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Freedom, barriers to entry, entrepreneurship, and economic progress

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Abstract While entrepreneurs benefit from unrestricted free entry into markets, they have a time-inconsistent incentive to lobby for government entry restrictions once they become successful. Bad political institutions yield to these demands, and growing barriers are placed on domestic and international competition. Good institutions do not, and this effort is instead channeled toward further wealth creation. We find that productive entrepreneurship depends on both the freedom to succeed and discipline of failure that free markets provide. Trade barriers result in fewer combinations of goods and inputs attempted, and less productive entrepreneurial resource use. We also provide evidence on the value of business failure.

Keywords Entrepreneurship · Creative destruction · Economic freedom · Barriers to entry

JEL codes H11 · L26 · F13

Entrepreneurs, the spirit they embody and the bold ventures upon which they embark, are essential ingredients of economic progress. Studies such as Reynolds et al. (1999) and Zacharakis et al. (2000) conclude that differing rates of entrepreneurship account for between one-third and one-half of the difference in national economic growth rates. Even government economic development agencies have begun to recognize that a dynamic, entrepreneurial environment is essential for economic growth. Economic development policies over the last two decades have noticeably shifted away from trying to attract large manufacturing firms, and toward encouraging internal entrepreneurship (Kreft and Sobel 2005).

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There are two distinct channels through which government policy impacts the rate of entrepreneurship. The first is through its impact on the quantity and quality of inputs going into the entrepreneurial process (education, venture capital, etc.). Targeted tax relief and/or direct government subsidies or regulations generally have their primary impact through this first channel. The second is through the impact of policy on the institutional structure that determines the 'rules of the game' under which the entrepreneurial process unfolds. These broad institutions together determine the incentive and reward structure faced by economic agents within an economy. Examples of this would be policies altering the security of private property rights, the general constraints on government action, the legal system, and the reliance on unregulated market price signals and freedom of exchange.[1]

As Adam Smith pointed out over 200 years ago, humans have a natural propensity to truck, barter, and exchange. This underlying entrepreneurial spirit is present in everyone. This spirit, however, will be directed in different directions depending on the prevailing economic and political institutions (Baumol 1990, 1993, Boettke 2001, Boettke and Coyne 2003, Coyne and Leeson 2004, Sobel 2006). In countries 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 the creation of new wealth through productive private sector entrepreneurship. In countries with poor institutions, creative individuals are more likely to engage in attempts to capture transfers of existing wealth through unproductive political entrepreneurship. In essence, the institutional structure alters the reward from private sector entrepreneurship relative to the reward from political entrepreneurship. As Kirzner (1973, 1997) points out, entrepreneurs are keen at spotting opportunities for arbitrage and profit. When those opportunities are present to a greater degree through lobbying and rent-seeking, profit-seeking entrepreneurs will devote greater efforts toward securing government favors and protection, and less effort toward market-based wealth creation.

Modern developed countries are at neither institutional extreme. While developed economies rely mostly on free-markets, their political institutions also create opportunities to profit from interest group activity.[2] Because both private- and public-sector entrepreneurship are potentially profitable in these developed countries, our hypothesis is that in such countries political entrepreneurship will be highly complementary to the private-sector entrepreneurship. In other words, successful entrepreneurs with successful private sector businesses will devote some of their efforts toward further increasing their wealth by attempting to secure entry barriers against potential competitors (both domestic and foreign). In economies with ideal market institutions, the rewards earned by successful entrepreneurs would be reinvested by those entrepreneurs in the marketplace. In real-world mixed economies, the degree of reliance on the market process will determine what portion of the rewards earned by successful entrepreneurs are reinvested in socially productive ways and what portion are invested in attempts to alter the political process in their favor,

[1] For a more in depth discussion of both the entrepreneurial process (inputs–institutions–outcomes), and a review of the effectiveness of different government policies at promoting entrepreneurship, see Hall and Sobel (2006).

[2] Rent-seeking, or devoting resources toward altering outcomes in the political process, is a subject on which much literature has been written, beginning with Tullock (1967) and Krueger (1974). More recent synthesis views and discussions can be found in Tollison (1982), Laband and Sophocleus (1988), and Mixon et al. (1994). See McChesney (1987) for an interesting discussion of how the political process has an incentive to structure itself in a way to maximize the rent-seeking activity in the economy directed toward the decision-making body.

mostly through attempting to limit the competition they face through domestic and international trade restrictions.

As Schumpeter (1934 [1911], 1942) stresses, entrepreneurship can be disruptive. The successful introduction of a new product can result in other products becoming obsolete, a process Schumpeter termed 'creative destruction'. Just as compact discs replaced vinyl records; airplanes, automobiles, and trucks replaced trains, wagons, and horses. Individuals such as Sam Walton, whose innovations in distribution warehouse centers and inventory control allowed Wal-Mart to grow from a few stores in Arkansas to the nation's largest retail chain in less than 30 years, created enormous wealth by rendering obsolete the investments of other entrepreneurs. Even in developed economies that rely primarily on market institutions, the political process offers opportunities for existing businesses to protect themselves from this process of creative destruction, at least temporary, by imposing government restrictions on the entry of new domestic firms and on the importation of competing products from foreign competitors.

Schumpeter (1942) argues that a capitalist order tend to destroy itself from within due to the internal social changes resulting from the wealth creation produced by this economic system. Olson (1982) argues a similar long-run outcome, but for a different reason. In his theory, with the passage of time, interest groups become more entrenched, which leads people to devote less effort to productive activity and more effort to political lobbying and rent-seeking. In our model, which can be viewed as somewhat complementary to both Schumpeter and Olson, the capitalist system leads to a proliferation of successful entrepreneurs, who then turn to the political process to secure barriers limiting the efforts of future, competing entrepreneurs.[3] The end result is an economic order in which government regulations that reduce entry and exit are increasingly enacted along with the rise of successful entrepreneurial ventures in the economy, eventually slowing dynamic wealth creation. This cycle can only be prevented through the preexistence of strict constitutional restrictions that provide for limited government. In the absence of these constraints, government will intervene to a greater and greater extent.

