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# Financial Literacy Education in the United States: Analyzing How the Jump\$tart Assessment Measures Knowledge that Creates Wealth

James Andrews

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**Financial Literacy Education in the United States: Analyzing How the  
Jump\$tart Assessment Measures Knowledge that Creates Wealth**

**BY**

**JAMES ANDREWS**

B.A., Economics, University of Missouri - Columbia, 1986  
Master of Business Administration, Saint Louis University, 1987

DISSERTATION

Submitted in Partial Fulfillment of the  
Requirements for the Degree of  
**Doctor of Education**  
**Educational Leadership**

The University of New Mexico  
Albuquerque, New Mexico

**July, 2011**

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**ABSTRACT**

Student achievement on the Jump\$start (or JumpStart) financial literacy assessment forms the basis for the President's Advisory Council's declaration that America's high school graduates are not financially literate and as a result, America's financial markets and standard of living are at risk. Their recommendations to address this problem include compulsory financial literacy education for all Americans. The espoused normative economic policy goal of compulsory financial literacy education is increased wealth for all Americans. The purpose of this study is to determine the extent to which the Jump\$start assessment measures knowledge that leads to increased national wealth.

I researched the evolution of our economic paradigm over time to determine how wealth is created. From my study of the Socratic dialogue *Oeconomicus*, the work of philosophers from the Age of Enlightenment including Adam Smith and Jean Jacque Rousseau, Alfred Marshall, and contemporary philosopher Thomas S. Kuhn, I sought to discover how humankind is thought to increase wealth, health, societal welfare and social justice for all people. From that research it became evident that the only method of increasing national wealth is through improving a

society's breadth and scope of knowledge of man's environment and of man himself. My analysis of the Jump\$start assessment reveals that the authors of the test did not draw on the collective knowledge of economists and philosophers in preparing the exam. Instead, they assess the extent to which students memorized a few economic rules-of-thumb and the names and attributes of products offered by the financial services firms who are the benefactors of the Jump\$start organization.

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## **Chapter 1: Introduction**

### *Background of the Study*

#### *The Economic Paradigm*

Culture is an integrated pattern of human knowledge, belief, and behavior that depends upon one's capacity for symbolic thought and social learning. It is the set of shared attitudes, values, goals, and practices that characterizes an institution, organization or group. Louis Althusser described culture in civil society as "nothing but the 'truth of' its phenomenon, the State, nothing but a Ruse which Economic Reason would then put at the service of a class: the ruling class"(Althusser, 1962) One of the core foundational "truths" of American culture is communicated through the language of money. The U.S. dollar is a common link between all people, rich or poor, black or white, old or young, educated or illiterate. Many different languages are spoken and religions practiced, yet America has only one accepted currency and all activities related to the U.S. dollar, earning it, spending it, borrowing it or saving it, follow a common set of rules that represent a common culture or "truth." While America is a country with a diverse citizenry who identify with countless ethnicities, its inhabitants all share a common economic culture. However, while commerce is the root of this culture, America's economic paradigm encompasses far more than money. It is portrayed as the embodiment of morality, patriotism, intelligence, responsibility, righteousness and goodness. It is conveyed in mythological stories of the "free market" that all people have an equal opportunity in every cultural transaction, the "American Dream" that all are born equal and anyone can improve his economic situation and the "American Meritocracy", where the brightest and hardest working prevail.

These myths are reinforced by nearly every institution in society and in addition, America's economic culture is enforced by the state as a matter of law and by the threat of force, and even though the vast majority of the citizens in this country are losing economic ground in this paradigm, it is rarely if ever openly challenged. What is interesting is that in this democracy where all citizens get a vote, this "truth" serves so few. In 2009, the top 20% of American households received over 50% of all income while the households in the lowest quintile earned only 3.4% (DeNavas-Walt, Proctor, & Smith, 2010).

*The truth is more important than the facts*

Frank Lloyd Wright (1868-1959)

Althusser (1971) cites Marx from the *Communist Manifesto* to describe the forces that create a cultural paradigm "truth" that is dogmatically embraced by all people, even in the face of overwhelming evidence that the system places them in a subservient position.

