THE PYRRHIC VICTORY OF AMERICAN HIGHER EDUCATION: BUBBLES, LEMONS, AND REVOLUTION

Jonathan Noble Edel*

INTRODUCTION

While mingling with an old high-school friend—let’s call him Troy—at a wedding recently, the conversation took an unexpected turn. I asked him how his work at the local grain elevator had been going; he retorted that it was great, aside from the $600 monthly remuneration he was paying in college loans. After inquiring about how much longer he would be making these loan repayments, he despondently answered, “the rest of my life.” Troy spent more than three years at a large state university in Ohio, but, feeling as if he never truly belonged, dropped out with nothing to show for it except tens of thousands of dollars of debt and nearly four years of his life seemingly wasted.

The prospect of insurmountable education debt, unfortunately, is one that plagues thousands of individuals across the country—degree in hand or not. Many of these dejected souls echo similar tales of peer, parental, and societal pressures, encouraging them to pursue the illusion of the “American Dream,” where everyone goes to college and no one has to do “manual labor.” Unfortunately, with the economy still reeling from the credit crisis and college enrollment at

* Candidate for Juris Doctor, Notre Dame Law School; 2013 Bachelor of Science in Economics, The Ohio State University, 2010. I am indebted to Professor Daniel B. Kelly for his insight and guidance, while allowing me to be myself; my family and friends for the discussions, thoughts, and arguments; and Mr. Aaron Dean for helping me to conceive of this idea in the first place. I am also grateful to the editors and staff of the Notre Dame Law Review for their editorial assistance. This Note is dedicated to my family—Jay, Debbie, Chad, and Ashley Edel—for their unending support.

an all-time high, a large portion of those entering—or at least attempting to enter—the workforce will face the same fate as Troy.

While this predicament may be easy to dismiss as merely a negative effect of the current economic crisis that will eventually equilibrate, it is more likely that the crisis has exposed a larger problem with our educational system—the proliferation and devaluation of higher education, colloquially known as the “massification of higher education.” While a more educated populace is a noble goal, over-educating comes at an expense, and politicians and policymakers must weigh the benefits against the costs in ascertaining the ideal amount of education.

This Note will attempt to expose a few of the myriad problems created by the over-education phenomenon and offer some suggestions on how to deal with them without major social conflict. First, Part I will begin with a brief introduction and rundown of the statistical trends in educational attainment in the United States. Part II will then detail the history of higher education policies—political, societal, and economic—which affect Americans’ educational choices. Next, Part III will explain the serious side effects these policies have created—including, increasing education costs, lower wages for workers, and higher unemployment. Part IV will then explore a potential solution, as well as suggestions proffered by others, to diffuse this delicate situation with some not-so-delicate ideas, including changing the high school curriculum and restricting the federal student loan program. Finally, the Note closes with some concluding remarks.

I. TRENDS IN HIGHER EDUCATION

It is instructive to begin with a short summary of educational achievement trends in the United States. Americans today are more

---


3 This Note only considers the costs and benefits to the individual in making the decision of whether or not to pursue further education. Benefits include wages, personal satisfaction, and societal admiration. Similarly, costs to the individual include the price of college, any interest incurred, opportunity costs, and the societal stigma placed on those who do not attend college.

4 Shortly after beginning this Note, the “Occupy Wall Street” movement commenced, which is just one of the many indicia of the burst of the higher-education bubble. This Note will attempt to address some of the implications of the movement; however, the main thrust of the movement is beyond the scope of this Note.
educated than they ever have been in the past.\(^5\) A study by the United
States Census Bureau in 2010 revealed that of adults between the ages
of twenty-five to thirty-four, 31.1% had attained a bachelor’s degree.\(^6\)
In the early 1950s, this number was in single digits.\(^7\) The study also
found that for adults twenty-five years and older, the percentage with
high school degrees and the percentage with bachelor’s degrees were
both at all-time highs.\(^8\) Similar trends are present across all genders,\(^9\)
races,\(^10\) and socio-economic backgrounds.\(^11\)

Over the past few decades, there has also been a major increase
in the cost of higher education. From 2002 to 2007 alone, the average
cost of attending a public four-year university shot up thirty-five per-
cent, outpacing inflation over the same period by a significant mar-
gin.\(^12\) In fact, between the 1976–77 and 1986–87 academic years, the
“average annual inflation-adjusted increase in public four-year col-
lege . . . was about [two] percent”\(^13\) and, since then, has been about
four percent.\(^14\) This trend has been most pronounced in the realm of
public four-year colleges, as compared to private four-year colleges or
public two-year colleges, and it is expected to continue into the
future.\(^15\)

---

\(^5\) See Appendix A (depicting the trends in higher education attainment).
\(^6\) U.S. Census Bureau, Educational Attainment 2010 American Community
Survey 1-Year Estimates, available at http://factfinder2.census.gov/faces/tableser-
voir2/jsp/index.xhtml?table=ACS_10_1YR_S1501&prodType=table.
\(^7\) Nicole Stoops, Educational Attainment in the United States: 2003, U.S. Census
number was for adults between the ages of twenty-five and twenty-nine.
\(^8\) Id. at 1 (finding over eighty-five percent had attained a high-school degree and
twenty-seven percent a bachelor’s degree).
\(^9\) Id. at 2–3.
\(^10\) Id. at 3–5.
\(^11\) See Sandy Baum et al., Education Pays 2010: The Benefits of Higher Education for
org/sites/default/files/education-pays-2010-full-report.pdf (offering statistics on
“College Enrollment by Income”).
\(^12\) See William S. Howard, The Student Loan Crisis and the Race to Princeton Law
School, 7 J.L. Econ. & Pol’y 485, 486 (2011).
\(^13\) Trends in College Pricing, Higher Education Series 7 (2006), http://www.col-
legeboard.com/prod_downloads/press/cost06/trends_college_pricing_06.pdf [here-
after Changes Over Time].
\(^14\) Id.
\(^15\) Id. Tuition for public four-year institutions increased by about four percent
for the past two decades, while the rate is only three percent for private four-year
institutions and has fluctuated between two and four percent for two-year public insti-
tutions. Id.

II. PUBLIC POLICY IN HIGHER EDUCATION

Many factors combine to determine the access, availability, and perceived benefits of higher education. The government intentionally creates or manipulates some of these incentives to help individuals better themselves; others are societal norms, disseminated through peer pressure; and still others are market forces that induce people to take certain actions or prepare themselves in specific ways to be more attractive in the labor market. Subsection A will identify some of the governmental and legal policies aimed at improving access to higher education; subsection B will explain societal pressures and, more specifically, how the "American Dream" has fueled this over-valuation of higher education; and finally, subsection C will give examples of how market forces have created a preference for individuals with college degrees.

A. Governmental and Legal Policies

The government subsidizes higher education in numerous ways. First, the government established land-grant institutions, which evolved into today’s "state schools" in the Morrill Act of 1862\footnote{7 U.S.C. § 301 (2006). The purpose of these institutions was “to teach such branches of learning as are related to agriculture and the mechanic arts, in such manner as the . . . States may respectively prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life.” \textit{Id.} at § 304.} as a more cost-effective alternative to private universities. Furthermore, the government subsidizes higher education by offering tax deductions and/or credits for education expenditures.\footnote{For general information regarding Education Credits and the tax benefits of education, see \textit{Education Credits}, IRS (Aug. 2, 2012), \textit{available at} http://www.irs.gov/individuals/article/0,,id=121452,00.html.} Most importantly, for the purpose of this Note, the government supplanted private industry in the realm of student loans in the middle of the twentieth century to control interest rates and access to funding for higher education.

The history of governmental and legal policies in higher education is the paragon of good intentions gone awry. Higher education has always been expensive, so, beginning in the Cold War era, the government began enacting statutes to make college more affordable to all prospective students.\footnote{See Howard, \textit{supra} note 12, at 494.} Originally, Congress designed Title IV of the Higher Education Act of 1965 to “assist in making available the benefits of higher education to qualified high school graduates of
exceptional financial need, who for lack of financial means of their own or of their families would be unable to obtain such benefits without such aid.” Congress amended this Act multiple times to increase both the number of students eligible for federal loans and the borrowing limits, as well as to reduce the applicable interest rates. Moreover, between the original Higher Education Act and the early twenty-first century, the government also began creating tax incentives through student loan interest deductions, in a further effort to incentivize individuals to pursue higher education.