In particular, the freedom to fail and the challenge of competition are essential to the productivity of the entrepreneurial process. The entrepreneurial process is one of trial and error as entrepreneurs experiment with new combinations of resources. The efficiency of this process depends on the speed with which new combinations can be quickly discovered, acted upon, and labeled as successes or failures. Just as important as quickly identifying the successes is making sure the failures are quickly extinguished, freeing those resources to go elsewhere.

But protectionist trade restrictions have the potential to do even more harm to the dynamic process of creative destruction in an economy than simply keeping resources employed in less productive uses. The freedom to exchange and experiment is precisely how new combinations of resources are identified. Barriers to either domestic or foreign trade, by their very nature, reduce the number of new combinations that can be attempted through the reduction in the flow of new and unique resources and goods. With a restricted set of potential inputs into the creative process, some new combinations that might otherwise be profitable are never found, identified, and exploited. Trade in both resources

[3] Some might argue that firms would be more likely to begin lobbying for protection after the free-market leaning entrepreneurs who start the businesses are replaced by a professional CEO. While this may or may not be true, economic analysis highlights the idea that a specific individual will act differently depending on the incentive structure they face. Our insight is that this incentive structure changes once the business is established and successful.

and goods disseminate information, innovation, and specialized resources. When that flow is restricted, the creative entrepreneurial process suffers, and so does economic progress.

It is important to note the stark contrast of our conjecture with the modern theory on optimal tariff policy. The international trade literature is filled with models showing how large countries, through favorable changes in the terms of trade, can foster domestic industry through international trade restrictions. In fact, a reader of that literature might conclude that higher tariff barriers might actually increase the rate of domestic entrepreneurship. Even the 'man on the street' who does not understand the more general equilibrium impacts of international trade restrictions might think that they work to expand domestic production and thus entrepreneurship as well. Our model, on the other hand, predicts just the opposite as restrictions on trade lower the number of potential new combinations of resources identified and attempted. There are simply fewer new inputs, goods, and production techniques to try in combination with those already in existence in domestic industry. When the supply of specialized inputs and information is reduced, so is the potential for finding new innovative combinations.

Based on the logic above, there is good reason to believe that economic progress will be retarded when governments intervene into the entrepreneurial process for at least two very good reasons. Testing this belief is the focus of our paper. We explore the two-part hypothesis that productive entrepreneurship depends heavily upon both the freedom to succeed and discipline of failure. We find that more politicized economies erect both more internal and external barriers to competition, and that the result is less entrepreneurship and slower economic growth. We also provide evidence on the value of market discipline in forcing entrepreneurial failures and, correspondingly, the benefits of restricting the ability of entrepreneurs to use government to protect themselves against competition. We next provide a brief review of the literature on institutional quality and economic growth before proceeding to our empirical analysis.

1 Entrepreneurship, growth, and economic freedom: a review of the literature

What explains the vastly different rates of economic growth among geographic areas? The literature in entrepreneurship claims that a substantial portion of this variation in economic growth rates can be explained by differing rates of entrepreneurship. Reynolds et al. (1999), for example, show that different rates of entrepreneurship account for one-third of the difference in national economic growth rates, while Zacharakis et al. (2000) find that it can explain approximately half of the difference. This relationship has held up to testing both among subsets of countries, and internally within 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.

Another independent strand of literature, however, has also taken credit for explaining this variation in economic growth rates using recently developed measures of 'economic freedom' for both countries and the U.S. states (and Canadian provinces). Generally these indexes, such as Karabegovic et al. (2004), O'Driscoll et al. (2003), and Gwartney and Lawson (2004) attempt to condense into a single number the degree of 'economic freedom' individuals have in a geographic area in several key categories such as low taxes, low

regulations, and secure property rights. This index is clearly a measure of the type of 'good' institutions that channel entrepreneurial effort toward productive activities. Studies using these indices such as Gwartney and Lawson (2004), Farr et al. (1998), and Gwartney et al. (1999), have found that differing rates of economic freedom explain a substantial amount of the variation in economic growth across countries.

Recent work by Ovaska and Sobel (2005) and Kreft and Sobel (2005) have attempted to integrate these two strands of empirical literature, both claiming to have identified the key factor explaining economic growth. These authors postulate that entrepreneurship is the main path through which economic freedom promotes economic growth. Thus, higher economic freedom creates economic growth largely because it fosters productive, wealth-enhancing, private sector entrepreneurial activity. This empirical proposition has been suggested by Lee (1991), who writes:

> "no matter how fertile the seeds of entrepreneurship, they wither without the proper economic soil. In order for entrepreneurship to germinate, take root, and yield the fruit of economic progress it has to be nourished by the right mixture of freedom and accountability, a mixture that can only be provided by a free market economy."

Thus, these two seemingly contradictory sets of empirical research can be unified through recognition that institutional quality (e.g. 'economic freedom') impacts the allocation of entrepreneurial energies between productive (market) and unproductive (political) uses, and that this productive entrepreneurship is the conduit through which good institutions result in more wealth creation and economic growth.

