Introduction
Economists have long recognized the central role entrepreneurs play in the functioning of market-based economies. The following quote from an introductory microeconomics text nicely describes what entrepreneurs do. “Entrepreneurs must first determine what goods and services they believe consumers want, and then they must decide how to produce those goods and services most profitably. Entrepreneurs bring together the factors of production – labor, capital, and natural resources – to produce goods and services. They put their own funds at risk when they start businesses. If they are wrong about what consumers want or about the best way to produce goods or services, they can lose those funds” (Hubbard and O’Brien, 2008, pp. 53-54). We all depend upon entrepreneurs to produce the goods and services we consume. The ability of entrepreneurs to perform these functions ultimately determines the quantity and quality of those goods and services and the prices we pay for them. Thus the state of entrepreneurship in society is an important determinant of our quality of life and the overall health of a market economy.

Recent empirical studies have found evidence of a secular decline in the levels of entrepreneurship in the United States over the last three decades. This disturbing trend has been blamed for a number of economic maladies including slower employment growth, more protracted economic recoveries, and lower rates of economic growth. The findings of these studies, however, have not isolated the causes of this decline (though their authors have speculated about the likely suspects).

Not all economists, however, ascribe to this view. Dissenters contend that these studies measure the wrong things and that some indicators of decline actually are the consequences of entrepreneurial activity. Much of the differences among economists regarding this issue can be traced to different understandings of the meaning of entrepreneurship and disagreements about the kinds of entrepreneurship that have the greatest impact on economic performance.

This report critically evaluates the empirical evidence of declining rates of entrepreneurial activity. The paper begins by describing the entrepreneurial process from an economic perspective and the impact of this process on economic growth. Second, it reviews the empirical evidence of declining entrepreneurship. Third, it presents a dissenting view that questions this evidence. Fourth, the paper evaluates the arguments of these alternative perspectives and discusses possibilities for future research. Lastly, the report explores policy options that aim to increase the level of entrepreneurship for United States and Wisconsin.

Entrepreneurship as Experimentation
Economist Paul Romer uses the metaphor of the kitchen recipe in describing the sources of economic growth. “To create valuable final products, we mix inexpensive ingredients according to a recipe … Human history teaches us, however, that economic growth springs from better recipes, not just from more cooking” (Romer, 1993, 1). Some entrepreneurs are like elite chefs; they are constantly coming up with new, better recipes. They find new ways to mix the same ingredients (resources) so as to create new economic value. In doing so, new products that are better tailored to meeting consumers’ preferences are continually being introduced. In addition, resources are utilized in increasingly productive ways so that the economy produces more output with the same amount of ingredients.

Under this view, entrepreneurs engage in economic experiments when they introduce new products to the market, implement new production technologies, and try out new business practices. These economic experiments ultimately are tested in the marketplace. “For entrepreneurs, it can be virtually impossible to know whether a particular technology or product or business model will be successful, until one has actually invested in it” (Kerr, Nanda, and Rhodes-Kropf, 2014, 25). The uncertain nature of economic experiments means that the process cannot be
planned. Entrepreneurship is fundamentally and inevitably a trial-and-error process by which the experiences of failed experiments can inform future experiments.

Given that the vast majority of entrepreneurial ventures fail, it is critical that societies find ways to create strong incentives for experimentation. Socialist economies that rely heavily on centralized planning do not offer an environment conducive to entrepreneurship (Rosenberg, 1994). The success of capitalist economies in promoting innovation and generating economic growth can be attributed to the freedom of entrepreneurs to perform economic experiments. “Capitalism has provided multiple sources of decision-making and initiative, strong incentives for proceeding one step at a time, and the possibility for drawing upon a wide range of human potential – all valuable features of activities that are carried out in an environment of uncertainty” (Rosenberg, 1994, 95).

Capitalist societies provide an economic and institutional infrastructure that encourages economic experimentation. The private ownership of resources and relative security of property rights promotes broad participation of many individuals in the entrepreneurial process. The development of sophisticated financial institutions that support stock markets, limited liability, and insurance markets have dramatically reduced the levels of risk borne by individual entrepreneurs. As a source of financial resources, venture capital firms, in particular, are well-suited in supporting economic experiments because of their ability to finance ventures in stages which allows them to abandon failed experiments early on in the process. By protecting their personal assets, governmental innovations like bankruptcy laws encourage entrepreneurs to try and try again (Rosenberg, 1994).

