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Entrepreneurship and Growth

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In the year 2000 at a meeting in Lisbon, leaders of the European Union (EU) articulated a set of goals for the Union, which have come to be called the *Lisbon Strategy* or *Lisbon Agenda*. The agenda had three main goals: to promote growth through innovation, to create a *learning* economy, and to bring about social and environmental renewal. Exactly what the last goal implies is not clear, at least to me, but the intent and substance behind the first two certainly is. Research spending was to rise across the EU, university enrollments would rise with them, and a more friendly environment for innovation would be created as markets continued to be liberalized and integrated. The EU leaders meeting in Lisbon set the year 2010 as their goal for fulfilling this agenda.

The year 2010 has come and gone. Today, growth rates in Europe are even lower than they were in 2000. Research and university budgets have been cut – sometimes drastically – across the EU. These developments are, of course, largely a response to the recent financial crisis and its impact on state finances. But the crisis would not have been nearly as severe as it has been, if EU countries had been well on their way to fulfilling the goals of the Lisbon Agenda when the crisis hit. The EU's failure to come anywhere near meeting the goals set out in the year 2000 stems, I shall argue, to underlying structural factors and ideological perspectives, which constitute major obstacles to the kind of knowledge-based, innovative society that the EU leaders dreamed of in Lisbon more than a decade ago. This paper attempts to identify what these obstacles are.

Before doing so, it is necessary to consider the kind of environment that is conducive to

innovation and entrepreneurship. The EU leaders in Lisbon clearly had a kind of Schumpeterian view of the world, in which innovation leads to economic growth. I begin, therefore, with a brief review of Schumpeter's *Weltanschauung* of capitalism (Section I). In Section II, I then review the preconditions necessary for creating the kind of innovative society – or more accurately – societies that Schumpeter described. I focus on three elements – incentives, opportunities, and backgrounds. In Section III, I go on to examine the extent to which these three preconditions exist or are lacking in Europe. Conclusions are drawn in the final section.

I. Innovation and Growth in a Schumpeterian World

A simple model of economic growth depicts national income at time t , GNP_t , as a function of labor inputs at t , L_t , the stock of capital at t , K_t , and a shift parameter, a_t , which is itself a function of time and changes over time due to technological change and, perhaps, other factors, $GNP_t = a_t f(L_t, K_t)$. National income can be increased over time by expanding the labor supply, expanding the capital stock, or by inducing technological change.

Europe has an aging population and a birthrate that is below that necessary to maintain the current level of population. Immigration may set off the low birthrate to some extent, but it is an increasingly unpopular option, and many past immigrants have contributed more to the welfare rolls in EU countries than to the labor supply. Increasing labor supply by inducing more women into the labor force is an option in some EU countries, and inducing elderly people to work longer is an option in essentially *all* EU countries. But there are severe limits – political as well as demographic – to the EU's capability to induce economic growth by expanding the labor supply. European firms are already quite capital intensive relative to most of the rest of the

world, in part because of its high wages, which have induced companies to install labor-saving capital equipment. Moreover, today many firms in Europe have excess capacity. Generating considerable growth by expanding capital stocks in European firms also does not seem like a promising avenue to growth. An exception here would be expansions in *human* capital. Human capital, which makes workers more productive, acts like technological change by shifting the a_t factor upward. Increases in human capital, which take the form of advanced training in engineering, computer science, biology and the other hard sciences can lead to greater innovative activity resulting in further economic growth. Here there is great potential in Europe. More generally, if EU countries are going to grow considerably faster in the future than they have in the past, they are going to have to accelerate their rates of technological change and innovation.

Going back to the pioneering work of Robert Solow (1957), economists have identified technical progress as the main engine for growth. Technical progress arises through the introduction of new products, new production techniques, new and more efficient organizational structures, and similar kinds of innovations. When one thinks of innovation and growth, one thinks of Joseph A. Schumpeter. Exactly 100 years ago, Joseph Schumpeter published his classic *Theorie der wirtschaftlichen Entwicklung*, which later appeared in English translation (1934). In it Schumpeter described a dynamic form of capitalism in which equilibria in product markets were disturbed by innovations. These innovations were introduced by entrepreneurs who were not only in pursuit of profit, but who wished to form private kingdoms (Schumpeter, 1934, p. 93). Once an equilibrium had been disturbed by an innovation, a monopoly was created. The profits of the monopolist provided an incentive for other entrepreneurs to *imitate* the innovation. A flood of entry took place and the monopoly disappeared. A new market equilibrium was

established, which remained in place until the next innovation came along and upset it.

Economic development was driven by the disruptive innovative activity of entrepreneurs.