While entrepreneurship is the key factor in the advancement of new goods, services, ideas, and technologies, it is inherently a disruptive force (Schumpeter 1942). While economists are fond of noting that when a firm earning economic losses goes out of business, it is beneficial from the standpoint of freeing up those resources for alternative uses, individuals within these failing enterprises and industries certainly do not view this process in a positive manner. In fact, these individuals in failing enterprises frequently lobby government to step in on their behalf and limit the competition they face. The entrepreneurs who benefited from the freedom to enter the market now find themselves in a situation where restricting this freedom is beneficial. In many situations, this occurs after the entrepreneurial venture goes public, so shareholders may be blamed, rather than the actual entrepreneur. However, the residual claimants of the once-successful firm now have time-inconsistent policy preferences. They needed the freedom of entry to succeed in the first place, but now have an incentive to restrict that freedom once they are established and successful.

Clark and Lee (2006) argue that when economies become overly politicized, entrepreneurial ventures can become suppressed, not because of their failures, but because of their own successes. In countries where the government readily gives into the demands of lobbyists and interest groups, those entrepreneurs who have already found success lobby for legislation to protect them from the entrepreneurial efforts of new or potential competitors. As has been well-demonstrated in the literature on interest group theory, politicians have a strong incentive to cater to the desires of concentrated interest groups at the expense of the general consumer or taxpayer. Without proper constraints, interest groups and lobbyists will capture the political process, and the result is the passage of laws and regulations that work to the advantage of these narrow groups.[4] It is important to note that from the standpoint of the existing domestic producers, potential competition can come

[4] For an outstanding, recent review of the literature on the interest-group theory of government see Ekelund and Tollison (2001).

either from foreign competition or the entry of new domestic competition. Thus, governments that tend to give into demands for protection will provide it by erecting barriers to both international and domestic trade.

When enacted, this legislation actually slows down the creative entrepreneurial process that these established entrepreneurs—precisely the ones who lobby for this legislation—were originally a part of. This legislation allows the continuation of ventures that waste resources and result in excessive consumer costs when compared with the new entrepreneurial ventures that are being hindered by the unproductive legislation. In addition, by restricting the inflow and trade of goods and resources, it reduces the discovery of new combinations. The result is less entrepreneurial activity within the country, resulting in a slower growing and less dynamic economy. Thus, in a similar vein to Schumpeter (1942), the capitalist order by the very virtue of its internal wealth creation tends to be self-defeating. In contrast to his explanations, however, we propose that this can also occur because of the eventual politicization of the entry and exit process that endogenously arises once successful entrepreneurs are established and become politically powerful, an argument more in line with Olson's (1982) work on how interest groups gain entrenchment through time in an economy resulting in the decline of once productive nations. This is the basis hypothesis we test in this paper by exploring the relationship between both domestic and international barriers to competition, and their impact on entrepreneurial activity.

2 Empirical model

In this paper, we test our hypothesis using a cross-section of OECD countries.[5] The measure of entrepreneurial activity for each economy is taken from the most comprehensive study available, the *Global Entrepreneurship Monitor* (GEM), published by the Kauffman Center for Entrepreneurial Leadership. Their 'total entrepreneurial activity' index (hereafter TEA) for each of these economies is a survey-based measure that identifies individuals who are active in either the start-up phase of a business or who are managing a new business that is less than 42 months old. The index is a prevalence rate, calculated as the number per 100 individuals involved in either of these first 2 phases of the entrepreneurial process among 18- to 64-year-olds in the population. There is substantial variation in this measure among our sample of OECD countries, ranging from 1.81 to 14.52.

Our measure of restrictions on foreign competition is measured by each country's average tariff rate. Although domestic entry restrictions are much more difficult to measure, one reliable survey-based index does exist. This index, published in *The Global Competitiveness Report* is published by the World Economic Forum in collaboration with the Center for International Development and Institute for Strategy and Competitiveness at Harvard University. Their variable is entitled "administrative burden for start-ups" and is constructed based on the average response in each country to the question: "Starting a new business in your country is generally", where the respondent must circle a number from 1 to 7 with 1 being "extremely difficult and time-consuming" to 7 being "easy". To aid in the interpretation of our results, we have simply reversed the index so that a higher value for this variable reflects a higher level of domestic entry barriers. Again, there is substantial

[5] We use data for 2002 whenever possible, although some of the demographic variables were only available for 2000 or 2001. The list of countries for which the full set of variables were available were: Australia, Belgium, Canada, Denmark, Finland, France, Germany, Hungary, Ireland, Italy, Japan, Mexico, Netherlands, New Zealand, Norway, Poland, South Korea, Spain, Switzerland, United Kingdom, United States.

