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Arthur M. Diamond Jr.

University of Nebraska at Omaha, adiamond@unomaha.edu

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Recommended Citation

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THE CREATIVE DESTRUCTION OF LABOR POLICY

ARTHUR M. DIAMOND, JR.*

THE BENEFITS OF CREATIVE DESTRUCTION in terms of new products and more efficient processes are substantial (Schumpeter, 1950; DeLong, 2000). The person responsible for producing these benefits is the innovative entrepreneur (Schumpeter, 1950). On the other side of the ledger, the main costs of creative destruction are in terms of the effects of job loss. Schumpeter (1950) and DeLong (2000) present persuasive argument and evidence that the benefits of creative destruction are widely distributed in a capitalist society, and in fact primarily accrue to the poor and middle class.¹

*Arthur M. Diamond, Jr. is Kayser Professor of Economics at the University of Nebraska at Omaha. Earlier versions of this paper were presented at the 2012 meetings of the Association of Private Enterprise Education and the International Schumpeter Society. He is grateful for very useful comments from two anonymous referees and for research assistance from Godfred Amoah.

CITATION INFORMATION FOR THIS ARTICLE:

Arthur Diamond. 2014. "The Creative Destruction of Labor Policy." *Libertarian Papers*. 6 (2): 107-134. ONLINE AT: libertarianpapers.org. THIS ARTICLE IS subject to a Creative Commons Attribution 3.0 License (creativecommons.org/licenses).

¹ Schumpeter was the first to identify creative destruction as the process by which old products and modes of production are replaced by new ones. In the many decades since Schumpeter first wrote of creative destruction in 1942, accumulating evidence has supported the basic idea of creative destruction, though not all of the details of Schumpeter's original account. One interpretation of Schumpeter is that he thought periods of creative destruction were interspersed at regular, predictable intervals with periods of Walrasian circular flow (see Diamond, 2012). In praising a Walrasian account of the equilibrium-maintaining circular flow process, Schumpeter did not see what Kirzner later did, that an entrepreneur alert to price differences (what we now call a "Kirznerian entrepreneur") is required to achieve the efficiency benefits of equilibrium. We now understand creative destruction better than Schumpeter did and so we know that

The main costs are borne by those who lose a job because their skills have been made obsolete by creative destruction, especially the job losers who remain unemployed for a long time or whose new jobs are less satisfying or lower paid. Although the changes wrought by creative destruction are arguably not Pareto optimal, the benefits are great enough that a large majority of us would arguably assent to the changes from behind a Rawlsian veil of ignorance (Rawls, 1971), especially insofar as the costs can be made less onerous.

Because the benefits of creative destruction outweigh the costs, wise governments and workers will seek to enable the benefits and reduce the costs. The labor policies enacted by governments and workers can greatly affect the success of creative destruction in two important ways. First, they can make it easier or harder for the innovative entrepreneur to bring us the benefits of creative destruction. Second, they can lessen the frequency or severity of job loss caused by creative destruction.

In the next two sections I discuss government labor policies on a general level, arguing first that flexible policies enable the innovative entrepreneur, and second, that rigid policies hurt the macroeconomy—the latter, ironically, by increasing unemployment. Then in an interlude section, I ask a crucial question: in the absence of rigidifying government job protection and regulation, does entrepreneurial capitalism provide the worker any security? My answer will be that in a well-functioning macroeconomy and labor market, the robust redundancy of job opportunities will provide workers the best possible safety net. After this interlude, there follow four sections discussing four specific policies intended to encourage creative destruction either by enabling the innovative entrepreneur or by obtaining buy-in from worried workers. Finally, I devote three sections to some personal policies that workers themselves can adopt that will increase their benefits and decrease their costs of working in a flexible labor market. In a brief concluding section, I argue that in the long-run of entrepreneurial capitalism, the labor market is not a zero-sum game. In plain English, this means that in the process of creative destruction it is possible for everyone to find jobs or entrepreneurial projects that will allow them to flourish.

efficiency-seeking activities, implemented by the Kirznerian entrepreneur, can and should co-exist with the innovation-seeking activities of the Schumpeterian entrepreneur. For Kirzner's own nuanced account of these issues, see Kirzner (1999).

1. Enabling the Innovative Entrepreneur

Steve Jobs was one of the great innovative entrepreneurs of our, or any, time. Yet during key moments in his entrepreneurial projects, success depended on his being able to fire workers based on his intuition of who would make ‘genius’ contributions. (Even in the humble hamburger business, Ray Kroc argued that a good entrepreneur develops intuitions about which workers will be able to do a good job, and which not (Kroc, 1977, pp. 91-92).) In the case of Steve Jobs, biographer Walter Isaacson shows (2011) that Jobs’s being able to act on intuition was crucial to quickly and efficiently building and keeping a team of “A” players from whom much was expected. Sometimes another type of firing was required, as at Pixar. Jobs had bought Pixar for \$5 million, and he invested an additional \$50 million before it became profitable. Even though Pixar eventually became an exemplar of successful breakthrough innovation, its survival once required the firing of some “A” players to reduce costs (Price, 2008, p. 116). The firings were unpopular, but Price claims they were necessary for the firm to survive and for the innovative *Toy Story* to enter the world.