Schumpeter wrote the *Theorie der wirtschaftlichen Entwicklung* at a time when entrepreneurial capitalism was on the rise in Europe. He could observe Alfred Krupp, August Thyssen, Karl Benz and many other entrepreneurs creating their private kingdoms. These men were both innovators and empire builders. They helped make Germany the leading economic power in Europe at the beginning of World War I.

By the middle of the 20th century, Joseph Schumpeter had moved to the United States, and his *Weltanschauung* had changed. Capitalism was still depicted as the best form of economic system, and innovation still the major source of economic growth. But now the source of innovations was not the lonely, iconoclastic entrepreneur founding a new firm and, perhaps, even an industry, but the giant corporation with its large research and development laboratories churning out a stream of innovations. Between the beginning and the middle of the 20th century, the innovation process had become *routinized* in the laboratories of giant Western corporations. Whether this change in perspective about capitalism was due to Schumpeter's change in continents, or to changes in Western capitalism itself, is difficult to say. I suspect some of both. So dramatic is this shift in vision that scholars now speak of Schumpeter Mach I and Schumpeter Mach II to highlight the shift (Winter, 1984). Because the innovation process had become routinized, it was now possible, according to Schumpeter, for the state to take it over. The egalitarian bias in democratic systems would result in capitalism giving way to socialism Schumpeter predicted.

When one looks at the rich, capitalist countries of the world today, one sees evidence of

both Schumpeter Mach I and II. Giant firms like Philips, Merck, and GlaxoSmithKline remain continued sources of new products and other innovations. Alongside them, however, new firms like Microsoft, Google and Facebook are appearing, which transform the capitalistic landscape. Firms such as these have been founded by individuals who have all of the characteristics that entrepreneurs have exhibited, since the beginning of capitalism – bright, risk-taking, iconoclastic.

Although Europe has, perhaps, its share of giant companies like Philips, and GlaxoSmithKline, which continue to innovate, it seems lacking in the second category. None of the three entrepreneurial companies mentioned above is based in Europe. Where Europe continues to lead, it is typically in mature industries – industries, which were founded around the time of Schumpeter Mach I. The remainder of the paper attempts to account for this deficiency.

II. Preconditions for Entrepreneurship

A. Incentives

When I was a young researcher at the Brookings Institution between 1966 and 1968, I undertook a project to identify the successful sources of corporate growth. I examined three sources: technological innovations, marketing innovations, and mergers. As my case study for technological innovations, I chose the Xerox Corporation. In the late 1940s, Xerox was a small photographic paper manufacturer named the Haloid Corporation based in Rochester, New York, the home of Kodak, struggling to stay solvent against the competition from its giant neighbor. John Dessauer, vice president in charge of research at Haloid, began ‘shopping around’ for an alternative area into which Haloid might move. He came across an article about some

experiments involving a new, undeveloped photocopying process and acquired the patents to it. Haloid began developmental research on the process in 1950, and launched its first copying machine in 1960, called the 960. The company dubbed the new photocopying process *xerography* and changed its name to Xerox in the hopes of making Xerox both a brand and generic name like Kleenex and Scotch Tape. The rest, as they say, is history.

The inventor of the photocopying process that Xerox developed into a commercial success was Chester Carlson. Carlson graduated in physics from the California Institute of Technology in 1930, the start of the Great Depression. He could not find a job in physics at that time, and ended up as a delivery boy for a law firm, carrying the multiple, carbon paper copies that law firms generated from one place to another. Each time a secretary made a correction on a carbon copy, a smudge was left. When multiple copies were made, the bottom ones would be faint, as the secretary could only press so hard on a key. Carlson got the idea that it would be nice to have a box in which you placed an original and a clean copy came out. He began working on the invention of such a box at nights and on weekends in a room over a garage. In 1938 he made his first copy, an invention of such importance that it was written up on the front page of the *New York Times*. Nevertheless, it was some 22 years before the invention became a success and Carlson could enjoy the rewards of this success.

When I interviewed Chester Carlson in 1967, he remarked that if he had graduated from Cal Tech at that time, he probably would not have invented the photocopying process. Physicists were in high demand in that post-Sputnik era, and he could have readily found a high paying job at a large company. The invention of xerography owes much to the hardship of the Great Depression that forced Carlson to search for an additional source of income.¹ By the time I

interviewed Carlson, he had received some \$24 million in royalties and stock returns from the invention – the equivalent of over \$150 million in today’s dollars. Dessauer and Joseph Wilson, the president of Haloid/Xerox also became multi-millionaires by betting not only “their company,” as they often remarked, but also their own, modest personal wealth.²

Economic hardship and the drive to succeed and get rich also contributed to the “Japanese miracle” after World War II. Immediately after the war, the Japanese economy was devastated, and the Japanese were humbled by their defeat at the hands of the United States. Japanese entrepreneurs, like Akio Morito (a cofounder of Sony), strove to lift themselves and Japan out of the state of poverty and destitution, which they found themselves in at the war’s end (Morito, 1988).