Then, in 1972, the government created a Government-Sponsored Enterprise (“GSE”) called the Student Loan Marketing Association, known as “Sallie Mae,” in an effort to make college loans available to still more people. Although later privatized, Congress used Sallie Mae to guarantee loans to private lenders at a specified interest rate, which allowed private institutions to increase the number of loans available to the public, while effectively disregarding the creditworthiness of the borrowers. More recently, as part of the Health Care and Education Reconciliation Act of 2010, President Obama sought to “make college affordable in the midst of the rising tide of college tui-

20 See Howard, supra note 12, at 502-03. Here, Howard points out that “[b]y 1993, federal programs increased borrowing limits and brought about unsubsidized loans for middle-income students.” Id. at 503.
21 Id. at 503.
22 See Carol J. Perry, Rethinking Fannie and Freddie’s New Insolvency Regime, 109 COLUM. L. REV. 1752, 1758 (2009) (defining a GSE as “a privately owned, federally chartered financial institution with nationwide scope and specialized lending powers that benefits from an implicit federal guarantee of all its obligations to enhance its ability to borrow money”) (quoting THOMAS H. STANTON, GOVERNMENT-SPO NSORED ENTERPRISES: MERCANTILIST COMPANIES IN THE MODERN WORLD 1–2 (2002)).
23 Student Loan Marketing Association, 20 U.S.C.A. § 1087-2(a) (West 2006). The purpose for this organization is: (1) to “serve as a secondary market and warehousing facility for student loans . . .; (2) . . . to facilitate secured transactions involving student loans, to provide for perfection of security interests in student loans either through the taking of possession or by notice filing; and (3) to assure nationwide the establishment of adequate loan insurance programs for students, to provide for an additional program of loan insurance to be covered by agreements with the Secretary.” Id.
24 Howard, supra note 12, at 503.
25 Id.
26 See generally id. (explaining how the “government-backed guarantee increased leverage in the system when the normal market forces signaled to lenders that it was not profitable to make such risky loans without higher interest rates”).
tion” by removing the “middlemen” role of private banks in the loan process.28

These policies made the cost of borrowing money for college—and post-graduate education29—cheaper and easier for students to attain, and in turn, induced more and more students to attend college.30 Thus, a number of policies since the 1960s have accomplished the admirable goal of making college more affordable for the less fortunate. These policies, however, like so many others subject to the haggling, compromising, and pandering of the political process, quickly expanded in scope, magnitude, and variety, to include not only low-income households, but also moderate- and upper-income households as well.31

B. Societal Pressures

Similarly, social norms have also contributed to this trend, with “common knowledge” being that college comes after high school.32 In fact, one commentator and critic of current higher-education policy suggests this idea is one of the top “Commandments” of the “American Religion.”33

Attaining statistics concerning people’s tastes for a good is difficult. Circumstantial evidence, however, demonstrates that the demand for college is increasing as a matter of individual preference. Normally, we could observe the price of the good fixed for inflation—if the constant-dollars price was increasing while the overall quantity consumed was also increasing, it would imply that the demand curve had shifted to the right, and thus the increase in price was driven by an increase in demand.34 This scenario is opposed to a shift in the supply curve, in which case, if the quantity increases, the price would

---

28 Howard, supra note 12, at 485.
30 Indeed, this is the stated purpose for these policies. See supra notes 18–19 and accompanying text.
31 See generally Howard, supra note 12, at 494–96 (detailing the transformation which the federal student loan undertook over the years).
33 Id.
34 See Appendix B.
decrease and vice versa. Since the current trend in education is an increase in quantity and price, the demand curve must have shifted to the right, as opposed to a shift in supply.\footnote{See Appendix A.}

In the current situation, however, this evidence is not a reliable indicator of demand, because the subsidization of higher education by federal loans may be distorting the market.\footnote{Increased liquidity injected into the market can affect personal preferences and change expectations in the market by acting as a subsidy—here, shifting the demand curve to the right.} A general directional trend, however, may be ascertained. First, in constant 2006 dollars, the average cost of a four-year, private institution was $12,375 for the 1986–87 academic year.\footnote{Changes Over Time, supra note 13, at 7.} This number, in constant 2006 dollars, rose to $16,843 and $22,218 in the academic years 1996–97 and 2006–07 respectively.\footnote{Id. The fact that the amount of federal Stafford loans available did not increase at all over this time does not affect the hypothesis of this Note that college is becoming more readily available, because the argument is that the existence of \textit{any} federal loans distorts the market. Also, federal student loans may interfere with the market and make college more available in several ways, including increasing the number of students who qualify for loans.} Over the same time, however, the maximum federal Stafford loan available was $22,708.65 in 1986–87\footnote{The federal government increased the loan limit from $12,500 to $17,250 between 1986 and 1987, but I will use the earlier figure, so the change in inflation will not distort the numbers so much.} and $23,000.00 in 1996–97.\footnote{Historical Loan Limits, \textsc{FINAID}, http://www.finaid.org/loans/historicallimits.phtml, (last visited Dec. 19, 2012). To attain these inflation-adjusted numbers, the author employed an online inflation calculator available at http://www.westegg.com/inflation/.} By determining the rate at which the amount of loan money available was increasing, and comparing that amount to the rate at which college tuition was increasing, we should at least see a rough estimate of the directional trend in the preferences for college education.\footnote{Although a more sophisticated econometric analysis might be helpful, for the purpose of this assertion, the only important variable is the direction in which the demand curve is shifting. By fixing the cost of college tuition to constant 2006 dollars and subtracting out the increase in the amount of the available funding for education, one should be able to at least determine if the price of tuition is increasing (demand is increasing) or decreasing (demand is decreasing). This trend is not due merely to a larger population either, because the percentage of high school students enrolling in college is also at an all-time high, indicating that higher education is now more desirable to a larger faction of the population. Also, note that this subsection does not consider the availability of private college loans; however, “[m]ost under-graduate borrowers obtain their loans through the federal Stafford loan program,” so}
As indicated by the numbers presented above and the fact that a higher percentage of high school graduates are attending college today than in previous generations, the relative change in federal funding available could not have been the sole factor fueling the increase in college enrollment over the past several decades. As a result, changes in personal taste and the general perception of the advantages of a college degree have likely contributed to the observed increase over the past twenty-five years. This point should not be controversial either, since every day, there seems to be another commercial asserting that “the college grad makes on average $1 million more over their lifetime.” With the “guarantee” of $1 million merely for attending college, why would anyone decide not to go?

This pressure is not only from commercials either, as families also generally place pressure on students to continue pursuing education. It is normal for parents to challenge their children to excel in everything they do, and it is normal for students to aspire to be the best they can be, including attending college. When, however, students are bombarded with potentially misleading statistics daily, as well as parental and societal pressure to attend college, individual incentives may be perverted and preferences distorted, ultimately pushing the market for college enrollment out of equilibrium. Parental pressure should have the greatest impact upon potential students’ decisions. Jennie H. Woo, NAT’L CTR. FOR EDUC. STATISTICS, THE EXPANSION OF PRIVATE LOANS IN POSTSECONDARY EDUCATION 1 (Oct. 2011), http://nces.ed.gov/pubs2012/2012184.pdf.

Moreover, many students probably also decide to go to school now, not for the economic benefits, but for the societal “rite of passage” and partying. See Thomas Sowell, Too Many Go to College, NAT’L REVIEW ONLINE (Nov. 28, 2007, 12:00 AM), http://www.nationalreview.com/articles/222954/too-many-go-college/thomas-sowell#.

See e.g., Education Connection, Get a College Degree in Pajamas, YOUTUBE (Sept. 18, 2009), http://www.youtube.com/watch?v=5vU5UV3vOKc (“[P]eople with a degree on average earn a million dollars more in their lifetime.”). But see Altucher, supra note 32 (“And don’t quote me the stat about the differences in salaries between college grads and non-college grads because there’s enormous selection bias in that stat and it’s like comparing apples to oranges right now.”); Sarah Kaufman, Is College Overrated? Some Families Turn Away from Higher Education in Favor of Real-Life Lessons, WASH. POST, Sept. 10, 2010, at C3 (quoting Prof. Richard Vedder) (“[Enrolling in college] makes less sense for more families than it did five years ago.”).

See supra note 43.

sure may make a graduate more likely to attend college for fear of reprisal and reproach from her family and society in general. High school graduates hearing of the “indispensable” benefits of a college degree may perceive college as conferring instant success and benefits upon them, which is not necessarily the case.46

C. Economic Incentives

While at least part of this trend is attributable to governmental policies and social mores, the increase in higher education enrollment is also a result of increased demand for college-educated workers in the labor market. If businesses increasingly prefer a bachelor’s degree for employment,47 the logical response by those in the workforce is to react to such a preference, making the corresponding increase in college enrollment logical and proper. So, the question is: If the market dictates that more people should go to college, is there really a problem? To answer this question, it is important to understand the manner in which the markets for workers in different industries view a college degree.

Sometimes, a college degree adds very little value to a worker, but employers nonetheless still require or prefer one. Employers increasingly require or give preference to college graduates for positions, such as firefighters,48 library technicians,49 and interior designers,50 any of which could be learned on the job, in a special training program, or in a trade school. Frankly, outside of specialized scientific or technological careers, most new workers learn what they need to know

46 See infra subsection II.C.
47 See infra notes 48–50 and accompanying text (explaining education’s role as a signaling device to the job market).
48 See generally Occupational Outlook Handbook: Firefighters, United States Bureau of Labor Stats, http://www.bls.gov/ooh/Protective-Service/Firefighters.htm (last visited Dec. 19, 2012) (“Firefighters typically enter the occupation with a postsecondary non-degree award in fire science or a related discipline. In many jurisdictions, entry-level education needed to become a firefighter is a high school diploma or equivalent.”).
on the job.\textsuperscript{51} In fact, the United States Bureau of Labor Statistics website provides a listing of countless occupations in which a college education is “preferred” but most experience is acquired on the job.\textsuperscript{52}

If most workers gain the necessary knowledge while on the job, however, why attend college at all? The answer is simple—job market signaling. Nobel Prize winning economist Michael Spence first discussed this concept in his 1973 article \textit{Job Market Signaling}.\textsuperscript{53} The thrust of the article is that in most job markets there is an information gap.\textsuperscript{54} The employer is uncertain about the productive capabilities of prospective workers at the time they are hired and for a short time thereafter.\textsuperscript{55} Thus, hiring, from the employers’ perspective, is an investment decision in their firm with some future expected payoff.\textsuperscript{56}

Spence suggests that employers attempt to reduce the uncertainty of their investment by interviewing their candidates and observing characteristics about them, including “education, previous work, race,


\textsuperscript{52} See generally U.S. Bureau of Labor Stats, http://www.bls.gov/home.htm (last visited Dec. 19, 2012) (providing database for searching potential employment opportunities). Any occupation listed that includes college experience as a preference when there is a lower-cost trade school, apprenticeship, or on-the-job training available suggests that a four-year degree is probably \textit{not} adding anything necessary to do the job to the worker, and the same results could be attained without the college experience. (Note that the government updates this website frequently, so the information included in footnotes 48–50 is subject to frequent revisions.) But cf. Richard H. Steckel & Joayanthi Krishnan, \textit{The Wealth Mobility of Men and Women During the 1960s and 1970s}, 52 Rev. Income & Wealth 189, 209 (2006) (suggesting that the perceived “barrier” to the top percentile for many lower-income families might be due to the importance society places on investment in human capital and education).