Firings to maintain an “A” quality team and those to reduce costs were important for the success of the projects Jobs was pursuing. In these cases, as in his product design choices, part of his success was due to the fact that he usually made quick intuitive decisions that often enough, although not always, proved correct. But these decisions were not easy to articulate when innovating at the far edge of ‘the adjacent possible’ (Johnson, 2010). The firings were possible because the policy in the United States of “at-will employment” did not require that Jobs take the time to articulate and document his decisions.

The success of entrepreneurial projects depends, not only on the entrepreneur being free to hire and fire, but also on her being free to set the conditions of the workplace. Tracy Kidder in *The Soul of the New Machine* (1981) describes how the employees of Data General worked long and intense hours for months in order to develop one of the first minicomputers. The project might not have succeeded, or even been tried, if there had been regulations mandating vacations, or setting maximum work hours. The larger the number of such regulations, the more rigid, or sclerotic, the labor market: the fewer, the more flexible.²

² A flexible labor market is one in which entrepreneurs and workers face few government regulations that limit the types of work arrangements that they are allowed to mutually agree on. But a flexible labor market does not imply that individual work

One of the key ways in which an economy can be open to creative destruction is to have a flexible labor market. This would not come as a surprise to most defenders of rigid labor policies—they know that they are not enabling the entrepreneur; instead, they believe they are achieving the more important goal of reducing costs for workers. The main cost of creative destruction is job loss when a new technology replaces an old one. In response to job loss due to creative destruction and other causes, governments often regulate how firms fire workers. Other regulations aim to improve the condition of workers. These may consist of minimum wages, maximum hours, required vacation days, required retirement age, and mandatory unionization, to name only a few.

2. The Macro Effects of Labor Market Rigidity

At the macro level, labor market rigidity slows the reallocation of labor to more productive uses. Caballero has argued that the restructuring of the micro economy through reallocation is a major driver of economic growth that needs to be incorporated in macroeconomic models (Caballero and Hammour, 2001; Caballero, 2007). Specifically: “In Western Europe, the heavy weight of labor market regulation has caused persistently high unemployment and sclerosis” (Caballero, 2007, p. 4).³

Cox and Alm have illustrated the point by noting that in 1900 about 40 in 100 workers in the United States were employed in producing food, while in 1992 only three in 100 were needed (1992, p. 5). If rigid government labor market policy had “protected” the 40 jobs in 1900, labor would not have been freed to produce all of the wonderful new products that made the 20th century exceptional.⁴ Petra Moser similarly suggests that the mobility of

arrangements will always be flexible in other possible senses. For example, employers may offer flextime to an architect, but not to an air traffic controller.

³ In the *Wall Street Journal* Editorial Board member and commentator Holman Jenkins (2006) has gone so far as to say that the Europeans have a “pathological revulsion” to the “disorder” in the economy caused by such agents of creative destruction as Apple. The source of such revulsion is not clear. Botero et al. (2004) show that leftist political power and non-common-law legal origins increase the extent of labor market regulations. Surprisingly, of the two, non-common-law legal origins matter more. In contrast, “the greatest single asset that the American economy has always had is the flexibility and mobility of its labor force and labor laws” according to Harvard economist Robert Lawrence (as paraphrased by Friedman, 2005, pp. 284-285).

⁴ For evidence on how exceptional the 20th century was, see Brad DeLong’s “Cornucopia” working paper (2000).

inventors moving from declining industries to expanding industries is important in explaining the vitality of innovation in the United States (as quoted in Rampell, 2008).

Paradoxically, greater labor regulations cause higher unemployment, and lower labor force participation (Botero et al., 2004), each of which most strongly affects the young. In France, laws limiting the work week to 35 hours were intended to increase employment, but did not do so (Chemin and Wasmer, 2009). Edward Lazear (2006) summarized his 1990 paper by saying “I found that job security provisions were instrumental in limiting employment in developed countries.” More broadly and recently, other researchers have used cross-country comparisons to reach a similar conclusion (Botero et al., 2004; Lafontaine and Sivadasan, 2009). Within the United States, Texas has one of the most flexible labor markets. From June 2009 to June 2011, roughly half of the net new jobs created in the United States were created in Texas (Davidson, 2011).

Although labor market regulations have grown in the United States, they remain less rigid there than in most European countries. This is true for a wide variety of regulations. A study in 2013, for instance, found that the United States was the only “advanced economy in the world” that does not legally mandate that companies provide workers with a paid vacation (Ray, Sanes, and Schmitt, 2013, p. 1). The United States also has less rigid rules for parental leave than many other countries (Ray, Gornick, and Schmitt, 2010).

Qualifications to the employment at-will doctrine, which were intended to benefit workers, often have unintended consequences that hurt them. Although creative destruction creates more jobs than it destroys (Davis, Haltiwanger, and Schuh, 1996), in the short-run some workers suffer because job destruction comes disproportionately during recessions, while job creation is spread more evenly throughout the business cycle. This implies that if you lose your job in a recession you may need to wait longer to find another than you would if job destruction was also spread more evenly.

So why is job loss so concentrated during recessions? Part of the reason is that during a recession, managers face a lower cost of firing workers. A great many firms avert their eyes from poor performing employees during upswings. Managers do not want to bear the ill-will of those they fire (Munger as quoted in Quick, 2010), and they do not want to go through the internal firing processes, or bear the risk of lawsuits if it is alleged they have violated some restriction on at-will firing. But when firings can be blamed on a downturn, many of these costs are reduced. During the exit interview, it appears that the manager is not at fault for the firing, but rather the economy. And fewer reasons or documentation need be given

internally or to the government if firing occurs during a recession. So if there was less regulation of at-will employment, managers would have less incentive to concentrate firings during recessions, and workers who are fired would, on average, find new jobs more quickly.