The Empirical Evidence of Decline in Entrepreneurship

The previous section described how economists characterize entrepreneurship as a process or an activity. In measuring entrepreneurship, economists ideally would like to directly gauge changes in both the quantity and quality of economic experimentation over time. Unfortunately, they have not found a method for doing this. Instead, economists have adopted a number of proxy measures to empirically test changes in levels of entrepreneurship. These studies fundamentally associate entrepreneurship with identity. They largely assess changes in entrepreneurship by estimating quantitative changes in economic activity for certain categories of private businesses. These include changes in the rate of self-employment, changes in small business activity, changes in business start-ups, and changes in firm age.

Changes in New Business Activity

In Out of Business: Measuring the Decline of American Entrepreneurship, Barry Lynn and Linda Khan contend that data showing a reduction in new business activity reflects a decline in America’s entrepreneurial sector. “[N]ew businesses are a vital source of new ideas and new jobs” (Lynn and Khan, 2012, 3). Using Census Bureau data, they find that the number of new employer businesses as a share of the population has been declining. New employer businesses include proprietorships, partnerships, and corporations with at least one employee (Lynn and Khan, 2012).

In 1977, there were 35 new employer businesses for every 10,000 working age Americans. By 2010, the number had fallen to 17 new employer businesses, a 53% decline. “While the Great Recession accelerated the trend, it was clearly in evidence before 2007; by 2006, the number had already fallen by 30 percent” (Lynn and Khan, 2012, 6).

Changes in the Rate of Self-Employment

Lynn and Khan (2012) also document a decline in the rate of self-employment over the last three decades. Using a data series from the Small Business Administration (SBA), they find that the number of self-employed workers for every 10,000 working age Americans has fallen since 1994. “The share fell steadily until 2002, stayed level between 2003 and 2006, and has continued to drop since. Overall the decline between 1994 and 2010 was nearly 25 percent” (Lynn and Khan, 2012, 11).
The Problem of Old Age

Related to the declining rate of new business activity is evidence of a graying business sector. Economists have attributed the aging of American business firms to a decline in business dynamism which they contend reflects a decline in entrepreneurship. "Business dynamism is the inherently disruptive, yet productivity-enhancing process of firm and worker churn that reallocates capital and labor to more productive uses. Older firms are less dynamic than younger ones, and their increasing share of the American economy coincides with a three-decade decline in business dynamism" (Hathaway & Litan, 1, 2014).

The work of Decker, et al. (2014) observes that young firms account for a falling share of business activity. The authors define young firms as those firms age 5 or less. They find that firms age 5 or less accounted for 47% of all firms in the late 1980s. By 2008, that number had dropped to 39%. The share of employment in these young firms similarly fell from 19% in the 1980s to 13% in 2008. Much of the decline, according to the authors, is the result of a declining startup rate and declining average startup size of these young firms. As a result, the share of total job creation from new firms has similarly declined. The share of new employment of young firms fell from 39% to 33% over the same time period (Decker, et al., 2014, 14).

The decline in the share of new employment from young firms is particularly troubling since historically, young firms have contributed disproportionately to increases in total employment. As firms age, their contributions to total employment tend to decline. "Startups account for less than 10% of firms but 20% of firm-level gross level job creation" (Decker, et. al., 2014, 8).

A Dissenting View

Several economists recently have published papers critical of the empirical research on entrepreneurship (Henrekson & Sanandaji, 2014; Foss & Lyngsie, 2014). These efforts implicitly question the proxy measures used in these studies. Proxy measures like new business activity and rates of self-employment assess changes in quantity but do not assess changes in quality (Henrekson & Sanandaji, 2014). The choice of these measures may reflect certain biases held by scholars in the entrepreneurship field (Foss & Lyngsie, 2014).