\textsuperscript{54} See generally id. (discussing the various signals sent by employers and prospective employees to close the information gap in the job market).

\textsuperscript{55} \textit{Id.} at 356. It is important to note that Spence’s model operates under the assumptions that (1) the employer is risk neutral, (2) the wage the employer pays to the employee is equal to the marginal return the employer expects to get from his investment in the worker, and (3) “the costs of signaling are negatively correlated with productive capability.” \textit{Id.} at 358.

\textsuperscript{56} \textit{Id.} The employer pays a wage that the worker does not “earn” in revenue for the company at the beginning of employment, but that he hopes the worker will make in the future.
Some of these characteristics are outside of an applicant’s control, whereas others are within her control. Those factors that the applicant can control are known as “signals,” and by manipulating them, the applicant may influence the employer’s hiring decisions. For education, when an applicant invests in her education, she is theoretically signaling to potential employers her worth as an employee. While signals can be manipulated, there are costs associated with doing so, and generally, a worker will only invest in education if there is “sufficient return as defined by the offered wage schedule.”

This wage schedule indicates to a worker what her potential salary would be depending on the different levels of education she may attain. Thus, knowing the wage schedules available, an individual worker will select the level (and type) of education that best signals her abilities to the job market. For example, if an individual understands her natural abilities to make her well-suited to be an attorney, she will invest in a level of education up through law school to signal to potential employers that she possesses those skills. Moreover, intelligence is not considered a signal and is more akin to an uncontrolled characteristic. Thus, if a student does not believe that her natural talents lend themselves to the higher wage schedule, she will decide not to bear the signaling costs necessary to increase her level of education to that required by the employer for hiring. Although all people would strive for a higher wage schedule, and thus purchase more education, the cost of attaining the education should normally dissuade people from purchasing too much of it.

One common criticism of this hypothesis, however, is that it relies upon the assumption that an individual can adequately evaluate her own potential and is thus unrealistic. This objection, however, is

57 Id. at 357.
58 Id.
59 Id. at 358. This assertion is not entirely true, as applicants will also invest in education for the other payoffs, like status. Id. at 358 n.6.
60 See generally Bryan Caplan & Stephen C. Miller, Intelligence Makes People Think Like Economists: Evidence from the General Social Survey, 38 INTELLIGENCE 636 (2010) (presenting evidence that natural intelligence, not education, is the most important factor in determining what makes someone “think like economists”).
61 See generally Spence, supra note 53, at 361–68 (illustrating an example of how job market signaling works in practice).
62 Because education is a proxy for intelligence, and education by itself does not guarantee a more successful, higher-paying career, people do not and cannot just continually purchase more education to secure a higher wage.
unmeritorious, because society expects individuals to make rational\textsuperscript{63} decisions based on their perceptions of their own abilities constantly throughout life.\textsuperscript{64}

Likewise, an employer will use education as a means of differentiating between candidates for a job. As a signal, education reduces information costs between an employer and the candidates, as well as the coordinate uncertainty in hiring of whether a candidate is “teachable” and well-suited for the job, by demonstrating the applicant is willing and able to learn.\textsuperscript{65} Understandably, employers prefer to hire the best talent, which is a natural objective. When signaling becomes “diluted” by the incentives created by societal and governmental policies, however, problems may arise. These problems are discussed below.\textsuperscript{66}

III. UNINTENDED CONSEQUENCES

The prospect of a more educated populace is generally a desirable objective, but problems arise when the level of education rises above, what this Note will refer to as, the “equilibrium amount.” This amount is the theoretical quantity where the true “demand” and “supply”—i.e., without governmental subsidization and societal interference—of higher education intersect.\textsuperscript{67} As discussed above, education plays an important signaling function in the labor market.\textsuperscript{68} When policymakers and society intervene in this market, there may be grim consequences. This Part of the Note will discuss two problems: (A) a potential “bubble” in higher education and (B) adverse selection in the labor markets.

\textsuperscript{63} Although it is true that the current trend in behavioral economics is to be skeptical of the “rational-actor model,” the field remains “far from a unified, versatile, believable alternative to the rational-actor model.” \textit{Young Economists on the Future of Economics}, \textsc{Freakonomics Blog} (Aug. 2, 2012, 11:56 AM), http://www.freakonomics.com/2012/08/02/young-economists-on-the-future-of-economics/. Thus, the rational-actor model is the best alternative at this time. Moreover, while it is true that individuals do not always act rationally, many of the innovations championed by this Note are intended to address this problem and hopefully equip individuals with the skills necessary to make rational decisions. \textit{See infra} Part IV.A.

\textsuperscript{64} Society expects this of individuals in situations as innocuous as assessing whether one is responsible enough to sit next to an exit on an airplane, to important life decisions, such as deciding when one is ready to beget and raise children.

\textsuperscript{65} Spence, \textit{supra} note 53, at 361–68.

\textsuperscript{66} \textit{See infra} Part III.B.2.

\textsuperscript{67} \textit{See Appendix C.} In this case, the market is thrown out of equilibrium due to the governmental subsidy.

\textsuperscript{68} \textit{See supra} notes 53–66.
A. A Higher Education “Bubble”

First, a bubble is an economic phenomenon where the price of a commodity or investment outpaces its equilibrium amount, unduly inflating the value. A number of factors, including speculation and perverted market incentives, may precipitate this disparity between equilibrium amount and price. While this often leads to many speculators getting rich, it invariably leads to a situation in which investors become wary of the market, pull their money out, and ultimately, depress the market price—sometimes even to levels below the equilibrium amount, forcing the holder of the asset to internalize the loss. When asset devaluation occurs, the bubble has officially “burst.” In order to understand how legal policies can inflate a bubble, this Note will first examine the most devastating bubble in recent history—the real estate bubble, which led to the subprime mortgage crisis—and then will analogize the higher education bubble to the housing bubble.

1. The Real Estate Bubble and Housing Crisis of 2008

In order to understand how prolonged governmental over-subsidization can create problems in the long run, this Part will briefly explain the factors that gave rise to the housing bubble of the early

69 It is worth noting to begin that this phenomenon is expected to be more prevalent in the lower strata of the higher education spectrum, such as for-profit institutions and community colleges. One would expect the “upper echelon” to be largely immune to increased enrollment. Although a Harvard education might lose some value due to over-enrollment and increasing costs, it is unlikely that neither of these factors would ever cause the cost to exceed the value derived. This result is largely because of society’s dogmatic reverence to a Harvard degree and the inflated wage it demands. This fact does not damage the hypothesis of this paper, though, because we assume that a student who enrolls in a top-tier institution would likely enroll in college whether or not they have increased access to funding and consider education to be a “good investment” regardless of governmental subsidization.

70 See generally Justin Lahart, Bernanke’s Bubble Laboratory: Princeton Protégés of Fed Chief Study the Economics of Manias, WALL ST. J., May 16, 2008, at A1 (quoting Princeton economist Harrison Hong as describing the dot-come bubble as an “example[ ] of valuations disconnecting from fundamentals”).

71 See id. at A10 (suggesting that “as one set of investors becomes less optimistic, another takes its place,” keeping an upward pressure on the price, until they “go beyond any individual investor’s fundamental valuation”).

72 See generally Howard, supra note 12, at 488–94 (explaining that part of the reason for the housing bubble in the early twenty-first century was due to government programs perverting market incentives).

73 See generally id. at 493–94 (explaining that after the burst of the housing market, Fannie Mae and Freddie Mac had amassed over $2 trillion in mortgage debt, due to the deflated prices).
A mixture of the two aforementioned causes of bubbles—speculation and perverted market forces, such as low interest rates—contributed to the housing bubble in the early 2000s. Succinctly stated, speculators in the market reacted to political decisions that perverted incentives. First, land generally appreciates in value due to a finite total amount, an ever-increasing demand fueled by unfettered population growth, and a general desire by the populous to own property. Land’s tendency to appreciate unfortunately means that the potential for one to own land is predicated on her wealth or her access to credit, and thus, it tends to be more difficult for lower-income households to own property.