3. The Robust Redundancy of Entrepreneurial Capitalism

Allowing greater labor market flexibility will enhance the innovative entrepreneur's ability to experiment, start new projects, and respond to new information or opportunities. But many will worry that such flexibility leaves workers vulnerable to unexpected and unwelcome task assignments, work conditions, or firings.

The most general and powerful response to these concerns is that entrepreneurial capitalism, when it is allowed to function freely, creates a redundant robustness that largely protects workers from the worst-feared outcomes. What I mean by 'redundancy' can best be understood by an extended analogy. My understanding of the analogy derives mainly from an under-appreciated reporter and commentator on entrepreneurial capitalism: George Gilder (in *Telecosm*, 2002). Some aspects of the analogy are also discussed in Gleick's much acclaimed best seller: *The Information* (2011).

The Ethernet is a preposterous technology that should not work. You take a message, disassemble it into many discrete packets, send them by different, unpredictable routes to their destination, and then re-assemble them.⁵ It would take a miracle for it to work. But it does.⁶ And not by a miracle, by redundancy: if a packet does not make it through, it can be quickly re-sent.

Entrepreneurial capitalism can work this way. When one job is destroyed, another is created. Even better, Davis, Haltiwanger, and Schuh (1996) have shown that capitalism creates more jobs than it destroys. Creating more jobs than are destroyed is important both for the moral

⁵ Besides the Ethernet, Gleick also describes (2011, pp. 13-15) the African talking drum language, which works because its rich detail provides redundant paths to understanding the main message.

⁶ Similarly, Frank Knight long ago observed that many problems that the dominant theory says are unsolvable, are actually solvable in practice: "Like a large proportion of the practical problems of business life, as of all life, this one of selecting human capacities for dealing with unforeseeable situations involves paradox and apparent theoretical impossibility of solution. But like a host of impossible things in life, it is constantly being done" (Knight, 1964 [1921], p. 298).

justification of creative destruction and for its political viability. Nozick notes that for the original acquisition of property in land to be justified there must be as much, and as good, left remaining for others to acquire, what he calls “the Lockean proviso” (Nozick, 1974, pp. 178-179). For the spirit of the Lockean proviso to be satisfied, there must be opportunity (Nozick, 1974, p. 177). In a modern society, a main form of opportunity is the availability of jobs. (Another form of opportunity consists in allowing people to create their own jobs through entrepreneurship.) Beyond moral justification, the political viability of creative destruction depends on voters seeing that in the long run, creative destruction creates opportunities for all. Again, a key form of opportunity is the availability of jobs. Thomas Friedman is right in observing that “there is no better safety net than a healthy economy with low unemployment” (Friedman, 2000, p. 445).

Not only are there more new jobs created than old jobs destroyed—Autor, Levy, and Murnane (2003) have shown that on average the new jobs are better than the old ones, in the sense that they involve less routine, less physical exhaustion, and less danger, and further, that they involve more variety, creativity, and cognitive challenges. And a worker can take actions to increase the odds that her new job will be better, and that she will find it more quickly. The redundancy of the labor market has implications beyond reducing the pain from creative destruction. One implication is that since jobs are more numerous and diverse in large cities, the redundancy is greater there, which explains in part why cities are particularly conducive to creative destruction.

Another implication is that workers have a greater hope of being paid what they deserve. Standard economic price theory suggests that workers in competitive markets will be paid the value of their marginal product.⁷ But judging the value of a worker’s marginal product is often hard, even when managers are attentive, when they are willing to make tough calls, and when they work closely with a small number of direct reports; this explains why pay so often is based more on seniority, job titles, legacy pay levels, and educational credentials, than on actual observed value of marginal product.

Like many policy makers, Schwartz and Sharpe (2010, p. 181) assume that any defensible pay system will be based on a calculable algorithm, in the absence of which, pay would depend on prejudice, affection, or whimsy. They plausibly assert that no calculable algorithm exists, or will exist, that results in workers being paid what they deserve. Their cynical conclusion is

⁷ One source in the theory literature on the value of marginal product is Block (1990).

that to be productive and innovative, workers must sometimes become “canny outlaws,” and at the very least must give up the expectation of being paid what they deserve.

But the stories of Steve Jobs and Ray Kroc illustrate that through experience and intuition, entrepreneurs and managers can develop an accurate sense of the pay a worker deserves. Human Resource (HR) departments and government regulators would be appalled at relying on such intuitions, because of the possibility of discrimination. But if the redundancy of the labor market provides an alternative to rigid rules as a protection against discrimination (Becker, 1971), then the market can take advantage of the informal knowledge of entrepreneurs, not only to make firms more productive and innovative, but also to make pay more accurately reflect what workers deserve.

In the next four sections of this paper, I discuss four labor policies of government that arguably may enhance creative destruction, either by enabling the innovative entrepreneur or by obtaining buy-in from worried workers. Then in three sections of the paper I discuss some of the personal policies that workers can adopt for themselves. These personal policies advance creative destruction by decreasing the costs to workers by better preparing them for job market changes.