Declining Share of Activity from Young Firms (Firms Age 5 or Less)

Source: Author calculations from the US Census Bureau's Business Dynamics Statistics.
Note: Employment shares in each period based on the average of employment in period $t-1$ and $t$ (the denominator of the Davis, Haltiwanger, and Schuh (1996) growth rate).
Not All Entrepreneurs are Created Equal
In the boldly titled *Small Business Activity Does Not Measure Entrepreneurship*, MagnusHenrekson and Tino Sanandaji (2014) argue that the current empirical research fails to distinguish between “innovative entrepreneurs” and “replicative entrepreneurs.” “Innovative” entrepreneurs are entrepreneurs that “come up with ideas and embody those ideas in high-growth companies . . . who upset and disorganize the existing ways of doing things” (The Economist, 2014, February 16). Innovative entrepreneurs, in other words, introduce new recipes. The aggregate effect of these efforts results in (what Joseph Schumpeter famously called) a “perennial gale of creative destruction” that constantly threatens existing businesses with obsolescence. It is the competitive process that forces entrepreneurs to introduce new products, processes, and business practices as a means of staving off economic irrelevance.

“Replicative entrepreneurs,” on the other hand, create their own small business but typically are not innovators. These entrepreneurs typically adopt existing recipes. These small businesses remain small and largely exist to provide employment for its owners and family members. The vast majority of all entrepreneurs are “replicative entrepreneurs.” While both kinds of entrepreneurs have important contributions to make to the economy, “innovative entrepreneurs” typically have the greatest impact on economic growth.

Henrekson and Sanandaji (2014) point out that data on self-employment, new business activity, and firm age do not distinguish between these two kinds of entrepreneurs. Conclusions regarding entrepreneurship drawn from this data therefore can be highly problematic. Taken at face value, declining rates of self-employment seem to imply falling rates of entrepreneurial activity. But which kind? Innovative or replicative? While highly entrepreneurial nations tend to be high income nations, cross-country studies on rates of self-employment suggest otherwise. The figure above is from a study by La Porta and Shleifer (2014). These comparisons show that self-employment rates are negatively correlated with per-capita income.

Low income countries like Chad, India, and Kenya have very high percentages of their labor force that are self-employed. The self-employed in less developed countries tend to consist of entrepreneurs who engage in low productivity, low value-added activities, often selling “extremely low-quality goods for low prices to low-income customers” (La Porta & Shleifer, 2014, 113). “Among Organization for

---

Self-Employment and GDP per Capita in 2013

![Graph showing the relationship between self-employment and GDP per capita.](image-url)
Economic Cooperation and Development (OECD) countries, Mexico, Greece, Italy, South Korea, Turkey and Portugal stand out as the countries with the highest rates of self-employment. By contrast, the United States has the second lowest self-employment rate among developed nations” (Henrekson & Sanandaji, 2014, 1761).

Henrekson and Sanandaji offer an explanation for this counterintuitive relationship: “When the level of trust in a society is low, it becomes more important to monitor employees closely or rely on your own kin labor, which encourages self-employment. When hired employees cannot be trusted, entrepreneurs will have a difficult time growing their firms rapidly around innovative ideas” (Henrekson & Sanandaji, 2014, 1762).

The vast majority of the self-employed in the United States are “replicative entrepreneurs.” The industries with the highest rates of the self-employed include construction, landscaping services, auto repair, restaurant, farming, child day-care services, and beauty salons. For most of these small businesses, the owner is the only employee (Henrekson and Sanandaji, 2014, 1760). While each of these activities serves important economic functions by meeting the wants and desires of consumers, they are not drivers of economic growth.

**Measuring Innovative Entrepreneurship**

The shortcomings of the empirical research inspired Henrekson and Sanandaji to develop their own, rather intriguing measure of innovative entrepreneurship. They argue that high impact entrepreneurship can be measured by assessing “the accumulation of wealth for founders of new business ventures” (Henrekson & Sanandaji, 2014, 1761). The success of a truly innovative product would richly reward their creators with significant amounts of wealth. Using Forbes’ list of worldwide billionaires from the last 20 years, the authors identified “996 self-made billionaires who became rich by founding new firms” (Henrekson & Sanandaji, 2014, 1761). From that list they constructed a cross-country comparison of “entrepreneurship rates” by finding the number of billionaire entrepreneurs per million inhabitants for each country.