During the 1970s, the government sought to manipulate these market forces by increasing access to credit through the creation of two GSEs—the Federal National Mortgage Association (Fannie Mae) during the Great Depression and the Federal Home Loan Mortgage Corporation (Freddie Mac) during the 1970s. The government created these GSEs to purchase the mortgage loans that banks made to borrowers, “instantly infusing the banks with liquid cash without having to wait thirty years for the payments, which in turn, the banks [could] then lend again to another home buyer.” Fannie Mae and Freddie Mac drastically increased the funds available for loans, forcing interest rates down, and decreasing the banks’ risk in lending—moving such risk from the banks’ balance sheets to the GSEs’ balance sheets. Because they did not have to bear the entire loss in the event of default, the banks made riskier loans. Fannie and Freddie, in order to protect themselves from the overzealousness of the banks, implemented their own restrictions about the creditworthiness of borrowers, thus keeping the banks honest in their lending; however, even these restrictions were no match for congressional hegemony. In the 1970s, the country experienced a multitude of changes in the area of mortgage lending. Through multiple acts of Congress and subsequent litigation, banks were not only incentivized, but also legally

---

74 For a more in-depth analysis of the Housing Crisis, see Howard, supra note 12, at 488–94.
75 See id. at 488.
76 See generally id. at 490 (detailing the process of attaining a mortgage before the creation of Fannie Mae and Freddie Mac, which included a twenty percent down payment and strict scrutiny of the borrower by the bank).
77 Id. at 489.
78 Id. at 490.
79 Id.
mandated, to make high-risk loans as part of a movement that “championed homeownership for all Americans.”

This political atmosphere, coupled with very low interest rates, lax regulations on bank-leverage requirements, and very few restrictions on over-the-counter derivatives (such as swaps and option contracts), set the stage for market players to react by packaging high-risk mortgages into asset-backed securities to increase their liquidity and diversify the risk. With increased liquidity and less market discipline, due to banks becoming “too big to fail,” real estate investors and homeowners were able to bid the price of the mortgages continually higher and higher, leading to a thirty-three percent increase in the price of the average single-family home from 2000 to 2005. Because Fannie and Freddie infused so much liquidity into the housing market, homeowners were able to afford more expensive houses, increasing the overall demand for houses, and ultimately, forcing the prices well beyond their equilibrium amount. When the bubble finally burst, housing prices dropped drastically, leaving many homeowners “underwater”—owing more than the house is worth—on their mortgages and Fannie and Freddie holding $2 trillion worth of the debt.

80 Id. at 491. During this time, Congress enacted the Community Reinvestment Act (1977) “which required banks to make a quota of loans to low and moderate-income borrowers.” Id. at 490. Fannie and Freddie also fell under the control of the Department of Housing and Urban Development (HUD), which began pushing sub-prime loans and set quotas for affordable housing loans. Id. Finally, HUD began a campaign to end housing discrimination, primarily by suing banks that “declined a greater portion of minority applicants compared to white applicants regardless of creditworthiness.” Id. (emphasis omitted). However, many commentators and scholars believe that the government played little or no role in the crisis. See Raymond H. Brescia, Part of the Disease or Part of the Cure: The Financial Crisis and the Community Reinvestment Act, 60 S. C. L. Rev. 617, 619 (2009) (“[I]nstead of causing the subprime mortgage crisis, the CRA simply failed to prevent the crisis.”); Adam J. Levitin & Susan M. Wachter, Explaining the Housing Bubble, 100 Geo. L.J. 1177, 1214 (“Claims about the CRA’s role in the bubble have been thoroughly considered elsewhere and largely debunked . . . .”).

81 See Howard, supra note 12, at 491–94.

82 Id. at 491–93. During the Clinton Administration, Congress also passed the Gramm-Leach-Bliley Act in 1999, repealing the Glass-Steagall Act of 1933, ultimately allowing banks to increase in size and become “too big to fail.” Id. at 491–92. (internal quotation marks omitted).

83 Id. at 493.

84 See id.

85 Id. at 493–94.
2. The Market for Student Loans

There are many similarities between the current market for student loans and the housing market of the early 1990s. Rather than learning from their recent mistakes precipitating the mortgage crisis, lawmakers in this country are following a very similar path with student loans. Just as in the market for land, the market for higher education lends itself to a market price that outpaces the rate of inflation. This upward pressure on price induced the government to enact legislation and to subsidize the cost of college in various ways to combat the rising prices and to increase access to education, including policies to keep interest rates low and to make loans more readily accessible.

By increasing the amount of readily-available funds for student loans, however, the government has “eviscerate[d] all natural risk mechanisms,” just as it did in the housing market. This subsidization of the market, in turn, increased the demand for higher-educational services, which afforded colleges the opportunity to increase their prices. Professor Richard Vedder, an economist at The Ohio State University, points out that “[t]he reason colleges have been getting away with raising their fees so much is that loans allow parents to tough it out,” so raising tuition is a logical response to increases in enrollment most institutions have seen in the past few years. The problem is that the increased availability of loans has created a cycle of tuition hikes, followed by a governmental response of injecting more loanable funds into the market, followed by more tuition hikes,

86 Id. at 494.
87 See Arne Duncan, Through the Schoolhouse Gate: The Changing Role of Education in the 21st Century, 24 NOTRE DAME J.L. ETHICS & PUB. POL’Y 293, 296–97 (2010) (“To maintain our competitive advantage in knowledge-based industries and fields, the United States must implement an education policy that produces a ‘more flexible labor force that can cope more readily with non-routine tasks and occupational change.’” (quoting Alan S. Blinder, Offshoring: The Next Industrial Revolution?, 85 FOREIGN AFF. 113, 125 (2006)). See generally Howard, supra note 12, at 494 (“In response to higher prices, politicians sound the clarion call to make college affordable and do so by enacting programs that infuse leverage into the market . . . .”)); id. at 503.
88 Howard, supra note 12, at 494.
89 See Appendix C.
90 Kaufman, supra note 43, at C3. This research suggests that when an individual is able to defer payment to the future, as in a loan, they are willing to take on greater increases in price than they would if they had to pay for it up front. This could merely be an irrational behavior, but this Note argues that it suggests a fundamental lack of understanding of how credit works.
91 See supra Part I.
inflating the price more and more with each turn of the cycle. This inflationary cycle, coupled with societal pressures to attend college, as well as the natural market incentives preferring educated labor, has increased the price of college to astronomical rates over the past few decades. In this situation, the government has again created perverse incentives, and, like derivative traders in the housing market, students fill the role of “market speculator.” Essentially, there is a breakdown in information—the students believe that the education they pursue is worth more than it actually is, so they still consume the services, even at inflated prices.

One peculiar aspect of a higher education bubble is the question of how it will “burst.” In a normal market with a bubble, when the bubble bursts, the assets held by individuals rapidly devalue, forcing the asset’s market price down and the holders of the commodity to internalize the loss. This occurrence is because normally the price paid for and the value derived from a commodity are determined by the same market—a fact that is not true in the market for higher education. Because the market value of education is derived from wages, when someone’s education devalues, one would expect it to manifest in the form of lower pay. This, however, is not entirely the case in the market for higher education, because students consider both the price of tuition as well as expected wages when determining when to go to college, which do not move in lockstep. The two markets still interact with each other, but they interact as compliments, rather than as a single market. Thus, wages do not “deflate” as rapidly as the price

92 See generally Matthew Philips, Cost of College on the Rise (Again), FREAKONOMICS BLOG (Oct. 27, 2011, 9:37 AM) http://www.freakonomics.com/2011/10/27/cost-of-college-on-the-rise-again/ (noting that the price of college increased 8.7% for public in-state institutions due in part to decreased state funding (to the institutions) and increasing enrollment, but concluding on a “silver lining” that “the amount of available subsidies and tax credits have roughly doubled since 2007”).

93 See supra Parts II.B and II.C.


96 See supra note 73 and accompanying text.

97 See infra note 61 and accompanying text.
of houses did when the housing market collapsed. The Note will address how these adverse effects manifest in the labor market later.  

Nevertheless, the deflated bubble will likely manifest itself in two ways: increased default rates on federal student loans—due to depressed wages—and possible social upheaval. First, expect to see default rates increase substantially, as the benefit derived from a college degree is no longer able to “cover” the ever-increasing expense of attaining it, so many students will be unable to repay their loans on time. This increased default has already started happening, as the “cohort default rate”—the rate of student loan defaults—has increased steadily over the past few years. While some of the increase is due to the current economic climate and relatively high levels of unemployment, the default rate has steadily increased over time and has not jumped recently due to the shock of the current market conditions until very recently. Moreover, even before the recent recession, the default rate was increasing, which suggests that the two are not inextricably correlated.

Worse yet, defaults on student loans are especially burdensome, as one is legally unable to discharge a federal student loan through bankruptcy, unless not doing so would cause “undue hardship.” Because student debt is so hard to discharge, students must shoulder it for years into the future, restricting their consumption. Furthermore, when someone defaults on a federal student loan, her wages

98 See infra Part III.B.
99 See generally Office of Federal Student Aid, National Student Loan Default Rates, United States Department of Education [hereinafter Cohort Rates], available at http://www2.ed.gov/offices/OSFAP/defaultmanagement/defaultrates.html (indicating that the cohort default rate over the past eight years has generally had an increasing trend).
100 While the current economic situation has exacerbated the problem slightly, it is likely that the economic downturn might merely have been the impetus that revealed the underlying problem.
101 See Cohort Rates, supra note 99.
102 Id.
103 11 U.S.C. § 523(a)(8) (2006). “Student loans are now generally not dischargeable through bankruptcy, and it is fairly difficult to satisfy the requirements for an undue hardship petition, which generally requires demonstrating that you made a good faith effort to repay the debt, that you will not be able to maintain a minimal standard of living and still repay the debt, . . . and that the conditions that prevent you from repaying the debt will likely persist for most of the full term of the loan.” What Happens If You Default on Student Loans?, The Herald-Dispatch (Oct. 23, 2011) [hereinafter Loan Default], http://www.herald-dispatch.com/news/x824265584/What-happens-if-you-default-on-student-loans.
may be garnished, and her credit score is affected adversely, again with few remedies available. This situation forces people to live under austere conditions, in which it is more difficult to obtain credit to purchase a car or house and they must greatly restrict their consumption. With a poor credit score, garnished wages, and a burdensome monthly loan payment, a person is unable to purchase a new car, house, or other amenities, adversely affecting other sectors of the economy as well. President Obama recently introduced a new plan to cap student annual loan payments and discharge the balance after twenty years, but this remedy only seems to address the “symptoms” rather than the “disease.” If the true problem is too much debt, then the true remedy is lowering the price of college, or conversely, making funding for college less available. This alternative would decrease the demand for, and subsequently the cost of, college, rather than merely capping payments.