The example of Xerox has been repeated many times. The old adage “necessity is the mother of invention” is true in ways that were probably not intended. Chester Carlson probably would not have starved to death, if he had not invented xerography, and Wilson and Dessauer could have obtained jobs in other companies. But they wanted more than that. Many people seem to want more, many seem simply to want to get rich.

Whether they want to or not, today’s entrepreneur’s often do become very rich. Both Steve Jobs and Steve Wozniak, cofounders of Apple, have an estimated wealth of over \$6 billion.³ Bill Gates, founder of Microsoft and often listed as the richest man in the world, in 2010 had an estimated net worth of some \$54 billion.⁴ Google was founded in 1998 and went public in 2004, and yet by 2006 its founders, Sergey Brin and Larry Page, aged 32 and 33 respectively, were ranked 26th and 27th in *Forbes Magazine’s* list of the world’s richest people, with a net worth in each case of nearly \$13 billion.⁵ An even younger Mark Zuckerberg, founder

of Facebook, had amassed a fortune of some 6.9 billion by the age of 26.⁶ More broadly, 47 percent of the world's richest people (assets over \$1 million) have been estimated to have made their fortunes by starting their own companies.⁷ The motives behind the innovative efforts of entrepreneurs such as these are undoubtedly multiple, complex and different in each case. But among these motives, it seems reasonable to guess, has been the desire to become rich.

B. Opportunities

To found a firm, the potential entrepreneur must have not only an innovative idea, but also the means to finance its development into a commercial success. Schumpeter, Mach I, stressed the crucial importance of finance for fostering innovation, and stressed this theme throughout his life. La Porta, Lopez-de-Silanes, Shleifer and Vishny (1997, LLSV) have demonstrated that equity markets are larger in countries with legal institutions, which protect shareholders. Modigliani and Perotti (1997), and Demitgüç-Kunt and Maksimovic (1998) have presented additional, theoretical arguments for such a link. Empirical work by Levine and Zervos (1998) and Rajan and Zingales (1998) has further established a positive relationship between the sizes of countries' equity markets and their rates of growth. Thus, legal institutions, which protect shareholders, can be expected to make access to equity markets easier for start-up firms, thereby facilitating innovation, new firm creation and economic growth. LLSV(1997) present evidence that both new firm start-ups via IPOs, and the total number of enterprises in a country are higher with stronger legal protection of shareholders.

An important step in the movement of Google from a bright idea held by two smart graduate students at Stanford to becoming a multi-billion corporate giant was the \$100,000

offered to Page and Brin by venture capitalist, Andy Bechtolsheim, in 1998. Venture capitalists have money and a willingness to take on risk, but lack innovative ideas. Marriages between them and people like Page and Brin, who have promising ideas but lack cash, are what drives entrepreneurial capitalism. Without legal protection safeguarding the investors in such marriages far fewer innovative firms would be founded.

Beyond legal protection for investors, which provide easier access to capital, strong legal institutions, which secure property rights, facilitate contract enforcement, curb corruption, and strengthen economic freedoms in general thereby fostering innovation and entrepreneurial activity.⁸ Thus, considerably more than good ideas and a penchant for risk-taking is needed to ensure that innovative ideas are transformed into commercially successful innovations.

C. Background and Education

Chester Carlson graduated from one of the best technical universities in the world. Larry Page and Sergey Brin met at Stanford. Mark Zuckerberg got his idea for Facebook at Harvard. In each case one might argue that it was the brilliance of the individual that got him into these prestige universities, and that the universities did not “make the man.” This line of reasoning is further buttressed by examples of brilliant dropouts from elite universities like Bill Gates and Steve Wozniak who founded future corporate giants. But, I would argue, that the intellectual environment of a great university, with its emphasis on ideas and questioning conventional wisdom, does foster the kind of innovative thinking that stimulates some individuals to take the leap into the entrepreneurial world. Without a Stanford University there would be no Silicon Valley. More generally, the output of new products and processes from the R&D laboratories of

companies big and small is likely to be greater, if the people working within them have received their educations at top universities, and are on the cutting edges of their disciplines.