The nations with the highest entrepreneurship rates were Hong Kong, Israel, and the United States respectively. All of the countries that scored well are highly developed, high income economies.

Additionally, Henrekson & Sanandaji (2014) show a strong correlation between venture capital investment as a percentage of a nation’s GDP and the number of billionaire entrepreneurs per million inhabitants, indicating the importance of venture capital in supporting “innovative entrepreneurship.”

Interestingly, the authors also show that this measure of “innovative entrepreneurship” is “robustly and negatively correlated with self-employment rates, small business ownership rates, and the rate of startup activity” (Henrekson & Sanandaji, 2014, 1761).

On reflection, these last findings should come as no surprise. “Innovative entrepreneurs” that are highly successful often drive smaller, less productive firms out of business. This is the process of “creative destruction” that Joseph Schumpeter emphasized in his work (Schumpeter, 1942). In addition, the success of their business models can negatively impact new business activity by acting as a barrier to entry to new firms who now find it unprofitable to enter. For example, there were over 274 manufacturers of automobiles in the United States in 1908, the year that Henry Ford introduced the moving assembly line.
manufacturing process in producing the Model-T which sold for a price of $850. By 1924, the Ford Motor Company enjoyed 60% market share, selling the Model-T for only $290 (McCraw & Tedlow, 1997, pp. 269-74). Innovations that increase the “minimum efficient scale” of business operations and result in lower prices ultimately lead to fewer firms in that industry.

The consolidation within the automobile industry parallels the experiences of other industry sectors. The long, historical trend in agriculture in this country is one of fewer and fewer farms producing greater quantities of crops. Over thirty years ago, there were over 50,000 potato farms in North America. Today, the number is less than 10,000 (Martin, 2006). Retail innovations over the last several decades have focused on meeting consumers’ preferences for ‘one-stop shopping.’ As a result, general merchandisers and retail chains have dramatically increased the number of product lines that they carry (Basker, Klimek, & Van, 2012). Wal-Mart, “big box” stores and other chains have driven many small “mom-and-pop” establishments out of business and dissuaded many others from starting. “Between 1963 – one year after the first Wal-Mart store opened in Rogers, Arkansas – and 2002, the number of single store retailers in the United States declined by 55 percent while the number of chain stores nearly doubled. The number of stores belonging to chains with 100 or more stores more than tripled over this period” (Basker, 2007, 178).

Highly successful entrepreneurial ventures, as seen in these examples, can negatively impact the number of self-employed and the level of small business activity.

Discussion
The studies presented in this report certainly have not resolved the issue of whether entrepreneurship has been on the wane over the last several decades; they probably raise more questions than answers.

Henrekson and Sanandaji (2014) have exposed the weaknesses of empirical research using data on self-employment rates and new business activity as evidence of declining entrepreneurship. Their measure of innovative entrepreneurship correlates negatively with these measures. The problem with their analysis of ‘innovative entrepreneurship’ is that it is essentially static. While their “billionaire per capita” rate shows the United States as ranking near the top in innovative entrepreneurship, it doesn’t attempt to gauge how that rate has changed over time. Efforts to collect data at different points in time would be necessary in trying to assess if ‘innovative entrepreneurship’ has declined over time.

It is important to recognize that evidence of falling self-employment rates and declines in new business activity may not just reflect the impacts of innovative entrepreneurship on small business. It may reflect other factors that are truly causes of great concern. The problem with the data as presented is that it does not distinguish between replicative and innovative entrepreneurs. The inability to make that distinction makes it difficult to assess whether there has been a decline in innovative entrepreneurship.

In addition, the data used in measuring self-employment rates, new business activity, and firm age all begin in the late 1970s or early 1980s. In each case, these measures indicate an immediate and consistent decline in entrepreneurship over subsequent decades. It would be useful if these studies could go back further in time to determine if this decline represented a clear break from the past or simply represented a long term trend that reflect changes in economic structure consistent with the development of modern economies.

The studies also ignore the entrepreneurial activities of established firms. Established firms potentially hold several advantages over new firms. Older firms have already created successful organizations and have developed important relationships with suppliers and buyers. A new firm launching a new product often has to start from scratch in building a viable organization and in establishing linkages with other, complementary businesses. An existing firm that introduces a new product often can exploit its current organization and supply chain relationships.