4. Let Entrepreneurs Employ At-Will

For the innovative entrepreneur, flexible policies are better than rigid policies. A great example is contained in entrepreneur Ray Kroc’s autobiography, where he explains an intuition he had that a certain manager could not do his job, and should be let go. Kroc allowed himself to be talked out of it, but eventually was proven right (1977, pp. 91-92). In the meantime, the firm was less productive, and the manager delayed the day when he could find a job where his skills were a good match with what was needed. I argue elsewhere (Diamond, 2012) that innovative entrepreneurs often benefit from informal knowledge—knowledge that is real, often based on experience, but that cannot be quickly or easily put into words. An entrepreneur in a flexible labor market can act on such knowledge by employing-at-will. When workers’ jobs are “protected” by government policies, the entrepreneur cannot act on such knowledge, and the firm is less productive and innovative.

Case law and legislative statutes have restricted employment-at-will in the United States, but the United States remains closer to having an employment-at-will policy than countries in Europe. The employment-at-will policy has been identified by Epstein (1984) and by Posner (1995) as one of the primary reasons for the higher productivity of the United States economy

in earlier decades. Martins (2009) finds that when the rules for firing are more flexible, workers work harder (and to some extent, more workers tend to be hired). Note also that when workers are made secure through job protection, rather than through redundant job opportunity, the incompetent and unmotivated are frozen into jobs that are then no longer available for the upward mobility of the competent and the diligent.

Alan Hyde (2003) has studied the labor market in Silicon Valley, arguably the epicenter of entrepreneurial activity in the United States over the past three decades. He concludes that labor mobility, furthered by employment-at-will-type policy, has been a key feature of the Silicon Valley labor market. Virginia Postrel (2005) has made the case that in Silicon Valley frequent job changes may benefit both labor and firms.⁸ The worker benefits by acquiring a greater diversity of human capital, and possibly achieving a better match between the job and the worker's preferences. The firm benefits by the infusion of new ideas and skills.⁹

Steve Wozniak writes with regret of Apple's transition from the flexible processes of an entrepreneurial startup to the rigid processes of a mainstream corporation (Wozniak and Smith, 2006, pp. 232-233). One main piece of evidence of this transition is the abandoning of employment-at-will. In writing of the pre-1983 management troubles at Apple, Wozniak highlights that large companies usually lose flexibility in hiring and firing. Good managers who have tacit (or just insufficiently documented) knowledge about who the best employees are have limited ability to act on that knowledge. It is unclear how much of the transition away from flexible processes is due to internal standards of what constitutes good corporate practice, and how much is due to a desire to comply with laws and regulations and avoid potentially costly lawsuits. How much of it is due to an inevitable disadvantage of size, or to a doctrine learned in human resource courses in business schools, or to other constraints from our laws, customs, and institutions?

Wozniak describes how then-Apple-CEO Mike Scott fired a large number of engineers, and was then himself fired by the board for acting without "a lot of backing and due process" (Wozniak and Smith, 2006, p. 231). Another leader of the company, Mike Markkula, told Wozniak that "Mike Scott had been making a lot of rash decisions" (p. 231). But Wozniak

⁸ Postrel bases her discussion largely on Fallick et al. (2006).

⁹ Notice that this example refutes the common belief that low unemployment corresponds to long job tenure. When there is frequent job-hopping, there can be both low unemployment, and short job tenure.

says that Mike Scott had researched which engineers had been working and which not, and that with Mike Scott running Apple, Wozniak “didn’t see many things fall through the cracks” (pp. 231-232). Most importantly, Wozniak, who was in a position to know, thought that Mike Scott “fired all the right ones. The laggards, I mean” (p. 231).

Wozniak’s observations at Apple have been confirmed more broadly. Bird and Knopf (2009) have looked at the effects in the banking industry of court limitations on the employment-at-will doctrine. States in the U.S. differ in how many, and which, of three common exceptions to the doctrine they enforce (the public policy exception, the good-faith exception, and the implied-contract exception). Controlling for state economic conditions, they look at the effect of more exceptions on bank profitability, and find that the greater the exceptions to the employment-at-will doctrine, the lower the profitability of banks.

In Europe, and most famously France, laws and culture have made it harder for firms to fire workers. In 2009, workers for Caterpillar, Inc. in France literally held managers hostage (i.e., detained them against their will) after the managers announced a plan to fire some of the workers (Gauthier-Villars and Abboud, 2009, p. B1). When 3,000 French firms were surveyed in 2004, 18 reported that managers had similarly been held hostage by workers (Gauthier-Villars and Abboud, 2009, p. B1). The situation in Europe has gone so far that Rob Grant has satirized it in his novel *Incompetence* (2003), in which a government modeled on the European Union (EU) passes a law to make it illegal to discriminate against the incompetent by firing them.

Gust and Marquez (2004) have delved deeper into the effects of employment protection. They find a negative correlation between employment protection and information technology (IT) expenditures, and a positive correlation between IT expenditures and labor productivity growth (2004, p. 35). The causal chain suggested is that employment protection leads firms to invest less in IT, and less investment in IT leads to lower growth in labor productivity. Feldstein (2001) proposed a motivation behind the causal chain. One main source of benefit from personal computers is that they can substitute for some forms of routine labor (e.g., Levy and Murnane, 2004a, 2004b). But if jobs are protected, these benefits cannot be realized. So if job protection forecloses the benefits from IT investment, entrepreneurs will invest less in IT.