Beyond having individuals with the IQ and education to come up with original ideas and bring them to fruition, innovative activity needs to be imbedded in a culture, which is receptive to innovation. China invented the compass, gunpowder, paper and printing long before they appeared in Europe. It had a power-driven sewing machine some 500 years before England. It led Europe by centuries in the development of coal and coke, and in their use to make pig iron. And yet, China failed to capitalize on its early innovations and technological lead on Europe. By the 18th century it was as backward technologically as much of the rest of the world outside of Europe. Why?⁹

Ancient China epitomized the traditional, hierarchical society. Confucianism dominated life in China for much of the last two millennia. Confucius began propagating his philosophy during a “time of troubles” in China (722-481 BCE) with the objective of returning China to an earlier, supposedly happier time of civility and tranquility. An important part of its code of conduct involved filial duties. Children owed respect and deference to their parents, younger brothers deferred to older brothers, women deferred to men, all members of the family deferred to the father, or to the grandfather, if he was still alive. Everyone in society was subservient to the emperor. In such an environment, it would be nearly impossible for a twenty-something-year-old to break out of the mold, and start a new business built on a radical new idea. Thus, what innovation there was in China was “top down” rather than “bottom up” as in the West.¹⁰ Since there are many more possible sources of innovation at the bottom than at the top, in the long run this gave the West a great advantage over China.

Kommentar [U1]: ?

Alfred Chandler (1990) explained why the United States and Germany overtook and passed Great Britain in economic performance between the last quarter of the 19th century and the middle of the 20th century in large part because corporations in the United States and Germany came to be managed by professional managers intent on growth. In contrast, according to Chandler (1990, pp. 291-94), leadership of British companies passed from father to son, and on to a grandson. Thus, from the 1880s until World War II British managers did not have to work as hard as German and American managers to get to the top of their companies, and they and their firms were, therefore, less dynamic. This picture of Britain reflects the privileges of class structure that once characterized Great Britain. It also helps explain why Britain has had a reputation for scientific excellence and a relatively weak record in innovation.

The cases of Britain prior to World War II and much of Continental Europe after World War II illustrate another important feature of entrepreneurship and innovative activity. In addition to having a large stock of individuals who are well-educated and hungry for the wealth and status, which innovative breakthroughs can bring, a country needs a culture, which rewards financial success and gives status to those who achieve it, even when they achieve it in unconventional ways. Many countries do not have such cultures.

III. Entrepreneurship and Europe

A. Incentives

While financial incentives are not the only thing that motivates people to take great risks and found new firms, they certainly are an important stimulus for many. How much money one earns from a successful enterprise depends in part on how much of what one earns the state takes away. In this category Europe is not a friendly environment for entrepreneurs. There are 33 countries in the “rich country club,” the OECD. Twenty-one of the 33 are also members of the EU. Table 1 reports the total tax revenue as a percent of GDP of the 15 OECD countries with tax takes equal to or above the OECD average. All 15 countries are members of the European Union. Given that the average for the OECD is pulled up by these 15 EU members, one sees immediately that state sectors in the EU, and in particular those in its richest countries, take much bigger slices out of the economy than the state sectors in the other rich countries.

Table 1

Tax Revenue as a Percent of GDP, Leading OECD Countries 2009

| Rank | Country | Taxes | Rank | Country | Taxes |
|------|---------------|-------|------|-----------------|-------|
| 1 | Denmark | 48.2 | 9 | Hungary | 39.1 |
| 2 | Sweden | 46.4 | 10 | The Netherlands | 39.1 |
| 3 | Italy | 43.6 | 11 | Slovenia | 37.9 |
| 4 | Belgium | 43.2 | 12 | Luxembourg | 37.6 |
| 5 | Finland | 43.1 | 13 | Germany | 37.0 |
| 6 | Austria | 42.8 | 14 | Portugal | 35.2* |
| 7 | France | 41.9 | 15 | Czech Republic | 34.8 |
| 8 | Norway | 41.0 | | | |
| | OECD Average* | 34.8 | | | |

*2008 figures

Source: data on taxes <http://stats.oecd.org/Index.aspx?DataSetCode=NAG>

One consequence of the high taxes in the EU is, not surprisingly, that it has fewer rich people. Partly, this is because some rich people move to countries with lower taxes, but it is also

the case that “self-made” billionaires, who tend to still reside in the countries where they made their fortunes, are found more often outside of the European Union. Although the EU has a population roughly two-thirds larger than the United States (500 versus 300 million), in 2010 the United States had roughly 50 percent more people among the richest 100 in the world than the EU (34 versus 22).¹¹

Another important obstacle to entrepreneurship in the European Union is the amount of regulation and bureaucratic obstacles firms face. The inflexibility of labor markets in many EU countries has often been cited as an important cause of unemployment (Spain, 20 percent in 2010) and slow growth. Perhaps, more important for entrepreneurs are the many regulations they face from environmental protection to workers’ safety, and the sheer number of licenses that are often required to start a business. One, shorthand measure of these obstacles is the average number of days it takes to start a company in a country. It takes 2 days in Australia, 3 in Canada, and 5 in the United States. It also takes only 5 days to start a business in Denmark, but the average for the European Union is over 24 days with it taking a full two months on average to start a business in Slovenia.¹² We conclude that the incentives for entrepreneurs are weaker in EU member states than in many other rich, developed countries like Australia, Canada and the United States, and the obstacles against entrepreneurship are higher.