In addition, there is a strong learning-by-doing component to the production process with increased knowledge and capabilities as byproducts of a firm’s experiences. Older firms therefore often possess greater capabilities than younger firms. These firms can leverage their competences in producing new, successful products (Foss & Lyngsie, 2014). 3M, for example, has applied its competencies in substrates, coatings, and adhesives in producing a wide array of products in very different industries, including “Post-it” notes, magnetic tape, photographic film, pressure-sensitive tapes, and coated abrasives. Honda has been able to exploit its capabilities in engines and powertrains in producing lawn mowers, cars, motorcycles, and electrical generators (Prahalad & Hamel, 1990). The empirical literature has yet to take into account
these kinds of entrepreneurial efforts by established firms.

Policy Initiatives
Most economists agree that the vigor of our entrepreneurial sector is an important determinant of our overall economic well-being. All the empirical studies presented in this report have focused on a particular class of private business in their attempts to measure changes in entrepreneurship. These measures fundamentally are proxies for entrepreneurial activity, which is admittedly hard to measure directly. It is critical for policy-makers not to take these studies literally by constructing policies that favor one class of business over others. Policy prescriptions instead should be based on an understanding of the entrepreneurial process.

Encouraging Economic Experimentation
Policies that are likely to be effective in improving economic performance are ones that increase the quantity and quality of economic experiments. Societies with inclusive economic and political institutions have historically experienced higher rates of economic experimentation and have enjoyed higher standards of living. Inclusive economic institutions “feature secure private property, an unbiased system of law, and a provision of public services that provides a level playing in which people can exchange and contract; it also must permit the entry of new businesses and allow people to choose their own career” (Acemoglu & Robinson, 2012, 74-75). Equally important are pluralistic, democratic institutions that can counter attempts of powerful economic interests to erect barriers to new competition. Governmental efforts in reducing the overall costs of economic experiments are likely to have the greatest impact on economic growth. Governments should avoid picking winners and instead should focus on creating a level playing field that encourages broad participation of its citizens (Kerr, et al., 2014)

Entrepreneurship in Wisconsin
The Ewing Marion Kauffman Foundation is a non-profit, private foundation that focuses on educational and entrepreneurial issues in helping individuals achieve economic independence. The foundation recently released its Kauffman Index of Entrepreneurial Activity (2014). The index shows that the state of Wisconsin ranks 45th of 50 states in entrepreneurial activity as measured by the rate of new business activity (Fairlie, 2014). In Wisconsin, only 170 per 100,000 working-aged adults created businesses each month. Only Minnesota, Indiana, Rhode Island, Iowa, and Washington fared worse than Wisconsin. The index also shows the state has experienced steep declines in entrepreneurial activity over the last decade or so. Looking at three year intervals, the percentage of adults creating businesses each month fell by 0.08% for years 2011-13 as compared to 2001-3 time period (Fairlie, 2014, 23).

Local Policy Initiatives
What can Wisconsin and local municipalities do to increase entrepreneurship? Last summer, the Kauffman Foundation issued an Entrepreneurship Policy Digest (2014) listing four strategies that states, cities and counties can implement to promote entrepreneurship:

Reexamine Professional & Occupational Licensing
Occupational licensing in the fields of law and medicine was first introduced in the United States in late 19th century. Licensing was largely a response to problems of anonymity and complexity that threatened the viability of markets during a time of rapid urbanization. Licensing represented “attempts to assure buyers minimum professional competence in a given profession, and thus reduces the amount of information that must be collected prior to hiring one” (Carstensen, 1992, 4). By providing some minimum assurance of quality, licensing supports markets that provide highly complex services, benefiting both providers of those services and consumers.

The problem with licensing is that it also acts as a barrier to entry to new firms with new ideas (Entrepreneurship Policy Digest, 2014, 2). The practice of licensing has extended well beyond occupations that have the greatest impact on public health and safety. Today, “102 trades and occupations face licensing requirements in states or cities” (Glaeser and Sunstein, 2014). Nearly one-third of all jobs require a governmental license (Entrepreneurial Digest, 2014). These trades include barbers, cosmetologists, tree trimmers, tour guides, tattoo artists, and interior designers. Eliminating licensing requirements from occupations that pose little threat to the public will open these fields to new competition and new ideas.