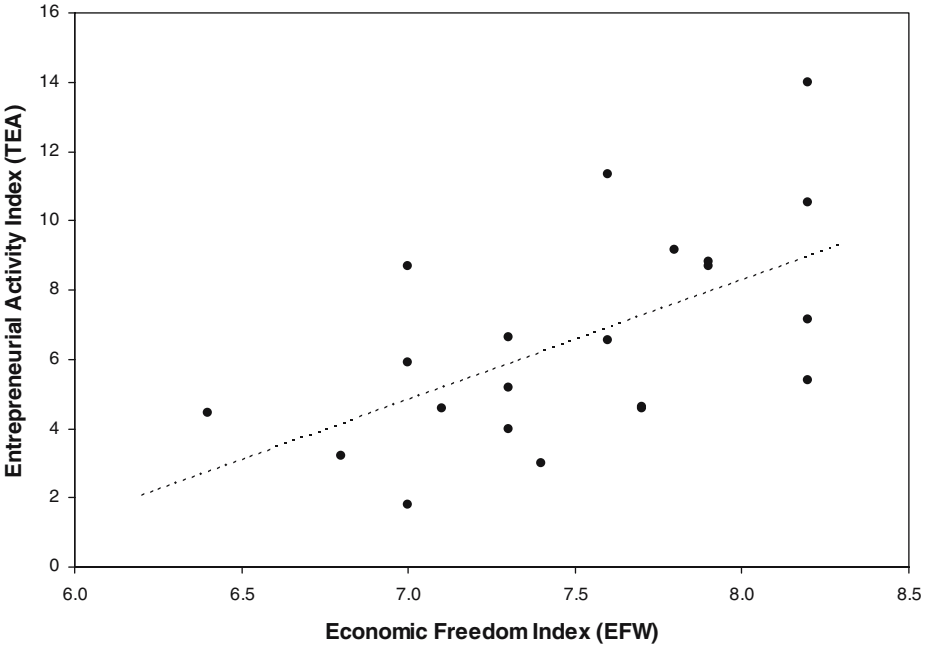

Fig. 1 Economic Freedom and Entrepreneurship in OECD Countries, 2002.

variation in this measure across our sample of countries with a range of 1.8 to 5.2 on the reindexed variable.

We also employ the Gwartney and Lawson (2004) economic freedom index as a general measure of the presence of 'good' institutions allowing citizens the freedom to pursue economic activities. The index gives each of these countries a score on a scale of 1 to 10 with a higher number implying a higher degree of economic freedom. While this index does include measures of tariffs and entry restrictions in the calculation of the index, it also includes dozens of other factors reflecting such things as the security of private ownership rights, domestic taxes and regulations, as well as credit and labor market restrictions. A full listing of the data used in this paper, and the sources, are given in Table 5 of Appendix.

The first question we wish to address is whether there is indeed a positive relationship between entrepreneurship, as measured by the TEA index of entrepreneurial activity from the GEM, and the presence of institutions consistent with economic freedom, as measured by the EFW scores of Gwartney and Lawson. This relationship is so strong that even in the raw data plotted in Fig. 1 it is evident.

A simple univariate regression fit to this data produces: TEA=−19.35+3.46×EFW with an R^2 of 0.33, and a *t*-ratio of 3.065 on the EFW coefficient (highly significant at beyond the 1% level). Clearly, countries with more economic freedom have a larger amount of productive, private sector entrepreneurial activity.[6] Countries with less economic freedom, and more government interference and regulation, have less. In these countries,

[6] Readers familiar with the EFW index might wonder which of the five subcomponent areas of this index are most closely correlated with the TEA score. The two highest are area 1 (size of government: expenditures, taxes, and enterprises), and area 5 (regulation of credit, labor, and business). The respective correlation coefficients are 0.687 and 0.198, respectively, while the correlation coefficient with the overall EFW index is 0.234.

Table 1 Relations Among Barriers to Entry and Economic Freedom

Variable 1	Variable 2	Correlation coefficient
Average tariff rate	Internal barriers to entry	0.357
Average tariff rate	Economic freedom index	−0.558
Internal barriers to entry	Economic freedom index	−0.773

See Table 5 in Appendix for the descriptions of the variables.

entrepreneurial efforts are directed less toward productive private sector entrepreneurship and more toward unproductive political entrepreneurship.

The next question we wish to address is whether positive correlations exist between foreign and domestic barriers to entry and the degree of the politicization of the economy (i.e., the extent to which government is willing to intervene in the economy on behalf of interest groups). This can be broken down into two parts: (1) Do countries that impose higher tariffs also impose higher domestic entry restrictions? and (2) Are countries that have governments most involved in their economies (i.e., the least economic freedom) more likely to enact these restrictions?

To gain insight into these questions, Tables 1 and 2 present the correlation coefficients between our measures of international and domestic entry restrictions. The economic freedom index score in Table 1 and the results of univariate OLS regressions among them in Table 2.

The first row of the table shows that there is a fairly strong positive correlation between the barriers that a country imposes on international and domestic competition (Table 1). The average tariff rate has a 0.357 correlation coefficient with the index of internal entry barriers. The regression results not only support this positive correlation, but also show that this relationship is statistically significant (evidenced by the *t*-statistic on the coefficient estimate) (Table 2). This evidence is consistent with our hypothesis that governments willing to enact policy that protects and favors current entrepreneurs do so both in an effort to protect them from potential domestic competitors and foreign competitors.

The final two rows of Table 1 show that there is a close relationship between these barriers to entry measures and the economic freedom index. Countries with lower economic freedom (more politicized institutions) generally have higher average tariffs (correlation

Table 2 Relations Among Barriers to Entry and Economic Freedom

	Ordinary least squares regressions		
	Dependent variables		
Independent variables	Average tariff rate	Average tariff rate	Internal barriers to entry
Constant	−0.220	31.286***	13.458***
	(0.082)	(3.564)	(7.463)
Economic freedom index	–	−3.625***	−1.351***
		(3.082)	(5.589)
Internal barriers to entry	1.329*	–	–
	(1.753)		
R^2	0.128	0.311	0.598

Absolute *t*-statistics in parenthesis. See Table 5 in Appendix for the descriptions of the variables. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

of −0.558, and a highly significant coefficient in the OLS regression) and countries with lower economic freedom generally have more domestic entry restrictions (correlation of −0.773, and also a highly significant coefficient in the OLS regression). The stronger correlation between internal barriers and economic freedom is consistent with the idea that the many other factors measured in the economic freedom index (low taxes, secure private property, small government sector, etc.) are highly correlated with the imposition of internal barriers to entry. The correlations in Tables 1 and 2 are also consistent with the idea that countries in which the government is most willing to give into the demands of political entrepreneurs, and thus become involved in economic matters to the greatest extent, tend to impose the highest barriers to both domestic and foreign competitors. The positive side is that economies with good institutions and limited government are successful at imposing fewer barriers on internal and external competition.