Secondly, and potentially much more dangerous, in a situation where people are not making the money they expected to and believe they “deserve,” eventually social unrest might emerge. For example, the “Occupy Wall Street” movement recently erupted in New York City and other cities across the United States. While the “Occupy” movement is a decentralized group with a diverse list of demands, one

---


105 See Loan Default, supra note 103. Generally, when one defaults on student loans, her loan is turned over to a collection agency, which assesses collection fees; wages are garnished; federal and state tax refunds can be withheld; record of defaulted loans will appear on your credit history for up to seven years after the default is paid; no more aid can be extended until after the entire loan is repaid or other conditions are met; and there is no statute of limitations on the collection provisions. Id.

106 See generally Kaufman, supra note 43, at C3. (“[T]hat [student loan] debt is taking the place of the house [my generation] could be buying or a number of other investments we could be making in our lives. The loan debt just sucks a lot of that out.” (quoting Linda McCluskey, a recent graduate of the University of Massachusetts at Amherst)).


108 If the problem is increasing costs of college and a lack of information by the student population about the value of a degree, relieving the debt will only act to subsidize education further, exacerbating the underlying problem.

109 If student loan payments are capped, then one effect will be that the principal loan will accrue interest longer, as a student will take more years to pay off the debt.

110 For an in-depth explanation of the Occupy Wall Street movement, concerns, and goals, see http://occupywallst.org.
primary complaint concerns the student loan burden many students shoulder and the lack of means of alleviating that burden. The demonstrators’ plight suggests that the price they paid for their education was not worth the benefit they eventually received in the job market. Without many of the policies discussed above, some of them might have rationally decided not to incur the tremendous debt obligations of pursuing a higher education.

B. Adverse Selection

Another problem that has arisen from the lax loan standards and available money is adverse selection, which decreases productivity due to lost market signaling. Adverse selection is a basic economic concept, where asymmetrical information forces prices down due to increased risk in the market. This Part introduces the concept of adverse selection through an abridged rendition of George Akerlof’s classic example of the market for “lemons,” and it then goes on to apply the same theoretical framework to the labor market.

1. The Market for “Lemons”—Used Cars

Akerlof attempted to illustrate the problem of asymmetrical information—and by corollary, the importance of market signals—through the market for used cars. Assume there is a market for

---

111 See generally Amanda M. Fairbanks, Occupy Student Debt Campaign Announces Nationwide Loan Refusal Pledge, HUFFINGTON POST, Nov. 21, 2011, http://www.huffingtonpost.com/2011/11/21/occupy-student-debt-campaign_n_1106379.html ("Since the first days of the Occupy movement, the agony of student debt has been a constant refrain . . . . We’ve heard the harrowing personal testimony about the suffering and humiliation of people who believe their debts will be unpayable in their lifetime." (internal quotation marks omitted) (citation omitted)). Worse yet, part of the solution for the Occupy Wall Street crowd is to get a million students to default on their student loans to make a point, id., which, as explained above, could have devastating consequences. See supra footnotes 103–06 and accompanying text.

112 See generally George A. Akerlof, The Market for “Lemons”: Quality Uncertainty and the Market Mechanism, 84 Q. J. OF ECON. 488, 490–92 (1970) (using the example of the market for used automobiles to illustrate how without proper signaling mechanisms, there is an incentive for sellers to market poor quality goods).

113 For other examples of markets in which adverse selection may exist, see id. at 492–99 (discussing the market for insurance for the elderly, the employment of minorities, the costs of dishonesty, and the credit markets in underdeveloped countries). But see Jae-Cheol Kim, The Market for “Lemons” Reconsidered: A Model of the Used Car Market with Asymmetric Information, 75 AM. ECON. REV. 836, 842–43 (1985) (rejecting Akerlof’s conclusion by observing that in the real world, average quality of traded used cars may actually be slightly higher than those which are not traded, which is counterintuitive in Akerlof’s scenario).
automobiles. After owning a car for some time, the owner comes to know whether or not it is "a good car" or "a lemon," but there is no corresponding increase in the knowledge about the car to a potential buyer in the market. Because of this gap in information at the time of purchase between the buyer and the seller, and assuming that the price of an automobile normally varies directly with its quality, eventually only lemons will remain in the used car market. This unfortunate result occurs because if there is no credible way to signal to the market that a car is good, the risk of purchasing a lemon disincentivizes any market participant from spending more money on a car than what a lemon is worth. Correspondingly, a seller of a good car scorns the idea of selling her car for a price below its actual value, so eventually the supply of good cars dries up, leaving only lemons. Akerlof's article concludes by detailing institutions that arise to counteract the ubiquitous problems of uncertainty and asymmetrical information in markets. These institutions include branding, chains, and licensing, each of which we see in the market for used cars, which allow potential purchasers to more efficiently glean information about the goods in the market and make more informed decisions.

2. Adverse Selection in Labor Markets

While Akerlof's model explains many peculiarities in the market for used cars, it is also applicable to the market for workers. In the

114 For present purposes, the Note simplifies the example by focusing on good and bad used cars. In his original example, Akerlof assumed that there were four types of cars: good new, bad new, good used, and bad used. Akerlof, supra note 112, at 489.
115 See id. at 489–90.
116 See id. at 490. “[I]t is quite possible to have the bad driving out the not-so-bad driving out the medium driving out the not-so-good driving out the good in such a sequence of events . . . .” Id.
117 See id. at 490 (“[B]ad cars drive out the good because they sell at the same price as good cars . . . .”).
118 See id.
119 See id. at 499–500.
120 Id. Brands—in the car market, Ford and Toyota—increase consumer trust in the product by allowing them to associate with other products on the market with which the consumer is more knowledgeable.
121 Id. at 500. Chains serve the same function as branding only in the context of services. For cars, chains signal about the quality of the retailer as a way of increasing accountability.
122 Id. In the used car market, licensing has recently begun to spring up with services, such as CARFAX®, which increase the flow of information about the history of used cars to the prospective purchasers.
labor market, the number of workers represents the "supply" and the number of workers that employers need represents the "demand." Thus, the supply of workers is analogous to the supply of used cars, and similarly, the employers are analogous to the buyers in the used car market. Also, as in the market for used cars, assume there is asymmetric information in the labor market, with a schedule of workers, ranging from those who are "good"—thus demanding a higher wage—to those who are "bad"—thus demanding a lower wage. As explained in Part II.C above, workers use education as a means of signaling to prospective employers that they are a good investment. In this way, education is used as a form of "licensing," where the workers claim their labor has been "certified" by whatever degree or accolades they possess. Or, at least, this view was historically how employers have viewed education.

As discussed above, there is some evidence that the benefits of attending college seem to be "leveling off" compared to the costs. A recent study by the Department of Education found that the cohort default rates increased to 8.8% in 2009, up from just 7.0% a year earlier. Moreover, another study found that the unemployment rate for workers with a bachelor’s degree is the highest it has ever been, even compared to economic recessions in the past. Finally, and most importantly, wages have stagnated, and the median household income actually decreased by four percent between 1997 and 2008 when adjusted for inflation.

124 See supra notes 53–59 and accompanying text.
125 See generally Akerlof, supra note 112, at 500 (“The high school diploma, the baccalaureate degree, the Ph.D., even the Nobel Prize, to some degree, serve this function of certification.”). Indeed, this function of education also explains why a degree from Harvard is worth more than that from other institutions—more rigorous certification standards indicate a more worthy applicant.
126 See supra notes 99–101 and accompanying text. A very interesting study would be to analyze the historical interest rate for privately-funded student loans. Fixing for the benchmark interest rate and inflation, and assuming that the maturity and liquidity premiums would be constant over time, we could isolate and analyze the default risk the private market has assigned to students over the years. If this default risk increased, it would suggest that our students today are not as "good" of investments as they have been in the past.
128 See Kaufman, supra note 43, at C3.
While lagging economic growth has likely been a major contributor to the aforementioned trends, another contributor may be adverse selection in the labor markets. With an increase in the number of bachelor’s degrees, we should expect to see the benefits of attaining a bachelor’s degree decrease as the signaling function is diluted and risk to the employers increases in the market for employees. Much like the price of a used car on the market, when there is inadequate information in the market to signal the difference between a “good” product and a “bad” product, there is a downward pressure on price.130

The same principles should hold in the labor market; when a worker cannot signal to her prospective employer that she is a “good” employee, there is downward pressure on the initial wage level.131 Because the employer cannot differentiate between the “good” and “bad” employees based on their respective market signals, the risk of hiring an inadequate employee is higher. Thus, an employer cannot offer the starting wage that the market dictates, because the employer cannot risk paying such a high wage to an underachieving employee—just as a buyer in the market for cars cannot risk buying a lemon at the price of a good car, so she will refuse to pay a high price. Theoretically, a student at the top of her class or in a prestigious institution should not experience the same depressed wage as her lower achieving counterparts, because the employers can still glean a potential employee’s general abilities merely from the school she attended or the position she finished in her class. Thus, this depressed wage will most profoundly affect those marginal students who might never have decided to attend college in the first place without the aforementioned market manipulation.132

One important difference between the market for used cars and the market for labor is that in the labor market, we should not see the “good products” dropping out of the market—i.e., the good worker simply staying home and deciding not to work. Because most people must work to live, the good worker is faced with three scenarios. In

---

130 See supra Part III.B.1.
131 Note that the signaling function would not be completely lost, as college graduates would still demand a higher wage than non-graduates would initially. The wage would simply not be as high as theoretically expected.
132 See supra Part II.C.
the first scenario, she must start at a lower wage than she could otherwise have had and work her way “up the ladder.” This scenario gives the employer a windfall for a period, and it forces the good worker to operate at a loss until she demonstrates to the employer her true value and is promoted. Here, there is a lag between the time the worker starts and the time she begins making her “equilibrium wage,” during which the employee “loses” money. There is also a loss of “productive capacity,” which is the time it takes the employee to reach the position at which she “should” have started in an efficient, healthy market.