Welcome Immigrants
New immigrants historically have been a great source of entrepreneurial energy. “Immigrants were nearly twice as likely to start businesses each month as were the native born in 2013” (Fairlie, 2014, 3). Nationwide, 0.25% percent of native-born Americans
start a new business each month while the number for immigrants was 0.43%. “Over the past eighteen years, Latinos, Asians, and immigrants experienced rising shares of all new entrepreneurs, mainly because of increasing populations, but also because of rising rates of entrepreneurship” (Fairlie, 2014, 3). States and localities can attract more immigrants by creating environments that welcome ethnic diversity (Entrepreneurial Policy Digest, 2014, 2).

**Cultivate Human Capital**

Studies show that “high school and college completion is important to startup rates” (Entrepreneurial Policy Digest, 2014, 2). Henrekson and Sanandaji (2014) show a strong correlation between higher education and “innovative entrepreneurship.”

| Characteristics of American billionaire entrepreneurs: Educational Attainment |
|------------------|------------------|------------------|------------------|
| Educational Attainment | Billionaire Entrepreneurs | Self-Employed | Salaried Worker |
| (% (Age 25+)) | | | |
| High School or Less | 6.1 | 31.6 | 36.8 |
| Some College | 10.4 | 34.3 | 33.6 |
| College Degree | 38.5 | 34.3 | 33.6 |
| Advance Degree | 45.0 | 16.5 | 12.5 |


Forty-five percent of “billionaire entrepreneurs” had advanced degrees while only 16.5% of the self-employed did. This study suggests that educational attainment has a significant impact on entrepreneurship quality. Policies that support secondary and higher education can positively impact both the quantity and quality of entrepreneurship.

**Connect Entrepreneurs with Resources.**

The local environment can help budding entrepreneurs by having programs that “facilitate network formation, peer learning, and mentorships” (Entrepreneurship Policy Digest, 2014). There are a number of resources in the Central Wisconsin region to help entrepreneurs get started.

At the University of Wisconsin-Stevens Point, the Small Business Development Center offers services to both startup and existing businesses throughout the nine county North Central Wisconsin region. These services include entrepreneurial training programs, workshops/conferences, confidential advising, and trade area mapping. Trade area mapping uses GIS software to help businesses target their customer base. Go to www.uwsp.edu/conted/SBDC for more information.

Last August, Marty Loy, dean of the College of Professional Studies, received a grant and organized A New Business Model for UW-Stevens Point: UWSP Entrepreneurial Summit. The summit brought together UWSP faculty, administrators, staff, and local business and governmental partners to collaborate on ways to make UWSP a more entrepreneurial university. The grant also funded Entrepalooza 2014 where a group of students met to learn about entrepreneurship. The event has inspired the creation of a student-led entrepreneurship club.

Other local efforts include the creation of the Center for Entrepreneurship and Creativity by the Members of the Arts Alliance. The center is a “creative incubator [that] aim[s] at keeping young professionals in the community to help trigger additional economic growth” (Makuski, 2015).

The Entrepreneurial and Education Center located in Wausau is a non-profit organization provides “one-stop” services to help new and existing ventures thrive in the Wausau and greater Central Wisconsin region. The center runs an Entrepreneurial Boot Camp that provides skills and training to new entrepreneurs. Go to the following link for more information: www.growingyourbusinesswausau.com/page/about.

**Conclusion**

Our economic well-being depends upon having a healthy and vibrant entrepreneurial sector. Societies need to find ways to encourage entrepreneurs to engage in this process of economic experimentation. Paul Romer summarizes what successful societies have done to promote entrepreneurship. “The key to the story is that humans have created a market system, supported by hybrid institutions like the university and the research and development lab. Together these institutions turn self-interest into a powerful force for the improvement of everyone’s lives. This human invention is far more important than the transistor or the steam engine, for it gives us all other inventions” (Romer, 1993).
References