B. Opportunities

In their examination of country legal systems, LLSV (1997) rank Anglo-Saxon systems the best at protecting shareholders, Scandinavian countries second best, countries with legal systems of German origin third, with French-origin countries being the worst. They present

evidence that these rankings are associated with significant differences across countries in the sizes of equity markets. Table 2 reproduces some of their calculations for the United States and the two European Anglo-Saxon countries, and for the other EU member countries included in the LLSV study.

Table 2
Country Differences in Legal Systems and Economic Competitiveness

| Country | External Capital GDP | Firms Pop | IPOs Pop | GDP Growth | <i>qm (r/l)</i> |
|----------------------|----------------------|-----------|----------|------------|-----------------|
| 1 | 2 | 3 | 4 | 5 | 6 |
| Great Britain | 1.00 | 35.68 | 2.01 | 2.27 | 0.85 |
| Ireland | 0.27 | 20.00 | 0.75 | 4.25 | 1.10 |
| United States | 0.58 | 30.11 | 3.11 | 2.74 | 1.05 |
| A-S Average | 0.62 | 28.60 | 1.96 | 3.09 | 1.00 |
| Denmark | 0.21 | 50.40 | 1.80 | 2.09 | 0.65 |
| Finland | 0.25 | 13.00 | 0.60 | 2.40 | 0.96 |
| Norway | 0.22 | 33.00 | 4.50 | 3.53 | 1.04 |
| Sweden | 0.51 | 12.66 | 1.66 | 1.79 | 0.65 |
| Scandinavian Average | 0.30 | 27.26 | 2.14 | 2.42 | 0.78 |
| Austria | 0.06 | 13.87 | 0.25 | 2.74 | 0.78 |
| Germany | 0.13 | 5.14 | 0.08 | 2.60 | 0.57 |
| Germanic Average | 0.085 | 9.50 | 0.16 | 2.67 | 0.64 |
| Belgium | 0.17 | 15.50 | 0.30 | 2.46 | 0.51 |
| France | 0.23 | 8.05 | 0.17 | 2.54 | 0.57 |
| Greece | 0.08 | 21.60 | 0.30 | 2.46 | 0.54 |
| Italy | 0.08 | 3.91 | 0.31 | 2.82 | 0.64 |
| The Netherlands | 0.52 | 21.13 | 0.66 | 2.55 | 0.69 |
| Portugal | 0.08 | 19.50 | 0.50 | 3.52 | 0.46 |
| Spain | 0.17 | 9.71 | 0.07 | 3.27 | 0.54 |
| French average | 0.19 | 14.20 | 0.33 | 2.89 | 0.56 |

Notes: Columns 2 and 3 are for 1994; column 4 is for 1995; column 5 is for 1970-93; and Column 6 is for 1985-2000.

Sources: Columns 2-5 (LLSV, 1997); column 6, Gugler, Mueller and Yurtoglu (2004).

As discussed above, access to capital is crucial for new firms. The external capital

markets in the three Anglo-Saxon countries are on average twice as large as in the four Scandinavian countries, three times larger than in the French-origin countries, and over *six* times larger than the external capital markets in the two Germanic EU members (see column 2). With thinner capital markets there are fewer firm start-ups and so we see significantly fewer IPOs in the French- and German-origin countries than in the countries with stronger protection of shareholders (see column 4). Lower entry rates of firms translate into lower *stocks* of companies. Column 3 reports the number of companies in each country relative to their population sizes. The Anglo-Saxon and Scandinavian countries again exhibit a more friendly environment for enterprises. On average they have twice as many firms as the French-origin countries, and three times as many as the two Germanic countries.

If large capital markets and friendly environments for new firms do translate into higher growth rates, we should see higher rates for the Anglo-Saxon countries, and we do at least for the 1970-1993 period (column 5). The differences are not great, but they are consistent with expectations. The Anglo-Saxon average is pulled up by Ireland's rapid growth in this period. Ireland might be regarded as "the exception, which proves the rule." Its government consciously adopted policies like low corporate profit taxes in an effort to attract foreign investment, particularly in high tech areas – and it succeeded. Ireland proves that European countries are not condemned to slow growth.¹³ Any country can make itself an attractive place to do business, and several of the new entrants into the EU, like Estonia and Slovakia, have done so.

When legal institutions fail to protect shareholders, managers of large corporations have considerable discretion to advance their own interests at their shareholders' expense. Such principal/agent conflicts can manifest themselves in several forms – managerial shirking (pursuit

of the quiet life), high compensation packages, outright theft as in the infamous cases of Enron, WorldCom and Parmalat. As mentioned above, Schumpeter thought that even owner-entrepreneurs would be empire builders, and the attraction of this goal becomes even more attractive, if it can be pursued with someone else's money.