In the second scenario, the good worker would hold out until the job she prefers becomes available. Holding out may be necessary if there is a proliferation of workers in the market who are not as qualified as the good worker, and through whom the employer must sift before finding the worker she prefers. Here, again, there is productive capacity lost, because the “best” worker is sitting out of the market and the employer is not putting her talents to the most efficient use, during which both the employer and the employee are losing productivity.

Finally, in the third scenario, the good worker would realize that her talents are not being adequately compensated in this job market, so in order to signal her worth, she would invest in more education through post-graduate work for an MBA, JD, Ph.D., or other professional certification. When she enters the market, she then is able to signal her proper value to employers, so they may hire her at an increased wage. Although this scenario seems fine, as the market ultimately places the employee in the correct position, the employee has taken on more debt and lost years of her productive work life, and the employer has lost the worker’s productive capacity for the time she returned to school. Thus, ultimately, the market equilibrates and the signals function normally, but the players have more debt and there is deadweight loss in the market.

Conversely, for the “bad” employee, she will not necessarily move up the ladder, even if she pursued higher education. She will either remain at her entry-level wage or be laid off and forced to find work elsewhere—probably at a lower wage. Either way, the tens of thousands of dollars of student loans she bore becomes more daunting and seemingly insurmountable, the longer she is unable to pay.

---

133 The wage that the employer theoretically should pay when the cost of employing the labor equals the value derived from the labor.

134 There is also probably a similar scenario in the advanced degrees, only slightly more attenuated, due to the immense expense and time required.
An employee in such a situation may become disillusioned with the system due to the unrealized better life she was “promised” before she entered college.

Moreover, there will be other ancillary losses to the individual and society as a result of the current economic situation of higher education. A student with more debt may select a different, higher-paying position than she would otherwise prefer, specifically because of the debt-relieving potential, making her less happy than she would be in another position. Correspondingly, if the student accepts a position in which she is unhappy, her job performance will likely suffer, creating a further loss to society.

IV. THE PLAN: MODIFY, RECONCEPTUALIZE, AND OVERHAUL

We do not want to disincentivize society’s investment in human capital. If people want education, they should be able to attain it. However, there is something fundamentally broken with the system. There is a breakdown of information in the market—a gap which leads people to overestimate the benefits of attending college and underestimate the costs. To correct the problem, three changes are necessary: (A) a modification of the required high school curriculum, (B) a reconceptualization of the “American Dream,” and (C) an overhaul of the federal student loan program.

A. Modification of the High School Curriculum

The problem discussed above stems primarily from a breakdown of information concerning the potential payoff offered by the market and the opportunity cost of attending college. In order to remedy this problem, state legislators and school boards should modify the high school educational system in the United States to include at least one required class in either basic economics, accounting, or finance (together, the “proposed classes”). By including the proposed classes in the high school curriculum, individuals should better understand the financial decisions they make, due to a deeper understanding of debt, interest rates, and opportunity costs.

Currently, most state-mandated high school curricula require multiple classes of mathematics, history, and English (together, the “classic classes”), while economics, accounting, and finance are generally offered as elective courses.135 While there is nothing wrong with

135 See, e.g., OHIO REV. CODE ANN. § 3313.603 (West 2010 & Supp. 2012) (requiring, as of July 1, 2010, four credits of English, one-half unit of health, four units of mathematics, one-half unit of physical education, three units of science, one unit of history and government, two units of social studies, five units of a “combination of
the classic classes—and, indeed, these classes are very important—they are not as practical in day-to-day life as are the proposed financial classes. People subconsciously make decisions between competing alternatives every day using basic microeconomic concepts—whether it be foregoing a Starbucks coffee to pay rent or deciding which route to take on the way home from work. By adding the proposed classes to the required curriculum, legislatures would ensure that high school graduates understand basic financial and economic concepts, better preparing them for managing household finances and debts later in life. While the material taught in the proposed classes is very important, there are also many other ancillary benefits students gain from taking these classes, which they could then put to use later in life when securing a mortgage or planning household finances.

While state legislators and school boards should require the proposed classes as a part of their high school curricula irrespective of their students’ educational aspirations, these classes become even more important as each student decides whether to attend college. As stated above, one problem in the market for higher education is a fundamental breakdown of information. Adding the proposed classes is a vital step in reducing this asymmetry. If a high school student better understands the “opportunity costs” of college—the alternatives a student forgoes by attending college, such as pursuing a two-year degree, attending a trade school, or getting a jump-start on her career—she will be more likely to make a rational decision. In addition, knowledge of interest rates and the time value of money would increase the rational decision-making capacity of every individual for any career choice or business decision in the future.

foreign language, fine arts, business, career-technical education, family and consumer sciences, technology, agricultural education, a junior reserve officer training corps (JROTC), or any additional English, mathematics, science, or social studies as desired). This statute requires only certain core classes, and the proposed classes all fall under “business” in the elective courses, which the students are not required to take.

136 There is evidence, however, that the information students learn today is of lower quality and importance than in the past. See Eric Gorski, Report: College Students Not Learning Much, MSNBC.COM (Jan. 18, 2011), http://www.msnbc.msn.com/id/41136935/ns/us_news-education/t/report-college-students-not-learning-much/#.T-d-bPXNkYJ. Although this article focuses on college, many of the concepts are applicable to high school as well.

137 In order to make time for the proposed classes, students may have to forgo taking a few of the classic classes, departing from past practice; however, as Emerson opined, “[a] foolish consistency is the hobgoblin of little minds. . . .” RALPH WALDO EMERSON, THE ESSAY ON SELF-RELIANCE 23 (Elliot Hubbard ed., 1908).

138 See supra notes 88–94.
A rudimentary understanding of the basic financial concepts taught in these proposed classes could help to reduce the number of students who decide to incur the added expense of attending college rather than pursuing better opportunities. Even if all of these classes were rolled into one all-inclusive “financial responsibility” class, the effects could be palpable. This minute change would potentially require only the reduction of one classic class from the existing curricula, and schools would not have to incur many additional costs, as these courses are often already offered by the schools, but they are not required.139

B. Reconceptualization of the “American Dream”

Many of today’s policymakers rely upon the “American Dream” as the antecedent for the policies they endorse. Whether it was to increase access to credit to own a home or access to funding for higher education, politicians often champion a view of the American Dream in which home ownership and a college education are inalienable rights.140 However, the American Dream can more aptly be stated as “the fundamental tenet that we are not forever bound by the circumstances of our birth, but that anyone willing to work hard can achieve a prosperous and secure life for his or her family.”141 This definition clearly does not advocate the idea that every person has a right to go to college, but instead, that everyone has the right to have access to college if she is willing to assume the concomitant risks and costs.

Further, the American Dream gives each person the right to make a rational choice about whether or not to go to college with the proper and necessary information. As such, the American Dream should not include perverted incentives or paternalistic ideals of what “society” believes is “best”—no matter how well intentioned. What is best for one person may not always be what is best for everyone (or anyone) else. Each individual has the right to determine for herself—without governmental interference—if she believes the value added to her human capital by attending college is worth the tens of thousands of

139 See supra notes 135–37 and accompanying text.

140 See Duncan, supra note 87, at 294 (describing education as “the means for ensuring that all Americans have a fair chance to achieve the American dream”). This same tactic was used in the early 2000s when the Bush Administration advocated a regulatory overhaul of Fannie Mae and Freddie Mac. See generally Stephen Labaton, New Agency Proposed to Oversee Freddie Mac and Fannie Mae, N.Y. Times, Sept. 11, 2003, at C6 (quoting Rep. Melvin Watt as saying the regulatory proposals would “weaken[] the bargaining power of poorer families and their ability to get affordable housing”).

141 Duncan, supra note 87, at 293.
dollars she would have to spend and multiple years she would have to devote to attain that value.

More directly, we need to start questioning the Orwellian notion that college is fundamentally a better decision for everyone. As mentioned above, the “common knowledge” that a college graduate makes $1 million more dollars on average over her lifetime is pervasive in our culture. Recent studies, however, suggest that this notion is not necessarily the case. Notable higher-education skeptic James Altucher believes that there are cheaper and better ways to obtain an education than attending college, and he credits his own life experiences much more than his degree in computer science from Cornell University with his success. Altucher submits there are “a billion other things you could do with your money [besides go to college].” One such alternative, if you have the cash on hand, is investing it. Two hundred thousand dollars (the amount it costs to attend certain Ivy League schools) invested and earning five percent a year would be worth $2.8 million in fifty years. Moreover, recent government statistics indicate that only fifty-seven percent of full-time college students seeking their bachelor’s degree graduate in six or fewer years, so the costs of attending college may be much more than what students expect upon enrolling.