1. All the State Apparatuses function both by repression and by ideology, with the difference that the (Repressive) State Apparatus functions massively and predominantly by repression, whereas the Ideological State Apparatuses function massively and predominantly by ideology.
2. Whereas the (Repressive) State Apparatus constitutes an organized whole whose different parts are centralized beneath a commanding unity, that of the politics of class struggle applied by the political representatives of the ruling classes in possession of State power, the Ideological State Apparatuses are multiple, distinct, 'relatively autonomous' and capable of providing an objective field to contradictions which express, in forms which may be limited or extreme,

the effects of the clashes between the capitalist class struggle and the proletarian class struggle, as well as their subordinate forms.

3. Whereas the unity of the (Repressive) State Apparatus is secured by its unified and centralized organization under the leadership of the representatives of the classes in power executing the politics of the class struggle of the classes in power, the unity of the different Ideological State Apparatuses is secured, usually in contradictory forms, by the ruling ideology, the ideology of the ruling class.

Marx and Althusser are cited here, not to embrace or reject their judgment of an economic paradigm, but instead to understand how a social framework perpetuates itself. Economic paradigms are created by man and therefore, must be built and enforced by social institutions. Furthermore, investigating the role that education plays in the economic paradigm will inform my research question which seeks to discover what is being taught as “financial literacy.”

While the state apparatus, with laws, courts and police enforce the paradigm, it is not enough to create society-wide dogmatic adherence to the “truth.” Althusser (1971) identifies several important non-governmental apparatuses in society that reinforce the cultural paradigm:

Indeed we have listed a relatively large number of Ideological State Apparatuses in contemporary capitalist social formations: the educational apparatus, the religious apparatus, the family apparatus, the political apparatus, the trade-union apparatus, the communications apparatus, the ‘cultural’ apparatus, etc.

Althusser describes a self-perpetuating system that creates a never-ending supply of new workers who gladly pledge their lives to a “truth” that relegates them to a life of servitude. This view of the state as a mechanism to subjugate man is juxtaposed against the altruistic view of government as the way to empower all men. The state has the ability to be either of these.

*Government Policy: Picking Winners and Losers*

Economics is the social science that studies how people allocate scarce resources. One of the primary roles of government is to create social structures that allocate and protect private wealth, for example, laws establishing private ownership of resources that can be passed down to one's descendants in perpetuity. These social structures are established and enforced through the use of violent force and invisible cultural values. It is through government policy that resources are allocated and human activity is directed; for example, who gets training to become a physician and who is handed a shovel and instructed to dig ditches. Therefore, where a child is born and who his parents are play a far greater role than his natural abilities in determining his chances for economic success. The vast majority of the world's riches, minerals and land, are not manmade; governments pick economic winners and losers by allocating these assets. There is no doubt that mankind possesses the capacity, knowledge and resources to feed and provide fresh water to all of the world's people, not through charity, but by promoting activities that grow wealth for people who have none. Unfortunately, achieving economic self-sufficiency for all of the world's people is not a goal of the current economic paradigm.

*American Mythology: The Free Market*

The myth of the American free-market economy guided by an "invisible hand" is a fundamental principle in our society, yet few people understand how this theory became a core cultural value. In 1776, Adam Smith described how the Industrial Revolution was created by individual men pursuing their own best interests. At the time, this was a revolutionary (or maybe even treasonous or blasphemous) idea that challenged the fundamental principle that the economic activity of common men should be directed by Kings and gentlemen in an orderly manner. Yet instead of anarchy and chaos, individual economic freedom led to a substantial

increase in national wealth and a higher standard of living for all, including Kings and gentlemen. Smith observed that an individual man created more wealth when he decided how to spend his time as opposed to following the orders of someone else.

But the annual revenue of every society is always precisely equal to the exchangeable value of the whole annual produce of its industry, or rather is precisely the same thing with that exchangeable value. As every individual, therefore, endeavours as much as he can both to employ his capital in the support of domestic industry, and so to direct that industry that its produce may be of the greatest value; every individual necessarily labours to render the annual revenue of the society as great as he can. He generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it. By preferring the support of domestic to that of foreign industry, he intends only his own security; and by directing that industry in such a manner as its produce may be of the greatest value, he intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention. Nor is it always the worse for the society that it was no part of it. By pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it. I have never known much good done by those who affected to trade for the public good. It is an affectation, indeed, not very common among merchants, and very few words need be employed in dissuading them from it (Smith, 1776, Book IV, Chapter 2, Paragraph IX).

