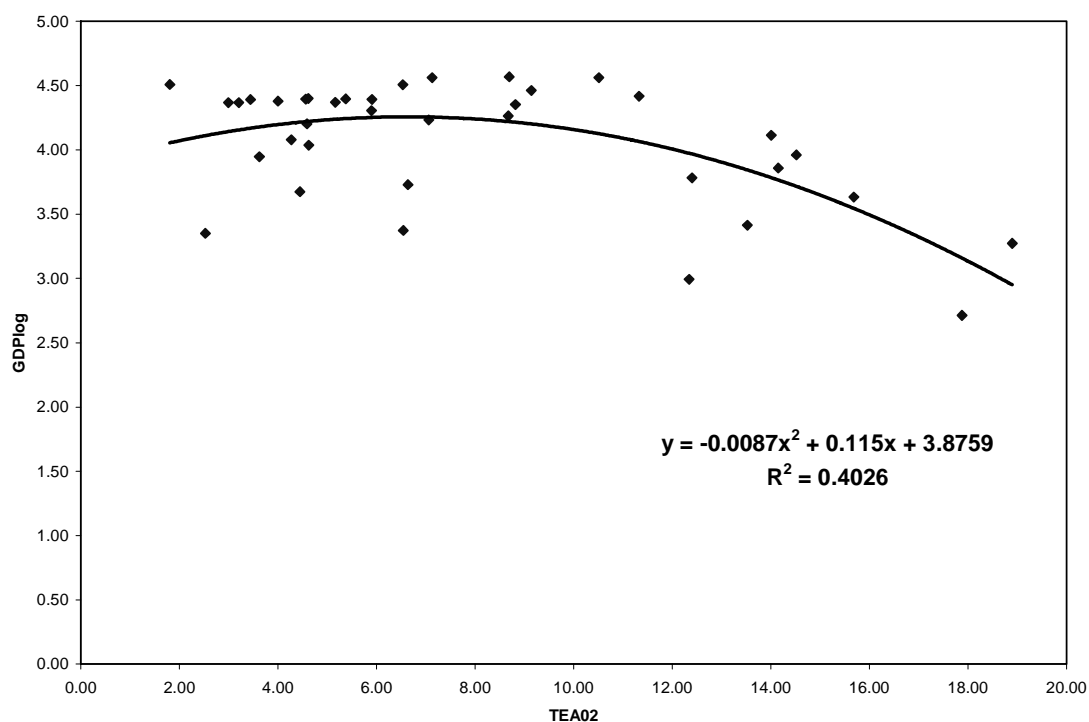
**Figure 1**  
**The Relationship between GDPpc and Economic Freedom**



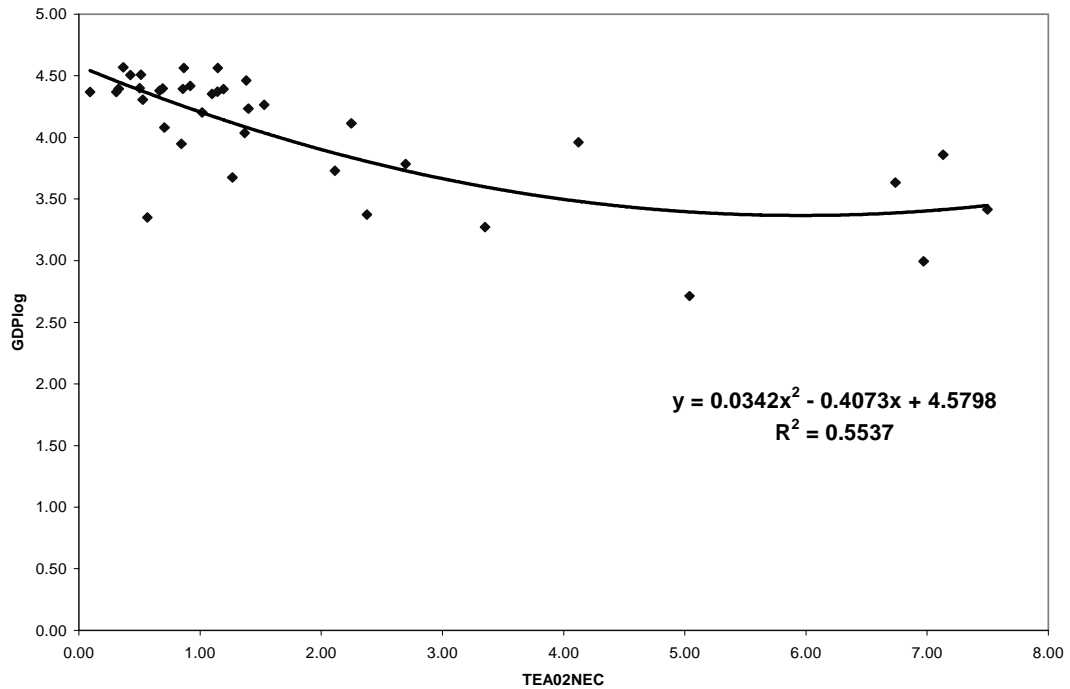
This was easy to predict based upon previous studies (see de Haan and Sturm 2000, for examples). These authors also found that economic freedom would bring countries below their steady state level of economic growth to it more quickly, but that the steady state level of growth was not affected by the level of economic freedom. This may help to explain the shape of the above curve.