5. Do Not Regulate Pay and Workplace Practices

To get their projects done, entrepreneurs make their best judgments about who to hire, how much to offer them, the hours and environment of

work, the kind and number of meetings to hold, and a host of other variables. Some process innovations consist mainly in trying new or unpopular ways of deploying, supervising, and rewarding labor. Wal-Mart, for instance, has been praised for the meetings in which associates communicate with each other about what items are selling well (e.g., Walton, 1992, p. 222), and for having executives travel to visit stores more frequently than competitors (Walton, 1992, p. 224).¹⁰ Southwest Airlines developed deliberately unpretentious (sometimes silly) gatherings so that employees would not have too great a fear of those further up in the company hierarchy (Freiberg and Freiberg, 1996, pp. 202-215).¹¹ When the government adds regulations to the labor market, they close off entrepreneurial options. They may thus keep some projects from getting done. Others will be done more slowly, or less well, or at greater cost.

The evidence from particular cases is also supported by analysis of broader data on many firms. For example, Autor, Kerr, and Kugler (2007) find lower productivity when there are more regulations protecting labor. Bird and Knopf (2009) show the same result for the banking industry. Hallward-Driemeier and Rijkers (2013, p. 1805) find that higher minimum wage laws (interpreted as labor market rigidity) resulted in the exit of the *more* productive firms.

One reason minimum wage laws would reduce the productivity of firms is that they induce entrepreneurs and managers to use a more costly or less efficient mix of skilled and unskilled labor, or mix of labor and machines. In weighing the pros and cons of the policy, these cons might be justified, if there were sufficient benefits for workers. Card and Krueger (1994) caused a substantial stir among economists by suggesting that increases in the minimum wage benefit workers without causing a rise in unemployment. But their conclusions have been credibly challenged, and most economists still believe that increases in the minimum wage hurt some of the poorest among those seeking entry to the labor force (Deere, Murphy, and Welch, 1995; Becker and Posner, 2007; Neumark and Wascher, 2008). Mayor Daley of Chicago accepted this belief when he vetoed an increase in the Chicago minimum wage on the grounds that it would increase unemployment (Hudson, 2006).

¹⁰ The meetings were discussed, and part of one shown, in David Faber's Peabody-award-winning documentary *The Age of Wal-Mart*, produced in 2004 for CNBC.

¹¹ Freiberg and Freiberg document the silliness, but imply it is intended mainly to make work "fun" for Southwest employees. That may be, but I believe it serves a subtler purpose of easing communication up the hierarchy.

Besides restrictions on employment at-will, and minimum wage laws, one of the other main sources of labor market rigidity consists of labor union work rules. Guilds and labor unions, at their worst, stop the efficient reallocation of labor that is part of the process of creative destruction. Patrick Allitt (2002) suggests that labor union work rules provided significant and increasing constraints on productivity and efficiency during the Victorian era in Britain.¹² Allitt gives as a specific example the continued enforcement of work-rules from decades earlier in British ship-building facilities. The increase in union rigidities would be supporting evidence for McCloskey's defense (McCloskey and Sandberg, 1971) of British Victorian entrepreneurs against the charge that their failings were the cause of the decline of British industry. British Victorian entrepreneurs had been accused of laxity in initiating and adopting technological advances, leading to declines in inventiveness and productivity relative to the United States. If Allitt is right, then the problem might not have been that British entrepreneurs failed, but rather that British entrepreneurs faced labor rigidity constraints that were absent in the United States.¹³

6. Reduce "Creeping Credentialism"

The government increasingly interferes in the labor market by requiring that a person have a certain set of credentials before they are allowed to be employed in a certain occupation, or set themselves up in a certain business. Several academics and intellectuals have observed that this "credentialism" is on the rise. The phrase "creeping credentialism" is often used to describe the phenomenon.¹⁴ Economist Richard Vedder describes it more colorfully as "credentialing gone amok" and suggests that, "In 20 years, you'll need a Ph.D. to be a janitor" (as quoted in Pappano, 2011, p. 17). Dwight Garner, reviewing a book by "Professor X," dares to doubt that college is beneficial for everyone. He observes that college "drives many young people into debt. Many others lack rudimentary study skills or any scholarly inclination. They want to get on with their lives, not be forced to analyze the meter in "King Lear" in night school in order to become a cop or a nurse's aide" (Garner,

¹² "Trade unions...impaired British competitiveness by designing rigid demarcation rules and fostering an environment of mutual distrust between workers and management" (Allitt, 2002, p. 42 of Course Guidebook).

¹³ Lemieux (2007, p. 762) reports that Lipset and Meltz (2004) attribute lower unionization in the U.S. to a greater individualism that results in skepticism toward collective action.

¹⁴ One source of the phrase "creeping credentialism" is Ansalone (2009, p. 10).

2011, p. C3). This credentialism can be implemented both directly and indirectly.

The direct type of credentialism takes different forms. One is to require the receipt of a particular higher education degree, or a particular degree with a particular major. Another is to require an occupational license. Occupational licensing makes it more costly for people to become free agent entrepreneurs by creating barriers to entry (Buchholz, 2004, pp. 97-117; Kleiner, 2000). For one particularly bizarre example, consider the California law stating that stylists need to have a cosmetology license in order to legally braid hair (Postrel, 1997). Other states require licenses for personal trainers, florists, and tour guides (Simon, 2011).