We now examine whether these restrictions have a significant impact on entrepreneurial activity. In all specifications, we use the *Global Entrepreneurship Monitor*'s total entrepreneurial activity index as the dependent variable. We perform regressions including our measures of international barriers (average tariff rate), domestic entry barriers, and economic freedom. Because the measures of internal and international barriers are included as subcomponents of the freedom index, we perform our regressions separately for each variable, and then consider several specifications including just the two barrier measures without economic freedom, in addition to the regression including all three variables. In the regressions, we include a fairly standard list of control variables (detailed in Table 5 of Appendix) that reflect demographic and economic variables that may also influence the rate of entrepreneurship in these economies.

The regression results presented in Table 3 consistently show that both barriers to international and domestic competition have a strong negative impact on entrepreneurial activity in an economy. These results are robust to inclusion and exclusion of the other measures of government barriers; however, the results for domestic barriers seems to be slightly more robust and significant than the results for the tariff barriers. Most interestingly, both international and domestic barriers are significant in the specification including economic freedom, and render it insignificant. It is apparent that this is due to the high degree of correlation between the freedom index and these variables, as the freedom index is significant when the other two variables are excluded. Using the results from the first column, a one percentage point increase in the average tariff rate would reduce the prevalence of entrepreneurs in the national population by 0.58 per 100 individuals, while a one unit change in the index of the internal barriers (recall this index goes from 1 to 7), results in a reduction in the prevalence of entrepreneurs in the national population by 1.27 per 100 individuals. The magnitude of these coefficients is economically and statistically significant given that the dependent variable has a mean of 7.18. Relative to this mean, a one percentage point increase in the average tariff rate would reduce the prevalence of entrepreneurial activity in the economy by approximately 8%, while a one unit increase in the internal barriers would reduce it by almost 18%.

The results of this section clearly illustrate that politically granted protectionist policies, intended to help some current entrepreneurs and business owners, works to stifle the entrepreneurial process in the economy. As developed economies become more politicized, more of the efforts of creative individuals are devoted toward securing barriers to competition, which reduce entrepreneurship and wealth, rather than toward undertaking new entrepreneurial ventures. Institutions consistent with freedom promote growth, because they channel entrepreneurial activity toward productive activities, rather than toward the efforts to secure protection from potential competitors.

Table 3 Entrepreneurial Activity in OECD Countries—OLS Regression Results

Independent variables	Dependent variable: total entrepreneurial activity				
	Coefficient estimate (absolute *t*-ratio)				
	(1)	(2)	(3)	(4)	(5)
Constant	−17.048	2.188	−22.550	−22.185	−52.225
	(0.393)	(0.042)	(0.435)	(0.466)	(1.028)
Average tariff rate	−0.583*	−0.731*	−0.604*	–	–
	(1.882)	(1.921)	(1.829)		
Domestic entry barriers	−1.269**	−1.858*	–	−1.295**	–
	(2.495)	(1.883)		(2.315)	
Economic freedom index	–	−1.397	–	–	2.219*
		(0.703)			(2.023)
Percent male	1.380	1.309	1.421	1.207	1.399
	(1.605)	(1.477)	(1.380)	(1.283)	(1.427)
Median age	−0.757***	−0.803***	−0.852***	−0.653***	−0.647***
	(3.981)	(3.911)	(3.812)	(3.260)	(3.089)
GDP per capita (1,000s)	0.133	0.156	0.070	0.016	0.011
	(1.071)	(1.187)	(0.479)	(0.152)	(0.099)
Unemployment rate	−0.286	−0.332	−0.282	−0.136	−0.121
	(1.591)	(1.699)	(1.308)	(0.765)	(0.656)
Domestic credit availability	−0.007	−0.004	−0.007	0.003	−0.005
	(0.438)	(0.253)	(0.379)	(0.182)	(0.303)
Foreign capital	−0.002**	−0.002**	−0.002**	−0.001*	−0.002**
	(2.751)	(2.614)	(2.622)	(2.003)	(2.400)
Govt. political stability	−1.270	−1.630	0.055	0.095	0.496
	(0.774)	(0.929)	(0.030)	(0.059)	(0.303)
Observations	21	21	21	21	21
R^2	0.867	0.873	0.792	0.824	0.810

Absolute *t*-statistics in parenthesis. See Table 5 in Appendix for the descriptions of the variables. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

The results from this section confirm our hypothesis that both external and internal barriers reduce productive entrepreneurship in an economy. This stands in stark contrast to the literature on optimal tariffs in international trade. That literature poses that for large OECD countries, such as the ones we studied, that protective tariff barriers can be welfare-enhancing due to their impact on the terms of trade. Our results, on the other hand, show that these barriers, through their impact on reducing the number of new resource and goods combinations, work to reduce the rate of entrepreneurship. With fewer new specialized resources and goods being brought into the domestic production mix, fewer new combinations are profitable to attempt, causing the entire entrepreneurial process to suffer as a result.

3 The contribution of market discipline

The second and equally important question we wish to address is: What contribution to economic progress is made by market economies ensuring unsuccessful entrepreneurs and their products go out of business? In effect, what evidence is there that business failures contribute to economic progress? In politicized economies, entrepreneurs can potentially

avoid failure through devoting resources toward the political process in an attempt to secure a subsidy or a limit on competition. Do countries with better institutions (more economic freedom) have a higher rate of business failure because they do not grant these political favors?