Of course, corporate growth can be good for shareholders and managers alike, if a company has attractive investment opportunities. Thus, a manager/shareholder conflict over growth generally only appears with large, mature companies with limited investment opportunities. If the managers of such companies are pursuing growth at their shareholders' expense, their returns on investment will fall below their costs of capital. Column 6 in Table 2 presents estimates of the ratios of returns on investment (r) to costs of capital (i), a ratio that can be regarded as a marginal q , (q_m). If managers are maximizing shareholder wealth, the marginal qs should equal 1.0. They do, on average, for the three Anglo-Saxon countries. For all but two of the continental European countries, they are considerably below 1.0. The two exceptions are Scandinavian countries which, according to LLSV, have better shareholder protection than the other continental European countries. The five lowest estimates of marginal q are for French-origin countries. France and Germany tie for 6th lowest. Weak shareholder protection in Europe is strongly associated with poor investment performance.

More is at stake, when there is weak shareholder protection, than the wealth of shareholders. A marginal q of 0.56 – the average for the seven French-origin countries – implies that each euro invested by a company in these countries created on average 56 cents' worth of assets. Nearly one half of each invested euro was destroyed. These euro, if they were not destroyed, could flow back into European capital markets and be available for reinvestment in

new, start-up firms. Thus, Europe's weak protection of shareholders is another factor inhibiting entrepreneurship in the EU.

C. Education

Illiterate farmers do not found high tech companies. If a country is to be a world leader in innovation and entrepreneurship, it must be a world leader in higher education. Here continental Europe falls woefully behind many of its chief competitors in the world economy. In the QS World University Rankings for 2010, the top ten ranked universities came either from the United States (six) or the United Kingdom (four). The highest ranked university in the EU outside of the UK was France's École Normale Supérieure, Paris with a rank of 33. Out of the top 100 ranked universities 31 were located in the United States, 19 in the United Kingdom, and only 18 in the rest of the EU, even though its population is two-thirds larger than that of the United States, and over eight times larger than that of the UK. Australia, with a population less than a 20th of that of all non-UK EU members, managed to place seven of its universities in the top 100. Moreover, while the United States and United Kingdom dominated the top ranks of the list getting 19 of the top 25 rankings, the non-UK members of the EU were over represented in the bottom 25 (8).¹⁴

There are now several international rankings of universities, but each paints a similar picture – the United States and United Kingdom dominating the top rankings, the rest of the EU beginning to appear around rank 30. These international rankings weight research output very heavily, and thus give a somewhat misleading picture of differences in the quality of teaching across countries, since they leave out, for example, liberal arts colleges. These institutions provide some of the best *undergraduate* education in the world. Swarthmore College with an

annual enrollment of around 1500 students, for example, has produced 5 Nobel Prize Laureates (much larger Columbia University has produced the most, 37, followed by Harvard's 36).¹⁵ Similarly, small Amherst College has produced four.¹⁶ Moreover, these elite colleges have not only produced future scholars and statesmen, but also have been a source of business leadership and future entrepreneurs. Charles E. Merrill, founder of Merrill Lynch, and Clarence Birdseye, inventor of the process for freezing fish, meat and vegetables, were early 20th century graduates from Amherst. Charles Brewer (Mindspring Enterprises, internet services provider), and Sung-Joo Kim (Sung-Joo International, fashion design) are entrepreneurs who graduated from Amherst more recently. Billionaire John Kohlberg (Kohlberg, Kravis, and Roberts, asset management), and John Diebold (Diebold Group) graduated from Swarthmore. Swarthmore and Amherst, of course, focus on the liberal arts, and so many of their graduates major in the humanities and social sciences, which are not ideal specializations for future entrepreneurs in this high tech age. Better backgrounds for entrepreneurship are provided by prestige technical schools like Cal Tech and MIT. One recent study estimates that MIT graduates had founded 25,800 companies that were still in business, and that these had a total employment of 3.3 million people, and total annual sales of \$2 trillion.¹⁷

Possessing excellent higher education institutions is not only an advantage for a country, because they provide better education to its citizens. These institutions are magnets, which attract the best and the brightest from across the world. While some of these students return to their home countries upon graduation, a significant fraction do not. These highly trained immigrants become an additional pool of potential entrepreneurs for a country with high quality colleges and universities. Without a Stanford there would be no Silicon Valley, but one can also

say that without foreign graduates from Stanford and other top universities Silicon Valley would not have become the hotbed of innovation that it did. One study estimated that in 1998, 25 percent of the businesses in Silicon Valley were headed by Chinese or Indian immigrants. These businesses had \$16.8 billion in sales, and employed 58,000 people (Gershon, 2000). Post-9/11 restrictions on immigration in the United States would provide a golden opportunity for continental European universities to attract many of the bright students who would ordinarily have gone to the United States, *if* these universities were more competitive on quality.