The indirect type of credentialism occurs when the government makes entrepreneurs more vulnerable to charges of discrimination, wrongful firing and the like, if they cannot articulately justify their actions. In such situations the entrepreneur can more easily defend their actions if the worker they want to hire is credentialed and if the worker they want to fire is uncredentialed. Gilder (1993) discusses how this cover-your-rear credentialism on the part of firms reduces opportunity. To reduce the odds of a lawsuit, firms rely on credentialism rather than their real judgment of who best fits the job. Immigrants, poorer blacks, dyslexics, and felons, are less likely to have the credentials, and are thus less likely to obtain jobs or be able to set themselves up as free agent entrepreneurs.

Credentialism, whether of the indirect or direct type, increases the costs and reduces the flexibility of innovative entrepreneurs. Experience often makes it possible for innovative entrepreneurs to make bets on new combinations of inputs and new ways for workers to interact and create. One form of process innovation involves hiring employees who others would shun. One example is Nucor hiring rural workers who lack credentials, but who come from a culture of hard work (Collins, 2001). Another case is Sam Walton thinking that with the right management process a wide range of workers, including the shy and unsophisticated, but friendly, workers who were his base, could be very productive associates (Walton, 1992, p. 138).¹⁵ A third example would be the Southwest process summarized as “hire for attitude, train for skills” (Freiberg and Freiberg, 1996, p. 64).

These labor market process innovations provide opportunities to various disadvantaged groups of workers. Sometimes entrepreneurial firms

¹⁵ But he also thought that with the right management process, more sophisticated city workers could be good associates too (Walton 1992, p. 138).

that hire “risky,” less-educated workers, and then offer more training, expect in compensation to be able to pay lower wages, or to otherwise ask more in terms of working conditions (e.g., Wal-Mart asking for longer hours). So it is not only credentialism that will discourage these labor market experiments in process innovation. They will also be discouraged by previously discussed restrictions of at-will employment, as well as by minimum wage laws.

Although credentialism discourages entrepreneurial innovation and reduces opportunities for workers, it still might be justified if it provided substantial protection for consumers. The evidence, however, suggests otherwise. For example, Kleiner and Kudrle (2000) compare the performance of licensed and non-licensed dentists and found no difference. More generally, Kleiner (2006) concludes from the literature that there is not much evidence that licensing has any major effect on the quality of services provided by the licensed occupations. Licensing, however, raises the wage rate in licensed occupations by about 15% on average (Kleiner and Krueger, 2010). According to Kleiner, those already practicing an occupation “prefer to be licensed because they can restrict competition and obtain higher wages” (Kleiner as quoted by Simon, 2011, pp. A1 & A16). And unlike unions, which have diminished in strength over time, occupational licensing has been growing substantially (Kleiner and Krueger, 2010). In 1950, only 5% of workers in the U.S. needed a license to practice their occupation; by 2008, the percentage had more than quadrupled to 23% (Simon, 2011, p. A16). The licensing of occupations adds at least \$116 billion every year to the cost of services in the U.S. (Kleiner as quoted by Simon, 2011, p. A16).

Many have described how the Crystal Palace in Victorian England was a symbol of hope for a bright future in which new technologies would make life better (Beaver, 1986). (Walt Disney included a downsized replica of it in the Magic Kingdom as a sit-down dining location.) The breakthrough design took advantage of the strength of new building materials and was loved by visitors, in part because of the way it let in the light. Surprisingly, the designer of the building was a gardener who had no credentials in architecture (Bryson, 2010, pp. 10-11).

7. A Bigger Government Safety Net?

A plausible, and often advocated, government policy response to the labor costs of creative destruction would be a safety net for those who lose their jobs. Thomas Friedman, for instance, suggests that the innovations from creative destruction are threatened by workers who fear their job skills will become obsolete, thereby increasing the risk of job loss (Friedman, 2000, p. 444). This threat leads Friedman to advocate a safety net for workers, in

order to obtain workers' buy-in for an unimpeded process of creative destruction. Other advocates of creative destruction, who also support a safety net, include Gene Sperling (2005a, 2005b) and Robert Reich (2007).

Hayek argued (1976, pp. 122-124; see also pp. 207-208), to the contrary, that the more generous the worker safety net, the more slowly workers acquire new skills and move to new jobs, and the more slowly the economy will grow. This is perhaps the main difference between government "safety nets" and the private safety nets provided by families—the government nets provide workers with incentives to delay taking the steps necessary to transition to new jobs.

Concerns similar to Hayek's have been expressed by Polish economic reformer Leszek Balcerowicz, famous for his shock therapy transformation of the Polish economy from Communism to free markets. He pondered human psychology and concluded: "People are more likely to change their attitudes and their behavior if they are faced with radical changes in their environment, which they consider irreversible, than if those changes are only gradual" (Balcerowicz as quoted by Yergin and Stanislaw, 1998, p. 271). A similar view has been expressed by Michael Mandelbaum, Professor of Foreign Affairs at Johns Hopkins: "People don't change when you tell them there is a better option. They change when they conclude that they have no other option" (Mandelbaum as quoted by Friedman, 2005, p. 462).