The freedom essential to entrepreneurial creativity cannot be tolerated without the discipline imposed by markets. Tolerating entrepreneurial freedom, especially the bolder variety that is more likely to lead to unsuccessful ventures, but also generates the greatest benefits when successful, requires assurance that over time the gains from the few successes will exceed the losses from the many failures. Entrepreneurs have to be convinced to cut their losses when informed that their projects are losers. This requires not only good information, but stern discipline. By their very nature, entrepreneurs are hard to convince that their ventures are failures. This confidence (or stubbornness) is essential to the entrepreneurial energy and tenacity that can enrich our lives, but unless it is subordinated unmercifully to consumers' preferences, it will do more harm than good. This is precisely the point made by Adam Smith's invisible hand principle—good institutions channel self-interest towards socially beneficial activities. The energy of entrepreneurial confidence is more productively unleashed when market economies allow economic reality to be communicated to entrepreneurs, in ways that ensure they will subordinate their enthusiasms to the interests of consumers.

Consumers keep an entrepreneur informed on the net value of his project as it develops in a way that cannot be ignored. The inputs an entrepreneur uses could have been used to produce other goods consumers also value, and the more consumers value these alternative goods, the higher will be the price the entrepreneur must pay for these inputs. Through these input prices, consumers communicate the value of what they are sacrificing because of an entrepreneur's activities (or any other producer's activities). At the same time, the price that consumers pay for the good produced by an entrepreneur communicates how much they value his productive effort, but this feedback is typically not immediately available for a new business.

Early in an entrepreneurial venture, the product is typically not ready for sale, so it is primarily, if not entirely, information on cost that an entrepreneur will receive from consumers. Here, entrepreneurial confidence plays an important role: It increases his ability to convince others to invest in his effort and motivates him to put up much (maybe most) of his own money with the expectation of earning a large return when (if) the project is successful.[7] Entrepreneurs and venture capitalists commonly fund their ideas for a long time with the revenues generated, if any, falling far short of costs. Eventually, some of these ventures develop to the point where they begin appealing to consumers, who then reward entrepreneurs and investors with large profits indicating that the innovations are producing value in excess of their costs. However, no matter how much confidence an entrepreneur has, if consumers continue to inform him that they think his project is worth less than it cost, he will eventually have to pay attention and respond appropriately. Bankruptcy is a

[7] Our discussion has assumed, with little comment, the foundation of all market economies—well-defined and enforced private property rights. Private property rights are essential to the voluntary exchanges from which market prices emerge—prices that convey the information and impose the discipline that we have argued are necessary for productive freedom. Also, without well-established and widespread private property, the capital necessary to enter into meaningful entrepreneurial activity is denied to many whose entrepreneurial talents could otherwise contribute to the economic progress of a society. For an excellent discussion of the importance of private property rights to expanding the number of potential entrepreneurs with access to productive capital, see de Soto (2000).

Table 4 Economic Freedom, Entrepreneurial Activity, and Business Failure

Economic freedom	Total entrepreneurial activity index	Business failures per 10,000 firms
Top half of sample (half with the most economic freedom)	7.51	116.70
Bottom half of sample (half with the least economic freedom)	6.74	67.58

A difference in means tests shows both to be significantly different at a 5% level.

powerful signal, one that not only informs entrepreneurs of thumbs-down reactions by consumers, but forces them to terminate failed projects. Just as cars can go faster because they are equipped with brakes, entrepreneurial ventures lead to more rapid progress when they can be quickly brought to a halt.

Table 4 provides evidence regarding the relationship between economic freedom, business failures, and total entrepreneurial activity. For the countries in our sample, we calculate the average business failures per 10,000 firms, and the average total entrepreneurial activity score, for the half of the countries with the most (highest) economic freedom and the half with the lowest economic freedom. As can be seen in the table, those countries with the highest economic freedom scores had not only a 12% higher level of total entrepreneurial activity (the percentage difference in the index score), but they also have a rate of business failure that is almost twice as high as the countries with the lowest economic freedom scores (both of these differences are significant at the 5% level in a difference of means test). More freedom is not only correlated with more entrepreneurship, but also with a higher rate of business failure. Economic freedom means not only the freedom to enter and succeed, but also the freedom to fail. Economic progress is the result of many new combinations being attempted, and having a mechanism in place to quickly determine which of these are worthwhile to continue and which are not. The profit and loss system serves this function, quickly sorting out failing firms (e.g., bad combinations) to free those resources for more productive use elsewhere.

Thus, government imposed barriers to competition (both internal and external) work to harm the creative entrepreneurial process both through lowering the number of combinations (as we showed in the previous section) and through eroding the discipline of market failure on the productive use of resources (as we show in this section).

4 Conclusion

One would think that the failures of entrepreneurs would be the biggest threat to their freedom. However, we have seen that market economies, coupled with good economic institutions and limited government, make it possible to tolerate entrepreneurial freedom, and the failures that inevitably accompany that freedom, by giving consumers the power to pull the plug on the failed ventures and efficiently guide the expansion of, and adjustments to, successful ones. Paradoxically, even though society reaps enormous benefits from successful entrepreneurial ventures, those successes motivate the greatest resistance to entrepreneurial freedom. The problem is found in a lack of constraints on the political process. While markets make it possible to tolerate entrepreneurial failure, politics often does not.

Competition is never popular with producers because it forces them to remain ever vigilant in serving the interests of consumers or lose those consumers to those who are. Moreover, competition from new entrepreneurs, because it provides the greatest benefits to consumers, poses the greatest threat to and reaction from established businesses. If the options for the established business were limited to intensifying efforts to meet the competition with better and less expensive products or quietly going out of business, there would be no problem.