IV. Entrepreneurship, Socialism, and Democracy

At the start of the 19th century, not one European country could be called a democracy. By sometime in the early 20th century, all countries in Western and Central Europe had become democracies. The 19th and early 20th centuries witnessed a long and, in many cases, smooth transition to democracy.¹⁸ For much of the 19th century, the voting franchise in Europe was restricted to a small fraction of the male population who paid taxes or had other wealth qualifications. It was during this period that *liberal* democracy triumphed in Europe. Liberal parties appeared in Britain, the Netherlands, Belgium, Germany, and Austria, and a liberal agenda was pursued in each country – transfer of power from monarchy to parliament, separation of church and state, universal education, and the extension of the voting franchise. The last development meant that an increasing number of lower income and lower educated men, and later women, got the right to vote. Alas for the Liberal Parties of Europe, these newly enfranchised voters did not reward their benefactors by voting for them. Instead, they gave their votes to the socialist, communist and nationalist parties, which appeared in the latter part of the

19th century. Liberal Parties thus lost power or disappeared entirely by the time of the First World War.

Joseph Schumpeter, astute observer of economic and political life, could not help but observe this transformation, and subsequent events like the rise to power of the Socialist Party in Sweden in the 1930s. Thus, his conclusion that capitalism would yield to socialism in Western democracies is perhaps not so surprising.

It is tempting post-1989 to argue that Schumpeter was wrong. Capitalism has seemingly triumphed over socialism in its most extreme form. But, when one looks at the state sectors in Europe, accounting for upwards of 50 percent of national income, one might easily conclude that he was, after all, half right. When one looks beyond mere expenditures, and observes the regulatory environment in Europe, one begins to believe that he was more than half correct. Labor market regulations that make firing workers difficult discourage their hiring, and lead to unemployment rates as high as 20 percent of the labor force (Spain, 2011). Restrictions on takeovers protect managers from the threat of removal and contribute to inefficient overinvestment of large firms. The Common Agricultural Policy makes most European farmers essentially wards of the state, and produces prices for beef, milk and other basic foodstuffs that are some two to three times world market prices.

As we noted in Section I, one way to increase economic growth is to increase the labor force. With its aging populations and falling birthrates this will be a real challenge for Europe. But, because of high unemployment rates in many European countries combined with policies that facilitate and often even encourage early retirements, Europe fails to utilize much of its potential labor force.

Of the 21 EU countries, which are members of the OECD, only *three* (Norway, Sweden, and the UK) had employment rates for persons 55-64 years of age that exceeded the rate of 65.2 percent for the United States. Seven EU countries had employment rates of less than 50 percent for this age group (see Table 3). With such underutilization of its potential labor force, it is no wonder that most EU countries exhibit slow growth rates. Although the *raison d'être* of the welfare state is supposed to be protecting individuals from poverty, the figures in Table 3 reveal that in most EU countries the welfare state protects individuals from having to work. Indeed, although generous transfer policies in Europe are often defended with arguments of social justice, pension policies in most EU countries introduce an extreme form of social injustice, with some people allowed to retire in their 40s, while others must work until the statutory retirement age (typically around 65). It is interesting in this regard that three of the four countries in the EU with the *highest* employment rates for 55-64 year olds are Scandinavian (Sweden, Norway, and Denmark). These countries demonstrate that it is possible to combine generous welfare policies for the poor with social justice for the working age population.

Table 3
Percentage Ratios of Employment to Population in Selected EU Countries
55-64 Year Olds, 2009

| Country | Employment Rate | Country | Employment Rate | Country | Employment Rate |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Hungary | 39.9 | Italy | 46.7 | Czech Republic | 59.6 |
| France | 41.4 | Austria | 51.0 | Spain | 60.9 |
| Belgium | 42.9 | Greece | 53.7 | The Netherlands | 61.7 |
| Poland | 44.3 | Finland | 54.7 | Ireland | 62.2 |
| Slovenia | 46.4 | Slovak Republic | 55.0 | Germany | 63.8 |
| Luxembourg | 46.5 | Estonia | 59.4 | Denmark | 64.1 |

Source: http://stats.oecd.org/Index.aspx?DataSetCode=LFS_SEXAGE_I_R
http://www.ppic.org/content/pubs/rb/rb_699asrb.pdf
http://en.wikipedia.org/wiki/List_of_Amherst_College_people

V. Conclusions

The picture of capitalism painted by Schumpeter in 1911 was one of dynamic economic growth and innovation. Iconoclastic entrepreneurs challenged the existing industrial leadership with new products, new production processes, and new organizational forms. The biographies of actual entrepreneurs reveal many of them to have been just as iconoclastic and willing to take risks as Schumpeter's account leads one to expect.