In the end, a government safety net may be implemented, either out of a belief in its economic desirability, or out of a belief in its political necessity. It would then be useful to analyze what forms of a safety net would be least costly and most beneficial. The safety net proposal of Thomas Friedman (2005), for example, attempts to preserve the workers' incentive to seek new jobs. Rajan and Zingales (2003, p. 300) pursue the same goal when they suggest that safety net payments should take the form of lump-sum side payments to workers, rather than the form of subsidies to firms. Unlike some other versions of a safety net, they believe their version would neither slow the exit of dinosaur firms, nor discourage the growth of "sunrise" firms. Payments to workers, rather than subsidies to firms, would "prevent the victims of creative destruction from being transformed into human shields for special interests" (p. 300).

8. Workers Can Become More Entrepreneurial

In the earlier sections of the paper, I focused on policies the government should adopt to enable innovative entrepreneurs to carry out successful projects in an environment of creative destruction. In most of the following sections, I focus on some personal policies that workers themselves

can adopt in order to ease their pains, and enhance their gains from creative destruction.

One broad personal policy we can adopt as workers is for each of us to become more personally entrepreneurial. What does that mean? I argue elsewhere (Diamond, 2012) that entrepreneurs are willing to learn. When jobs are creatively destroyed, those who are willing to learn will bounce back sooner and at a higher wage than those who are less willing to learn. Another way to become more personally entrepreneurial is to adopt an attitude of courage, strength, and resilience.

This response to worries about job loss from creative destruction might be termed the ‘courage, strength, and resilience’ answer. Yes, losing a job is painful, but the gains from flexible labor markets are great, and it is noble to display courage, strength, and resilience. Key entrepreneurs have exemplified an attitude of courage, strength, and resilience. When Brunelleschi lost the sole right to design the Gates of Paradise, he bounced back by building the Duomo of Florence (King, 2000); when Edison failed time-after-time to find a good filament for his light bulb, he kept trying (Nye, 1991); and when Ford bankrupted two start-up auto companies, he used what he learned for his successful third try (Nye, 1991).¹⁶

Workers may be more willing to pursue the virtues of courage, strength, and resilience when they see how the practice of those virtues puts them more in control of their lives. Inglehart’s survey research (Inglehart and Welzel, 2005, p. 288) suggests that people want freedom to choose, to feel in control of their lives. Other surveys, along with the reports of individual entrepreneurs, show that self-employed entrepreneurs experience a greater sense of control over their work time than do employees (Shellenbarger, 2009, p. D1; Barrier, 2007, p. 152; Erdbrink, 2012, p. A12). Once employees experience being entrepreneurs, they find it harder to go back to being employees; they have learned to handle, enjoy, and derive satisfaction from the choices and sense of control of entrepreneurship.

¹⁶ Another person who exemplified the attitude was Masatoshi Shima, a key developer of an early microprocessor chip (the 4004). Early in life, as a chemical engineering student, he had experimented with gunpowder in order to launch a small rocket. The gunpowder exploded, blowing off most of his right hand. The loss made it hard for him to function as a chemical engineer, so he switched to computer architecture and helped create personal computing. (Shima’s story is told in Gilder, 1990, pp. 104-105.)

Finally, the case for resilience is easier to make than it might at first seem, because usually workers do not have to be *too* resilient in order to thrive in a labor market of entrepreneurial capitalism characterized by creative destruction, with its robustly redundant opportunities.

9. Frugality and Hard Work Can Reduce the Labor Pains

Fortunately, besides the redundancy of the labor market, there are often actions workers can take to reduce the amount of courage, strength, and resilience they need to do well. Such actions reduce the pain from the destructive side of creative destruction. For example, Stanley and Danko (1996) have argued that most workers have it within their power to achieve significantly higher levels of financial security.¹⁷ The method is not surprising—primarily, the “secret” is frugality. This does not mean a life of stoic self-denial. One can live quite comfortably, with many material and psychic pleasures. But to be frugal, you do need to forego some of the pleasures of conspicuous consumption and expensive tastes.

There are a variety of ways to live frugally. You can forego new wardrobes every year or two. You can buy from discount and “club” stores. You can buy big-ticket items (e.g., cars) used rather than new. You can buy a somewhat more modest home, with a mortgage you can afford to pay during a period of lower earnings. Stanley and Danko provide many examples that those who live below, rather than above, their current means, thereby achieve a level of savings that gives them peace of mind, even in a changing labor environment. A person’s own personal savings can also serve as a resource (or safety net) for entrepreneurial activities.

Besides frugality, there are other policies workers can adopt to reduce the pain from creative destruction. The family can serve as a form of unemployment insurance (Di Tella and MacCulloch, 2002). One member can have a ‘safe’ standard job, while another takes greater risks as a free agent entrepreneur, or as the employee of a fragile start-up. Part time jobs can serve as a safety net, especially during the early start-up period for a free agent entrepreneurial enterprise. Apparently, increasing numbers of retirees from standard corporate jobs are using some of their savings to follow their dreams to open entrepreneurial ventures (Pink, 2001; Olson, 2006). So policies that increase the ability of workers to increase savings also increase their entrepreneurship.

¹⁷ Other authors have made arguments similar to Stanley and Danko, e.g., Wilcox (2008).