As shown in the three figures below, entrepreneurial activity exhibits a relationship with GDPpc, although it appears to be higher in countries with lower GDPpc. This result is somewhat counterintuitive, but in line with the general findings of the GEM study. It is also affected by the strong necessity-based component of entrepreneurship observed in the lower GDP countries.

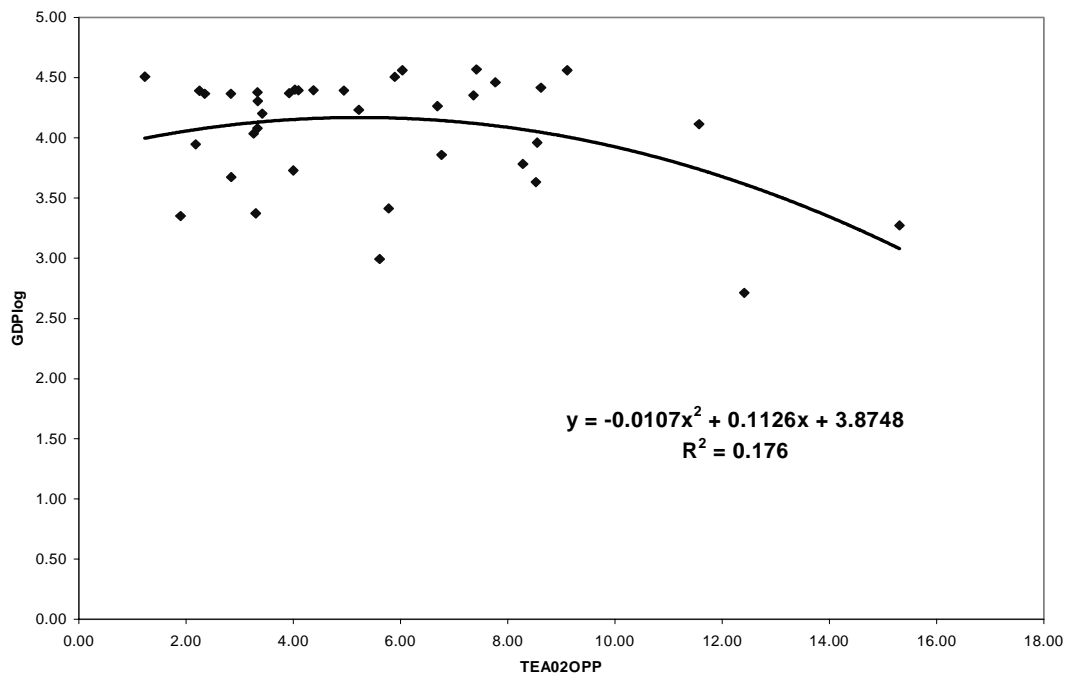
**Figure 2**  
**The Relationship between GDPpc and Total Entrepreneurial Activity**