During the 19th and early 20th centuries, when liberalism was in vogue in Europe, many of its countries contained the kinds of entrepreneurs who probably inspired Schumpeter's early treatise.¹⁹ Although Europe still has its entrepreneurs, words like “dynamic, innovation, and iconoclastic” are not the first to come to mind when describing Europe's economic and social environment today. Since innovation and entrepreneurship is by and large a young person's game, there is reason to fear even less dynamism coming out of Europe in the future as its population continues to age.

While the innovations and economic growth of the 19th century laid the foundation for Europe's economic prosperity in the 20th, the economic and social hardships imposed on the working class as European economies shifted from an agricultural to an industrial base gave rise to the socialist and communist movements whose ideology remains imbedded in Europe's psyche to this very day. Another important component of this psyche, which greatly

distinguishes Europe from the United States, Australia, and to some extent other New World countries, is its great trust in the state to guide and protect its citizens. This trust in the state most likely stems from Europe's long history of monarchies with the monarch as a kind of father or mother figure who would, if the country was lucky, wisely govern and protect his or her subjects. The difference between Europe and America was succinctly expressed by the 19th century German historian, Heinrich von Treitschke, "For us the state is not, as it is for the Americans, a power to be constrained so that the will of the individual may remain uninhibited, but rather a cultural power from which we expect positive achievements in all areas of national life."²⁰ It was also nicely revealed in recent reactions to the world financial crisis. While members of the Tea Party movement in the United States took to the streets to demand that the state be reduced in size, demonstrators in France, Greece, Spain and elsewhere in Europe were demanding that the state *not* be reduced in size.

The long dominance of the Socialist Party in Sweden seems to have come to an end; right-of-center governments are in the majority across the European Union. At this year's World Economic Forum in Davos, Switzerland, the British Prime Minister from the Conservative Party, David Cameron, urged his fellow Europeans to "unleash enterprise."²¹ Thus, there is, perhaps, reason for hope. But, right-of-center in Europe is still far to the left of center in many other countries, and the lingering socialist mentality in Europe remains an obstacle to entrepreneurship and future growth. It is somewhat ominous and symbolic that a response to budget deficits in most European countries has been drastic cuts in university budgets, while pensions have been left unchanged or only modestly curtailed.²² Europe continues to invest heavily in those who have left the labor force, while short changing those who have yet to enter.

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End Notes

1. In addition to supporting himself, Carlson had to care for an invalid mother.
2. For example, both took out additional mortgages on their homes to buy stock in the company and thereby provide funds for research.
3. For an estimate of Jobs's net worth see, <http://www.tgdaily.com/business-and-law-features/51674-zuckerbergs-wealth-more-than-doubles-in-a-year>, for Wozniak see, http://wiki.answers.com/Q/What_is_Steve_Wozniak%27s_net_worth_in_2008.
4. <http://www.billgatesmicrosoft.com/networth.htm>
5. For Page see, <http://www.forbes.com/lists/2006/10/XFXI.html> and for Brin, <http://www.forbes.com/lists/2006/10/D664.html>.
6. <http://www.tgdaily.com/business-and-law-features/51674-zuckerbergs-wealth-more-than-doubles-in-a-year>
7. *Economist*, 2011, p. 4.
8. Evidence of a positive relationship between economic liberties and economic growth has been presented by Abrams and Lewis (1995), and Knack (1996).
9. This is the question posed and answered by David Landes (2006).
10. Ibid.
11. *Forbes World 100 Wealthiest, 2010*.
http://www.thisismoney.co.uk/news/article.html?in_article_id=500941&in_page_id=2
12. *World Development Indicators*,
http://www.nationmaster.com/graph/gov_tim_req_to_sta_a_bus_day-time-required-start-business-days
13. Ireland's current financial difficulties are not a result of its earlier policies with respect to attracting foreign investment and new firms, but to the government's failure to monitor its banks properly.
14. <http://www.topuniversities.com/university-rankings/world-university-rankings/2010>
15. http://en.wikipedia.org/wiki/Swarthmore_College
16. http://en.wikipedia.org/wiki/List_of_Amherst_College_people
17. *Economist*, 2011, p. 14.

18. See, Mueller (2009, Ch. 9), and Congleton (2011).

19. For a discussion of Germany, see Chandler (1990).

20. As quoted in Burleigh (2005, p. 327).

21. Alderman (2011).

22. Böhm (2011). Some countries with ages for eligibility for pensions below the norm of 65 have, however, raised their eligibility ages.

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