The Nucor and Southwest Airlines examples discussed earlier illustrate that in landing good jobs a personal policy of hard work may matter more than training. Recall that Nucor did well by locating in rural areas. They found that it was more important to have workers who showed up early and worked hard than to have workers with high levels of relevant skills. (They knew how to train them for the skills; they did not know how to induce them to have a work ethic.) Particular job skills may be made obsolete by creative destruction, but creative destruction will never make obsolete the value of showing up on time, working hard, and being willing to learn.

Malcolm Gladwell (2008) emphasizes that to get really good at something often seems to require spending about 10,000 hours working at it; a similar point is made in Colvin (2008). Collins (2001) emphasizes that the slow, constant pushing of the flywheel usually matters much more than the sudden epiphany or stroke of good luck. Charles Murray (2012) has recently presented evidence for the United States that only the well-off are practicing a work ethic, while no one is preaching it. He turns the usual aphorism on its head by advising that the well-off should, “preach what they practice” (Murray, 2012, pp. 295 and 299).

Being more entrepreneurial means perfecting the character traits that make entrepreneurial success more likely: resilience, frugality, and hard work. But it also means using good judgment to pursue an entrepreneurial project, or to work at a job that permits greater creativity and autonomy. Even in hard economic times, free agent entrepreneurs report higher levels of happiness than those in other occupations (Shellenbarger, 2009).

10. Human Capital Investment

If parents anticipate their children will live in an environment where creative destruction is common, they can give advice and make choices that will help them acquire the human capital that will most help them in a changing environment. Pink (2001) and Peters (2003) each have chapters on education in which they point out that the current Dewey-inspired educational systems are designed to turn children into obedient and static organization men and women.¹⁸ Other forms of education are more likely to aid and abet budding entrepreneurs and free agents. Pink suggests that home-

¹⁸ In his influential sociology classic *The Organization Man* (1956), William Whyte describes growing numbers of white-collar workers at large organizations (be they corporate, governmental, or non-profit) who lead secure comfortable lives of excruciating routine and conformity.

schooling is one constructive alternative. I believe that some versions of Montessori education provide another.¹⁹ Montessori education provides children with the opportunity to constructively make choices and develop the skills and confidence to allow them to better function as free agents. Resiliently educated children will as adults be better able to bounce-back from job-loss, and the bounce-back will be faster, and higher. And at higher levels of education, Gary Becker has argued (1975, p. 190) for liberal education as a means to acquire the general human capital that consists of ‘learning how to learn.’ Such human capital is less likely to depreciate through unpredictable changes in the job market.

As indicated elsewhere (Diamond, 2010), most episodes of obsolescence through creative destruction, happen gradually and with some advance warning. This gives some time for the alert to begin retooling in anticipation of jobs becoming obsolete. To facilitate the retooling of specific human capital, Alan Greenspan has advocated an expanded role for community colleges. Also aiding worker retooling are the growing offerings of within-company courses, and the growing array of online learning tools (Christensen and Raynor, 2003, pp. 244-246).

Formal education is not the only way to acquire skills and experiences that are useful as an employee or entrepreneur (Ellsberg, 2011). Information technology entrepreneurs Sean Parker and especially Peter Thiel have been urging high school graduates to forego college, and immediately try their hands at becoming entrepreneurs (Ellsberg, 2012).²⁰ Peter Thiel has gone so far as to set up a \$100,000 “scholarship” for young entrepreneurs who pledge *not* to attend college for two years (Miller, 2011). And as mentioned in an earlier section, one unexpected form of human capital investment, in the context of creative destruction, may be job-hopping (as observed especially in Silicon Valley).

¹⁹ Jeff Bezos (Amazon) and Sergey Brin (Google) are two prominent information technology entrepreneurs who participated in Montessori education as children (see: Hof, 1998; and Malseed, 2007).

²⁰ Thiel must find it encouraging that the grandson of Gary Becker is considering following Thiel’s advice rather than that of his grandfather (Richtel, 2014, p. 6). But of course, besides being enthused about higher education, Becker was also enthused about gutsy entrepreneurship, so either way he will be proud.

Conclusions

Capitalism is sometimes compared to sports, because both involve competition. In the short-run competition of capitalism, sometimes one “team” wins and another “team” loses. But in the longer run, the essential fact about capitalism is not competition, but innovation. And in the longer run triumph of innovation, all can win. Certainly, as consumers we win from the new products and processes that creative destruction creates.

In the labor market, there will be short-run losers. But we can adopt government and personal policies to reduce the duration and severity of the short-run losses. When Ghiberti and Brunelleschi competed to design the Gates of Paradise, Ghiberti ended up designing the Gates. But it would be a mistake to see him as the winner and Brunelleschi as the loser. Brunelleschi moved on to build the Duomo, and everyone won.²¹

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²¹ My contrast between competition in capitalism and competition in sports may, at first glance, appear similar to the contrast Mises makes between “biological competition” and “catalactic competition” (von Mises, 1998, pp. 273-277). But the contrasts are not as similar as they seem. Mises’s biological competition is a zero-sum competition for food that has no spillover benefits for third parties. Mises’s catalactic competition is a zero-sum competition for social status that has large spillover benefits for consumers. For him, all competition is zero-sum for those competing. In my account, capitalism is non-zero-sum for those competing, in the sense that those who compete in the short-run, may all in the long-run find projects that bring them satisfaction and happiness. Ghiberti beat Brunelleschi in the short-run, but in the long-run Ghiberti had his Gates of Paradise and Brunelleschi had his Duomo.

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