Of course, this investment scenario is infeasible for most. The point remains, however, that financing college through loans is not necessarily the best way to boost potential earnings. The median earnings of college graduates do outpace their high-school-diploma coun-

---

142 See supra note 43 and accompanying text.
143 Kaufman, supra note 43, at C1.
144 Id. at C3.
145 Id. This is a simple, compounding-interest calculation that is taught in any basic finance class and would surely be included in the proposed high school classes discussed above. See supra Part II.A. But see Matthew Philips, The Numbers Game: Is College Worth the Cost?, FREAKONOMICS BLOG (May 27, 2011, 1:00 PM), http://www.freakonomics.com/2011/05/27/the-numbers-game-is-college-worth-the-cost/ (suggesting other reasons for why attending college is a good idea, such as the lower unemployment rate amongst college graduates than non-graduates and the wage differential).
146 Kaufman, supra note 43, at C3. Moreover, according to the Institute for Higher Education Policy, only sixty percent of full-time students earn their bachelor’s degree within eight years of enrolling in college, and for part-time students, that number is only twenty-five percent. Justin Pope, The Other Student Loan Problem: Too Little Debt, ASSOCIATED PRESS, Nov. 27, 2011, available at http://news.yahoo.com/other-student-loan-problem-too-little-debt-180848793.html.
terparts by $16,000 per year.\textsuperscript{147} Yet this is only the median salary of a college graduate, and many college graduates fall outside of the middle range. In fact, as mentioned above, there is evidence that the payoff of a college degree has leveled off in recent years.\textsuperscript{148} As Professor Vedder points out, “[i]n 1970, when the overall unemployment rate was 4.9 percent, unemployment among college graduates was negligible, at 1.2 percent . . . . But this year, with the national rate of unemployment at 9.6 percent, unemployment for college graduates has risen to 4.9 percent . . . .”\textsuperscript{149} Professor Vedder concludes that “[t]he return on investment is clearly lower today than it was five years ago . . . . The gains for going to college have leveled off.”\textsuperscript{150}

Moreover, there is no evidence that intelligent, self-motivated individuals will not make more money without ever attending college.\textsuperscript{151} As discussed above, one of the main reasons good workers go to college is to signal to potential employers that they are the good workers.\textsuperscript{152} This point may suggest that the unmotivated or less-gifted worker who is going to college merely to demand a higher wage may be wasting her time and money. College should not be considered some enchanted place where earnings instantly increase just by virtue of attending. It is instead better considered a decision for people who believe their worth to the job market differentiates them from the rest of the workforce.

There are also many jobs where employers currently “prefer” a college degree, for which on-site training or a trade school would suffice.\textsuperscript{153} This fact suggests that a college degree is not indispensable, but that society expects it, which in turn induces more employers to

\textsuperscript{147} See Kaufman, supra note 43, at C3 (“In 2008, the median annual earnings of young adults with bachelor’s degrees was $46,000; it was $30,000 for those with high school diplomas or equivalencies.”).


\textsuperscript{149} See Kaufman, supra note 43, at C3.

\textsuperscript{150} Id.

\textsuperscript{151} See generally Altucher, supra note 32. (“Statistically, there’s no proof that smart, ambitious, aggressive people won’t benefit enormously from a five-year head start against their peers who choose to spend five years doing homework and drinking beer and going to frat parties.”). Altucher says this in reference to an “ambitious, aggressive” person foregoing their college experience, but the gist of the assertion is that a person’s wage depends not necessarily upon their level of education, but the value they bring to the job through personal attributes.

\textsuperscript{152} See supra notes 54–58.

\textsuperscript{153} See supra notes 48–50 and accompanying text.
require or prefer college graduates. In fact, research by Richard Steckel and Jayanthi Krishnan indicates that wealth was more mobile—an individual could more easily move from the lower to upper class—in the late nineteenth century than it is today. One of the reasons Steckel and Krishnan proffer for the current rigidity is the “growing importance of human capital to earnings and to wealth accumulation.” They suggest that the prevalence of high-paying, low-unemployment jobs such as lawyers, doctors, and accountants, which rely heavily on human capital investment, could be a driving factor in this trend. Because of the relatively recent standardization of these professions, and the necessity of education for the performance of them, Steckel and Krishnan hypothesize that education is the barrier restricting the free-flow of wealth witnessed a century ago. Before education was a prerequisite for attaining such a job, an individual could easily move up the social ladder, merely with hard work; after the emergence of such jobs, however, hard work became only part of the equation. Although Steckel and Krishnan only discuss the human-capital-intensive occupations, a general societal preference for college would also contribute to this trend of wealth inequality and immobility.

By reconceiving the American Dream as providing the “opportunity” to assume the risk to go to college, rather than the “right,” and providing updated, less-biased information to the labor market, societal pressure on a high-school graduate to enroll in a four-year university may decrease. By decreasing such pressure, an individual student’s “costs” of not attending college may also decrease, as the student would no longer fear the backlash or societal stigma often imposed upon individuals who decide to forego college and, instead, enter the workforce. Of course, in order for a person to make a rational decision, not only these societal costs, but also the monetary costs that she must incur to purchase an education should more accurately reflect the true value the education would add to her human

154 See supra Part II.C and accompanying text. This is a cycle where societal preferences force employers to require more education, which in turn, incentivizes students to demand more education, further fueling the cycle.
155 See Steckel & Kirshnan, supra note 52, at 209.
156 Id.
157 See id.
158 Id.
159 See generally Alex Friedrich, Do Community Colleges Have a Stigma? Yes—But Some Folks See the Light, MPR News (Dec. 21, 2010), http://oncampus.mpr.org/2010/12/do-community-colleges-have-a-stigma-yes-but-some-folks-see-the-light/ (discussing the stigma associated with attending a community college rather than a traditional four-year institution).
capital. This “true value” should reflect how much “better” the person is made by attending college, all opportunity costs and natural talents considered. Changing perceptions in this manner is not a simple task, but restricting the federal loan program would go a long way to remedy the situation.

C. Restriction of Federal Loan Programs and the End of Perverse Incentives

Some scholars have proposed changes to the current higher education system to remedy the problem of inflated prices. Professor Vedder suggests that universities should begin including a “lowering cost” incentive in their presidents’ salaries in the form of bonuses for meeting lower-tuition thresholds.\textsuperscript{160} By changing the incentives of a university to be more akin to those of a normal business—profit-maximizing through lower costs—the price of higher education should drop. If a university’s goal was to keep costs down, then the cost for a student of attaining an education would drop lockstep with the cost of the inputs.

Others have suggested changing the entire model of the American system of higher education, so that school is offered all year, but the price of it would remain the same as that of the nine-month system.\textsuperscript{161} Other suggestions include tuition caps,\textsuperscript{162} “progressive tuition scale[s],”\textsuperscript{163} and tying tuition to future earnings.\textsuperscript{164} Even President Obama has recently offered his suggestions on how to fix the predicament, including introducing a plan to “cap” student loan payments at ten percent of income to begin in 2012 and reducing the twenty-five-year “balance forgiveness period” to only twenty years.\textsuperscript{165} None of these proposed solutions, however, adequately remedy the underlying


\textsuperscript{161} Id.

\textsuperscript{162} Howard, supra note 12, at 508–09.

\textsuperscript{163} Howard, supra note 12, at 509.

\textsuperscript{164} Id.

\textsuperscript{165} Alister Bull, Obama Acts to Ease Burden of Student Loans, REUTERS (Oct. 25, 2011), http://www.reuters.com/article/2011/10/25/us-obama-students-idUSTRE79O7HZ20111025. Those who take advantage of this plan will also have fifty basis points cut off of their interest rate on their loans, and the new program will allow six million students to “bundle” student loans together reducing risk of default through diversification. \textit{Id}. It is interesting to consider that this “bundling” solution is eerily similar to the “solution” to the housing crisis, which including bundling mortgages into “Mortgage-Backed Securities” to diversify them and reduce risk to investors. For a general discussion of Mortgaged-Backed Securities, see generally \textit{Mortgage-Backed Securities},


source of the problem. Some of these ideas only act as a Band-Aid to mask the symptoms, and others actually create more perverse incentives.\footnote{Expunging debt, especially, would only act to further subsidize the market, which could potentially induce other students to enter the market for higher education, exacerbating the problem.} This Note proposes severely limiting the role the federal government plays in making educational loans and allowing private banks to handle the vast majority of funding for higher education.