However, Smith cautioned that an “invisible hand” that magically created more wealth would only work if certain conditions were met, one of which was that each individual man must be able to make rational decisions in his best interest. Therefore, both parties in every economic transaction need knowledge of all of the available information (symmetry of information). If one of the parties knows less than his counter-party, he will be at a disadvantage and will not be able to act rationally in his own best interest. As a result, the transaction will not create more wealth in society, but rather it is a zero sum gain, one person prospers at the expense of another.

America has established laws that require disclosure of certain terms of a financial transaction, including the Annual Percentage Rate of interest (“APR”) and penalties and fees that may be assessed. However, this limited disclosure requirement does not guarantee that both parties have the same level of knowledge relevant to the transaction.

Borrowers and lenders have competing desires. Borrowers seek to acquire money for the lowest possible rent (interest) while lenders seek the highest possible combination of security and interest. If the market rate of interest on a potential loan is too high, borrowers will make a decision to forego the current consumption. While an individual may plan for the best when he takes out a loan (assuming he will not make any late payments or default), he is most likely basing his decision on incomplete data, his own personal experience clouded by his best intentions. The lender on the other hand has information collected from issuing many loans and can better estimate what the borrower’s actual costs will be. In any case, the terms and conditions that are required by the Consumer Credit Protection Act (1968) represent a minute fraction of the relevant information in a complex financial transaction such as a home purchase with a mortgage or financing higher education with a student loan. Lenders employ lawyers, accountants and economists who have access to a far greater pool of information, including

employment rate and housing price projections, that an individual borrower does not have access to, let alone an ability to constructively use even if he did have access. Furthermore, the lender's professional staffs are experts who have the benefit of highly specialized knowledge enabling them to gain an advantage over those who do not have the benefit of their expertise.

To achieve a theoretical free market as described by Adam Smith that enables man to create the greatest amount of wealth, all of the following conditions must exist:

1. Symmetry of information
2. No participant has the power to set prices, all are price takers
3. No barriers to entry or exit
4. Equal access to production technology (Hindricks & Myles, 2006).

Government can enact policies to facilitate a free market or it can implement policies that restrict the free market. For example, patent protection and copyright laws restrict access to production technology, inhibiting the free market, but the U.S. government enacted these laws to create a financial incentive for people to invent new technologies. An example of laws promoting a free market would be statutes that restrict monopolistic behaviors that enable firms to set artificially high prices. As long as Europeans have lived in North America, trade here has been actively regulated and influenced by government policy, but to what end? Is government policy designed to increase national wealth, promote social justice and equality and advance democracy or is it established to create economic advantages for a small group of citizens? Furthermore, is it possible to achieve democratic social goals by favoring and enriching a few? While a *laissez-faire*, free market economic system that treats all equally may be an ideological goal, it is not realistic to expect government to remain neutral in private commercial transactions and there is no evidence that a lawless society would facilitate a free market, in fact the opposite is true. Yet



it must be understood that any law that is enacted and enforced by the state will choose economic winners and losers. A financial transaction statute that defines fraudulent behavior or limits interest and fees levied in financial transactions will restrict lending activity; some citizens who could have borrowed money (absent anti-fraud laws) will now be denied access to money. However, governments enact these laws to protect citizens and greater society from lopsided transactions that do not meet an arbitrary public policy definition of “fair.”

*The American State Apparatus: Defining Symmetry of Information in Financial Transactions*

Predatory lending describes a financial transaction where one party exploits the other. The practice is perceived to be unfair to those preyed upon and harmful to society. It involves taking the wealth of many, often the most vulnerable in society, for the benefit of a few. However, it does not have a legal definition because it is not against the law; in fact, it is supported and enforced with the full power of the state apparatus. Charging interest in excess of the legally limited rate, as defined by each state, is called usury. Yet many state governments (including New Mexico) have chosen not to interfere with the “free market” by establishing limits on interest and fees. Instead, federal consumer financial protection laws seek to protect the consumer and greater society from “unfair” transactions by requiring disclosure of a few relevant financial terms. Therefore, whatever contractual terms that borrowers and lenders agree to are legal as long as they do not violate state laws that are heavily influenced by the powerful financial services lobby that opposes any limits on interest and fees. A borrower who enters into a “bad deal,” where he has to pay 3,000% interest or perhaps lose valuable assets that were pledged as collateral, may feel that he was victimized by a predatory lender. Yet, even if the financial transaction destroys his ability to ever create personal wealth and his only remedy is bankruptcy, complaints of being treated unfairly will be ignored by the state apparatus and most

likely, even by his family and friends. A bankruptcy is considered to be a personal failure resulting from stupid, reckless or greedy behavior as opposed to a problem with the financial system (Taibbi, 2010a).