However, well-established firms commonly have great political influence because of their contributions to powerful politicians and the many jobs they provide in the political jurisdictions those politicians represent. When those firms are confronted with the alternatives of making painful changes and still likely being driven out of business or using their political influence to hamper, if not derail, the ability of entrepreneurs to get their products and services to the market, they are seldom reluctant to choose the latter. After all, they are entrepreneurs who are keen to find undiscovered arbitrage and profit opportunities, even if those opportunities are in the public sector. The fewer constraints imposed on government to respond to special-interest demands, the more profitable political entrepreneurship will be compared to entrepreneurship that passes the market test. The result will be less entrepreneurship, fewer business failures, and less economic growth. It is precisely those entrepreneurs who needed the freedom of entry to build their businesses, who then, in turn find it advantageous to lobby for restrictions on this process of market entry. These restrictions, however, are highly destructive. They are destructive not only because they reduce market discipline, and thus keep resources in less productive uses, but also because they reduce the inflow of new goods and resources into the entrepreneurial process, lowering the number of new combinations that are attempted in the economy.

While Schumpeter (1942) argues that a capitalist order tend to destroy itself from within due to the internal social changes resulting from the wealth creation produced by this economic system, in this paper, we provide another reason to expect such a progression away from pure capitalism, more closely in line with the work of Olson (1982). In our model, the capitalist system leads to a proliferation of successful entrepreneurs who then turn to the political process to secure barriers limiting the efforts of future, competing entrepreneurs. The end result is an economic order in which government regulations that reduce entry and exit are increasingly enacted along with the rise of successful entrepreneurial ventures in the economy, eventually slowing dynamic wealth creation in the society for the two reasons listed above.

Protecting our freedom and prosperity requires that we protect the integrity of the marketplace institutions that foster and discipline entrepreneurial activity. Providing this protection demands that we hold to general principles that severely limit government policies that distort the market process and cause entrepreneurial efforts to be directed toward unproductive political entrepreneurship rather than toward productive market entrepreneurship. Political actions that reduce the informed discipline of the market also reduce the benefits realized from freedom, including entrepreneurial freedom. Countries with political processes that tend to give in to the demands for protection from current entrepreneurs, tend not only to erect more internal barriers, but also more international barriers on potential competitors. Our results suggest that both types of barriers result in less overall entrepreneurial activity. This result is particularly striking for international barriers given not only the widespread public perception that international trade barriers foster domestic industry, but also the large literature on welfare-enhancing optimal tariffs for large countries. We find the opposite to be true, that these barriers stifle entrepreneurship through their impact on the number of new combinations of inputs and resources attempted

within an economy. There are simply fewer new unique inputs, goods, and production techniques to try in combination with those already in existence in domestic industry.

Finally, the economic freedom that is essential to an environment conducive to business start-ups also results in the market discipline necessary to keep new ventures and established businesses responsive to the preferences of consumers. Countries with more economic freedom have both more entrepreneurship and a higher rate of business failure. High rates of business failure are not detrimental. Coupled with a high rate of overall entrepreneurship, business failures are a sign that many new combinations are being attempted and the market process is doing its job sorting out the good ones from the bad, leading to overall economic progress and growth.

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Appendix

Table 5 Data Descriptions and Sources

Variable name (source)	Description	Mean (SD) Min/max
Total entrepreneurial activity (1)	Proportion of adults between ages 18 and 64 that were determined to be involved in entrepreneurial activity (index measure is the number per 100 adults)	7.18 (3.55) 1.81/14.52
Average tariff rate (2)	Mean tariff rate	4.4 (3.3) 0.0/16.2
Domestic entry barriers (3)	Index of the administrative burden for startups measures the ease of starting a new business in the county	4.4 (0.9) 2.8/6.2
Economic freedom index (2)	Composite index measure of economic freedom that consider government size, legal structure and security of property rights, access to sound money, freedom of international trade, and regulation of credit, labor and business	7.3 (0.6) 5.5/8.2
Percent male (4)	Percent of the population that is male (%)	49.14 (0.69) 47.70/50.71
Median age (5)	Median age of the population	37.0 (4.1) 23.8/42.0
GDP per capita (6)	Gross domestic product in U.S. dollars	22,352 (7516) 6,700/36,300
Unemployment rate (6)	Civilian unemployment rate (%)	7.0 (4.2) 1.8/19.8
Domestic credit availability (4)	Domestic credit to the private sector (% of GDP)	93.41 (46.2) 11.47/186.75
Foreign capital (4)	Net foreign direct investment per capita	711.33 (733.90) 12.49/3,206.14

Table 5 (continued)

Variable name (source)	Description	Mean (SD) Min/max
Government political stability (7)	Index measures the country's perception that the government will be destabilized or overthrown (score=−2.5—extremely poor record to 2.5—extremely good record)	1.02 (0.48) −0.61/1.63
Business insolvencies (8)	The number of business insolvencies per 10,000 companies	94.0 (74.5) 2.0/299.0

Index to sources:

1. Reynolds, Paul D., Bygrave, William D., Autio, Erkko, and Hay, Michael. *Global Entrepreneurship Monitor*. Kansas City, Missouri: Ewing Marion Kauffman Foundation, 2002.
2. Gwartney, James D. and Robert A. Lawson. *Economic Freedom of the World: 2004 Annual Report*. Vancouver: The Fraser Institute: 2004.
3. Schwab, Klaus and Michael E. Porter. *The Global Competitiveness Report: 2002–2003*. World Economic Forum Geneva, Switzerland 2003. New York, NY: Oxford University Press, 2003.
4. World Development Indicators 2003 CD-ROM. World Bank, 2003.
5. CIA. *CIA World Factbook: 2003*.
6. CIA. *CIA World Factbook: 2002*.
7. World Bank Group. *Governance Indicators: 1996–2002*.
8. Data from Australia: Australian Securities and Investments Commission. Canada: Office of the Superintendent of Bankruptcy Canada. *Annual Statistical Report, 2002*. Iceland: Statistics Iceland. Japan: Teikoku Databank, LTD. *Bankruptcy Report, 2002*. New Zealand: New Zealand Insolvency and Trustee Service. *Corporate Report 2001/2002*. The Remaining Countries: *Insolvencies in Europe: 2003/04*. Creditreform Economic Research Unit.