**Figure 3**  
**The Relationship between GDPpc and Necessity-based Entrepreneurship**



**Figure 4**  
**The Relationship between GDPpc and Opportunity-based Entrepreneurship**





We next used stepwise regression with GDPpc as the dependent variable and all 10 subscales of the IEF along with the country's scores on the three entrepreneurial activity variables as independent variables in order to determine which variables had the most impact. The results are shown in the table below.

**Table 1**  
**Final Model of Stepwise Regression on GDPpc**

<b>Model</b>	<b>Standardized Coefficients (Beta)</b>	<b>t</b>	<b>Sig.</b>
Constant		48.383	.000
Trade	-.352	-2.553	.015
Informal Market	-.404	-3.262	.003
Necessity-based Entrepreneurship	-.265	-2.719	.010

$F = 47.606$ ,  $sig. = 0.000$ ,  $adj. R^2 = 0.795$

While the results above are quite strong, some caution is needed as the results may be more representative of the sample or the limits of parametric statistics. But because we are doing exploratory work, we feel that these results do provide some basis for future work. The coefficients of the two included independent variables of economic freedom have the expected sign, in other words, countries with more freedom exhibit higher GDPpc. The negative coefficient for NBE was also expected because of the higher levels of observed GDPpc in underdeveloped countries.

Previous studies (see for example, Ayal and Karras 1998) have found relationships between the individual subscales of the IEF and economic growth. Although our study produced fewer variables, it will be interesting to see how future work in this area develops. Unfortunately, space limitations preclude a

more exhaustive discussion at this time or the reporting of additional analyses. Obviously, a larger sample is needed but information regarding entrepreneurial activity is limited at this time. Future efforts will need to overcome this limitation.

### **References**

Ayal, Eliezer B. and Georgios Karras. (1998) "Components of Economic Freedom and Growth: An Empirical Study," *Journal of Developing Areas*, 32(3), 327-338.

Beach, William W. & Gerald P. O'Driscoll, Jr. (2003) "Chapter 5: Explaining the Factors of the Index of Economic Freedom." Heritage Foundation, <http://www.heritage.org/research/features/index/2003/chapters/Chapter5.html> Accessed on October 9, 2003.

Berggren, Niclas. (2003) "The Benefits of Economic Freedom: A Survey," *The Independence Review*, 3(2), 193-211.

Cole, Julio H. (2003) "The Contribution of Economic Freedom to World Economic Growth, 1980-99," *Cato Journal*, 23(2), 189-198.

de Haan, Jakob and Jan-Egbert Sturm. (2000) "On the Relationship between Economic Freedom and Economic Growth," *European Journal of Political Economy*, 16, 215-241.

Drucker, Peter F. (1985) *Innovation and Entrepreneurship*. New York: Harper & Row.

*Economist (The)*. (2002) "Technology Quarterly: Thanksgiving for Innovation." LexisNexis. Accessed on June 24, 2004.

Gruebel, Herbert G. (1998) "Economic Freedom and Human Welfare: Some Empirical Findings," *Cato Journal*, 18(2), 287-304.

Heckelman, Jac C. (2000) "Economic Freedom and Economic Growth: A Short-run Causal Investigation," *Journal of Applied Economics*, 3(1), 71-91.

Michael, Steven C. and John A. Pearce. (2004) "Toward a Theory of Government Involvement in Entrepreneurship," an unpublished working paper.

O'Driscoll, Gerald P., Jr., Edwin J. Feulner, and Mary Anastasia O'Grady. (2003) "Executive Summary." Heritage Foundation, <http://www.heritage.org/research/features/index/2003/chapters/executivesummary.html> Accessed on October 9, 2003.

Powell, Benjamin. (2003) "Economic Freedom and Growth: The Case of the Celtic Tiger," *Cato Journal*, 22(3), 431-448.