First, the federal government’s role in funding and servicing student loans should be greatly reduced. With less federally subsidized liquidity in the student loan market, most students would have to go to private banks to secure funding for college. This shift would allow the market to set the individual interest rate on a case-by-case basis. Each student would then have the ability to compare the true cost of college to the value she expects to derive from the experience. The “price” of attaining funds for college is the interest rate charged on the loans, so the more “risky” the candidate,\footnote{A “risky” candidate would be one with subpar test scores, poor grades and work ethic, and other quantifiable qualities, which the market can measure.} the higher the interest rate should be. This revision would reintroduce the market discipline in lending that the federal government’s student loan policies have destroyed.\footnote{See supra Part III.A.2. Furthermore, the market for funding to attend college is likely also exhibiting a form of adverse selection, where the average student is assumed to be a “low-quality” investment, meaning that the higher quality students have to pay higher interests rates (the same as the low-quality students) to the federal government for college. See Part III.B. By privatizing the market, it is very possible that for the highest-tier of prospective students would pay \textit{less} in interest on their loans.} A student could then make the rational decision of what is best for her based on her individual interest rate, allowing her to assess the costs and benefits of each of her options, including private universities, state universities, two-year universities, trade schools, learning programs, or directly entering the labor force. As discussed, the federal government’s loan program has completely removed the market’s important role in evaluating risk and providing this information to students by subsidizing the market and offering standardized loans to all students equally, rather than based on merit.\footnote{See supra Part III.A.}

With access to privately funded loans—and equipped with the knowledge of interest rates, loans, compounding interest, opportunity cost, and the time-value of money\footnote{See supra Part IV.A.}—a student would have the neces-
sary tools and correct incentives to make a rational decision. Moreover, even if one student’s interest rate is higher than another student’s, she may still choose to pay the higher price for the funds, depending on the value that the student with the higher interest rate places on obtaining a college degree. Overall, this outcome is more desirable, because the demand for higher education will likely decrease due to the government not subsidizing the market, thus lowering the price of college for everyone.171 Then, the signaling capacity of education could function properly, creating a job market that operates more efficiently, paying workers a wage that truly represents the employee’s worth.172 Finally, a student who defaults on her loans could discharge her debt through bankruptcy more easily, affording her more discretionary income and allowing her to spend money in the economy.173

Many people will argue that this system would unduly burden the less fortunate or make college more expensive for some than for others. These arguments, however, are unpersuasive and unfounded for three reasons. First, this Note only endorses “reducing” and “restricting” the government’s role in student loans, rather than “abolishing” it altogether.174 The original purpose of the federal student loan program was legitimate and commendable. It allowed students who otherwise could not afford to pay for college the opportunity to pursue an education, regardless of their economic circumstances. As such, the federal loan program should remain, but it should be limited to offering loans to two specified classes of people: first-generation college students and those below the poverty line.175 This plan would also still comport with the idea of the American Dream as championed in Part IV.B, as it is clear, even with private loans available, that some members of society, such as first generation college

171 See supra Part III.A.2 and Appendix C.
172 See supra Part III.B.2.
173 See supra notes 103–06 and accompanying text. When the government acts as creditor, any discharge is a direct loss to taxpayers, so the legislature constructs additional obstacles to discharge.
174 Congressman Ron Paul recently suggested a similar remedy. See Paul Wants to Phase Out Federal Student Loans, Associated Press (Oct. 23, 2011), www.news.yahoo.com/paul-wants-phase-federal-student-loans-152415774.html. However, the plan proposed in this Note is different from Congressman Paul’s, because it does not entirely abolish the federal student loan program.
175 By allowing the federal government to continue providing loans to these two classes of people, the government fills in the gaps that the private market might not otherwise accommodate. In this way, everyone has an equal opportunity to obtain an education and to compete in the American job market without over-subsidizing and affecting all students unnecessarily.
students, do not have the means of signaling to the banks that they are worthy credit risks for college. \textsuperscript{176} If the American Dream is “access” to education, this plan still affords such access, without unduly burdening other students.

Second, grants and scholarships would still be available through private institutions and organizations. In fact, it is possible that with less liquidity in the market, private parties would intervene and provide more scholarships to fill the gap left by the government’s absence. \textsuperscript{177} As an example of such private-sector charity, consider the events surrounding a drought in Texas during Grover Cleveland’s presidency. \textsuperscript{178} During this crisis, Congress sought to appropriate $25,000 that would allow the federal government to purchase and distribute seeds to affected Texas farmers. \textsuperscript{179} President Cleveland, however, vetoed the bill, suggesting, “[t]he friendliness and charity of our countrymen can always be relied upon to relieve their fellow citizens in misfortune.” \textsuperscript{180} Anecdotally, the private sector donated ten times the amount Congress sought to appropriate to the farmers’ relief. \textsuperscript{181} Therefore, private donations have proven a viable substitute for governmental intervention in the past. In this context, the scholarships could be designed to favor those students with financial need or exceptional merit as the private sector desires. This outcome would be preferable to the government supplying the funding, because here,

\textsuperscript{176} Obviously, there are some people in such tough economic situations that even if they are a “good investment,” the market might shy away from them. One problem is that banks often generalize in evaluating risks, by factors such as race or familial history, which could lead to misinformation about the credit risk of particular individuals. In this situation, the government should be allowed to fill the role of “lender of last resort,” giving the less-fortunate opportunities they otherwise would not have.

\textsuperscript{177} See generally Georgette Baghdady & Joanne M. Maddock, Marching to a Different Mission, STAN. SOC. INNOVATION REV. 61 (2008) (describing the creation of the March of Dimes and its funding through private sources). Like the March of Dimes, private individuals and organizations, rather than the government, can and will donate money and fund programs for causes in which they believe. Another example of this was during Hurricane Katrina, when Walmart often responded more quickly and efficiently that Federal Emergency Management Agency (FEMA) to help victims of the disaster. Erin Hayes, What Can Wal-Mart Teach FEMA About Disaster Response?, ABC News (Sept. 29, 2005), http://abcnews.go.com/WNT/HurricaneRita/story?id=1171087&page=1#.TryGfKwVic.


\textsuperscript{179} Id.


\textsuperscript{181} Id.
the market would again be playing the role of decision-maker in selecting to whom the money should be allocated.  

Finally, the fact that funding might be more expensive for some students than others is not a “problem” that we should try to avoid. Differing interest rates are a fact in every other credit market, whether it is the market for a car or a home, and education should be no different. In fact, this plan will likely make it cheaper for some students to go to college, because these students would no longer have to pay a higher interest rate to subsidize other students. Furthermore, the fact that nearly everyone could secure funding to own a house prior to the mortgage crisis was an ideal that was unsustainable, and it ended up crippling the economy. It is not deleterious to say with confidence that some potential homeowners should not have been extended loans, and the market for educational loans should be no different.

Furthermore, even if a certain private lender misvalues the risk of lending to a student for her education, this misvaluation is not committed in a vacuum. The beauty of a market system is that there is always another lender available from whom the student may seek a loan, and, as in any credit market, society can trust that a majority of the market participants would be motivated enough by profit to take certain risks when investing in borderline students’ educations. Thus, even if one lender charges the student too much, other market participants would be willing to make the loan at the correct evaluation.

---

182 This proposal might make some people nervous, due to concerns of racism, classism, and sexism; however, without a distorted market and with the government filling in the gaps in the private sector, these concerns are de minimis. Furthermore, although the outcome might not be perfect, it is a better alternative than the current system.

183 As an additional benefit, this plan would provide an incentive for high school students to work harder in high school to make themselves more attractive debtors to banks.

184 See supra Part III.A.1.

185 Some critics may argue that it is unreasonable to assume that private lenders can adequately assess such risk, especially in the wake of the current crisis in the mortgage industry. It is important to remember, however, that many of the factors leading to the collapse of the housing market and misvaluation the mortgage assets was due to market distortions from governmental interference. Without such interference, there is no reason to assume that a private lender would not be able adequately to evaluate such risk. See supra Part III.A.1.
CONCLUSION

For many, higher education is intrinsically good in-and-of itself, and a goal for which all should strive.186 Higher education is a wonderful and enormously beneficial investment, and society and government, through our laws, policies, and social norms, should not deter students from pursuing a college degree. This Note takes the position, however, that each student should be able to make this choice for herself, under her own beliefs, preferences, and desires, without societal expectations and governmental subsidies unduly influencing her decision. While the legislators are fueled by noble intentions, a famous phrase comes to mind: “The curious task of economics is to demonstrate to men how little they really know about what they imagine they can design.”187 Instead of assuming that we can control the market for education without adverse effects and unintended consequences, we should strive to facilitate its proper functioning by realigning incentives and facilitating, rather than distorting, the flow of information to students and their families. Doing so will have three effects. First, the cost of an education will decrease, allowing those students who truly want to obtain a college education to afford it more easily. Second, a more efficient market will lighten the debt burden on many Americans, allowing them to spend money elsewhere in the economy rather than live under conditions of austerity. Finally, society’s overall productivity will increase, because the market will allow a worker to choose the occupations where she is the happiest and most productive.

186 However, other scholars, most notably Milton Friedman, disagree and propose that private contracts should govern the human capital markets. For a more detailed discussion of Friedman’s position, see Milton Friedman, The Role of Government in Education, in Economics and the Public Interest (Robert A. Solo ed. 1955), available at http://www.schoolchoices.org/too/fried1.htm. See also Miguel Palacios Lleras, Investing in Human Capital: A Capital Markets Approach to Student Funding (2007).

Appendix A

Postsecondary Enrollment Rates of Recent High School Graduates by Family Income, 1984–2008

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest</td>
<td>38%</td>
<td>41%</td>
<td>55%</td>
</tr>
<tr>
<td>2nd</td>
<td>36%</td>
<td>51%</td>
<td>51%</td>
</tr>
<tr>
<td>3rd</td>
<td>48%</td>
<td>63%</td>
<td>61%</td>
</tr>
<tr>
<td>4th</td>
<td>61%</td>
<td>70%</td>
<td>69%</td>
</tr>
<tr>
<td>Highest</td>
<td>73%</td>
<td>79%</td>
<td>80%</td>
</tr>
</tbody>
</table>

Appendix B

Supply

New Demand

Price

Demand

Quantity

P2

P1

Q1

Q2


Appendix C

Value of specific subsidy

190 http://www.tcd.ie/Economics/staff/amtthews/FoodCourse/LectureTopics/PricePolicy/Lecture13.htm.