References

Baumol, W. J. (1990). Entrepreneurship: productive, unproductive and destructive. *Journal of Political Economy, 98*, 893–921.

Baumol, W. J. (1993). *Entrepreneurship, management, and the structure of payoffs*. Cambridge, MA: MIT Press.

Berkowitz, D., & DeJong, D. N. (2005). Entrepreneurship and post-socialist growth. *Oxford Bulletin of Economics and Statistics, 67*, 25–46.

Boettke, P. J. (2001). *Calculation and coordination: Essays on socialism and transitional political economy.* New York, NY: Routledge.

Boettke, P. J., & Coyne, C. J. (2003). Entrepreneurship and development: Cause or consequence? *Advances in Austrian Economics, 6*, 67–87.

Clark, J. R., & Lee, D. R. (2006). Freedom, entrepreneurship, and economic progress. *Journal of Entrepreneurship, 15*, 1–17.

Coyne, C. J., & Leeson, P. T. (2004). The plight of underdeveloped countries. *Cato Journal, 24*, 235–249.

de Soto, H. (2000). *The mystery of capital: Why capitalism triumphs in the west and fails everywhere else*. New York: Basic Books.
Ekelund, R. B., & Tollison, R. D. (2001). The interest-group theory of government. In W. F. Shughart II, & L. Razzolini (Eds.), *The Elgar companion to public choice* (pp. 357–378). Cheltenham, UK: Edward Elgar.
Farr, W. K., Lord, R. A., & Wolfenbarger, J. L. (1998). Economic freedom, political freedom, and economic well-being: A causality analysis. *Cato Journal, 18*, 247–262, Fall.
Gwartney, J. D., & Lawson, R. A. (2004). *Economic freedom of the world: 2004 annual report*. Vancouver: The Fraser Institute.
Gwartney, J. D., Lawson, R. A., & Holcombe, R. G. (1999). Economic freedom and the environment for economic growth. *Journal of Institutional and Theoretical Economics, 155*, 1–21, December.
Hall, J. C., & Sobel, R. S. (2006). *Public policy and entrepreneurship*. Kansas University Center for Applied Economics Technical Report 06-0717, July.
Henderson, J. (2002). Building the rural economy with high-growth entrepreneurs. *Federal Reserve Bank of Kansas City Economic Review, 87*, 45–70, Third Quarter.
Karabegovic, A., McMahon, F., & Samida, D. (2004). *Economic freedom of North America: 2004 annual report*. Vancouver: The Fraser Institute.
Kirzner, I. M. (1973). *Competition and entrepreneurship*. Chicago: University of Chicago Press.
Kirzner, I. M. (1997). Entrepreneurial discovery and the competitive market process: an Austrian approach. *Journal of Economic Literature, 35*, 60–85, March.
Kreft, S. F., & Sobel, R. S. (2005). Public policy, entrepreneurship, and economic freedom. *Cato Journal, 25*, 595–616, Fall.
Krueger, A. O. (1974). The political economy of the rent seeking society. *American Economic Review, 64*, 291–303, June.
Laband, D. N., & Sophocleus, J. P. (1988). The social cost of rent seeking: first estimates. *Public Choice, 58*, 269–275, September.
Lee, D. R. (1991). The seeds of entrepreneurship. *The Journal of Private Enterprise, 7*, 20–35, Fall.
McChesney, F. S. (1987). Rent extraction and rent creation in the economic theory of regulation. *The Journal of Legal Studies, 16*, 101–118, January.
Mixon, F. G., Jr., Laband, D. N., & Ekelund, R. B., Jr. (1994). Rent seeking and hidden in-kind resource distortion: some empirical evidence. *Public Choice, 78*, 171–185, February.
O'Driscoll, G. P., Jr., Feulner, E. J., & O'Grady, M. A. (2003). *2003 Index of economic freedom*. Washington D.C. and New York: The Heritage Foundation and The Wall Street Journal.
Olson, M. (1982). *The rise and decline of nations*. New Haven, CT: Yale University Press.
Ovaska, T., & Sobel, R. S. (2005). Entrepreneurship in post-socialist economies. *Journal of Private Enterprise, 21*, 8–28, Fall.
Reynolds, P. D., Hay, M., & Camp, S. M. (1999). *Global entrepreneurship monitor*. Kansas City, Missouri: Kauffman Center for Entrepreneurial Leadership.
Schumpeter, J. A. [1934 (1911)]. *The theory of economic development*. Cambridge, MA: Harvard University Press.
Schumpeter, J. A. (1942). *Capitalism, socialism, and democracy*. New York: Harper.
Sobel, R. S. (2006). *Testing Baumol: Institutional quality and the productivity of entrepreneurship*. West Virginia University Working Paper 06-06.
Tollison, R. D. (1982). Rent seeking: A survey. *Kyklos, 35*, 575–602.
Tullock, G. (1967). The welfare cost of tariffs, monopolies, and theft. *Western Economic Journal, 5*, 224–232, June.
Zacharakis, A. L., Bygrave, W. D., & Shepherd, D. A. (2000). *Global entrepreneurship monitor: national entrepreneurship assessment: United States of America*. Kansas City, Missouri: Kauffman Center for Entrepreneurial Leadership.