### *The Collapse of the Financial System*

On a Friday afternoon in September 2008, the world financial markets collapsed. Over that weekend, the U.S. government decided to inject trillions of dollars into the system in order to reopen the banks on the following Monday. On top of direct cash infusions from the U.S. Treasury to private, for-profit financial service companies through the Troubled Asset Relief Program (“TARP”), nationalization of the Federal Home Loan Mortgage Corporation (“Freddie Mac”) and the Federal National Mortgage Association (“Fannie Mae”) , and security purchases by the Federal Reserve Open Market Committee (“FOMC”), the government assumed legal responsibility as counterparty on trillions of dollars of financial bets that were unsupported by sufficient capital. With the signature of President Bush, trillions of dollars of financial contracts that were valueless promises of failed, for-profit financial firms became obligations of the U.S. Treasury. Some have suggested that poor individual financial literacy skills amongst American citizens led to the collapse of financial markets. Understanding how the system that was revered with dogmatic faith failed so completely and spectacularly will inform my research question which seeks to discover what is being taught under the banner of financial literacy.

America at the start of the 21<sup>st</sup> century embraced a culture of conspicuous consumption financed by debt and a casino mentality that rewarded financial transactions, regardless of their economic merit. The repeal of depression-era bank regulations known as Glass-Steagall created a culture of lending without responsibility. Lenders profited by originating a loan, regardless of whether or not the borrower paid the money back. After all, the lender never put its own money

at risk; it was someone else's property, perhaps the assets of a government employee pension fund and after the loan was made, the banker had no remaining financial interest in the loan (Bernanke, 2010; Cassidy, 2010). American citizens were flooded with messages from all parts of society to get aboard the ownership society while they were able, prices were only going up and if they waited they could miss their opportunity at the American dream. Buy a house... or houses, any fool can make money in real estate. Just like the "stupid people" who tried to settle the Great American Desert resulting in the Dust Bowl (Egan, 2006), a generation of Americans destroyed their personal wealth by borrowing heavily to purchase homes and college educations at highly inflated prices. After the repeal of depression era banking regulations, America's financial institutions became highly leveraged organizations seeking ever higher investment returns while seemingly disregarding risk (Bernanke, 2010; *The G20 Seoul Summit Leaders' Declaration November 11-12, 2010*, 2010; "The Long Demise of Glass-Steagall," May 8, 2003). After all, bankers deluded themselves into believing that the risk was non-existent because American real-estate only increases in value. Individual loans that met certain standards (i.e. not subprime mortgages) were purchased by Government Sponsored Enterprises ("GSE's") Fannie Mae and Freddie Mac, guaranteed by the government, then turned over to the financial services industry to be marketed to private investors (including state and local government employee pension funds). In order to make the mortgage pools more lucrative, the financial services industry created side bets known as derivatives on the GSE backed mortgage pools. Some of these derivatives offered returns of several hundred percent, and best of all, the risk could be insured with an unregulated instrument called a Credit Default Swap. A single \$100,000 home mortgage could be used to generate millions of dollars in financial products (Cassidy, 2010).

At the core of this scheme, an individual American was signing a note to purchase a house at an artificially inflated price. When the market crashed, the U.S. government covered the losses of the for-profit financial service firms who created the failed system but individual mortgage holders learned that the ownership society meant they were on their own. In addition, trillions of dollars in private savings, including public pension funds that were invested in the system were gone, funneled into the pockets of bankers and as a result, a generation of Americans will have virtually no retirement savings to supplement Social Security. At the same time, the resulting increase in government debt is threatening to significantly curtail future Social Security and healthcare benefits as well as pensions for government employees (*Navigating the Fiscal Challenges Ahead*, 2010; *The G20 Seoul Summit Leaders' Declaration November 11-12, 2010*, 2010).

#### *American Economic Public Policy*

Two financial markets that are particularly important to all American citizens and are at the heart of the “American dream” are the home mortgage and student loan markets, both of which are heavily influenced by U.S. government policy. Three GSE’s, Fannie Mae, Freddie Mac and SLM Corporation (“Sallie Mae”) create liquidity in these markets by purchasing individual loans, pooling them together and adding a government guarantee before selling them to investors. The GSE’s were directed to operate as private, for-profit corporations in order to complement the “free market.” They failed. In late 2008, Fannie Mae and Freddie Mac were bankrupt and had to be nationalized, their debts assumed by the U.S. Government. In the period since nationalization, the U.S. Congress has spent roughly \$140 billion to keep the two enterprises solvent and it could have been worse if favorable policies had not been implemented. U.S. Federal Income Tax incentives of up to \$8,000 for first time home buyers temporarily

helped inflate U.S. housing prices, reducing the losses on mortgage defaults that would have occurred in their absence. During the first three months of 2010, the U.S. Government backed 97% of all American home mortgages that were originated and certainly has better information about projected real estate prices and employment rates than these individual home buyers ("Freddie Mac Asks For \$10.6 Billion In Aid After 1Q Loss," May 5, 2010). If home prices fall after the tax incentives expire and unemployment rates increase, many recent home buyers will find themselves responsible for a mortgage that they cannot afford to pay, facing economic ruin.

Through Sallie Mae, the U.S. government made money available to students wishing to borrow money to further their college education. Sallie Mae used a financing mechanism similar to the home mortgage GSE's to create liquidity in student loan markets. In 2010, Congress passed a law allowing the U.S. government to bypass Sallie Mae and lend directly to students effectively ending the "free market," for-profit role of the corporation. Higher education is portrayed as the key to achieving the American dream and a student loan is a way for a person to invest in his future. Unfortunately, many borrowers find that they are unable to service their student loan debt once they have finished their higher education experience because no consideration was given to the economic value of the degree being pursued when loans were taken. If a person signed a \$10,000 note to purchase a \$5,000 car, the law may consider that he was defrauded. However, in higher education this is not the case. While the financial terms and conditions of student loans are clearly disclosed as a matter of law, the U.S. government (that underwrites the student loan market) has much more comprehensive information including the value of a particular academic degree as well as the likelihood that a particular student will be successful in completing his chosen educational program. Furthermore, the choice of whether or not to attend college is illusory. A person with a college degree earns roughly twice as much

over his career as compared to a person without a degree (Day & Newburger, 2002; Kominski & Julian, 2010) and a poor student cannot get a college degree without a student loan.

Therefore, a young person in America without the financial resources to pay for college does not have a real choice to refuse a student loan unless he chooses a life of poverty. After a student signs for his loan, he may learn that his loans will be nearly impossible to pay back if he drops out or flunks out of school, a significant risk for some students. Even if he completes his program of studies and receives a job in his chosen field, he may discover that he is not earning enough to pay off his loans (Kutz, 2010). Student loan debt is especially cumbersome because it cannot be dispelled through bankruptcy and could create a barrier to getting a government job in the future. This system could not exist without the tacit approval of government at all levels. Lobbyists representing institutions of higher education, both public and private have successfully created a system where schools have no responsibility for the goods they sell after the student has enrolled. Tuition money comes from a loan taken by a student who is following the rules of society, guaranteed by the government and financed by private investors. At the end of the day, the school receives its money and the student is obligated to repay a possibly insurmountable debt, perhaps for the rest of his life. In both the housing and student loan markets, borrowers and lenders are not making free market decisions; instead they are acting at the behest of government policies. Without these policies, many of these transactions, including those that are predatory in nature, would not take place. Since these two financial markets figure prominently in the lives of most Americans, it will be important to discover how they are presented in financial literacy education.

*Public Policy: Financial Literacy*

The government promotes the idea that financial literacy education is the key to ensuring that all citizens will have complete information in all financial transactions, empowering them to make rational decisions in their own best interest, which in turn will help prevent another financial market collapse. President Obama made the following comments in his Proclamation of Financial Literacy Month:

In recent years, our Nation's financial system has grown increasingly complex.

This has left too many Americans behind, unable to build a secure financial future for themselves and their families. For many, financial literacy can mean economic prosperity and protection against fraud and predatory banking practices. During National Financial Literacy Month, we recommit to teaching ourselves and our children about the basics of financial education....

Our recent economic crisis was the result of both irresponsible actions on Wall Street, and everyday choices on Main Street (Obama, April 2, 2010).

President Obama is making the startling assertion that increasing the financial literacy of Americans will increase individual wealth. In addition, he affirms the ideological narrative that destructive financial behavior results from some combination of poor individual decision making, lack of critical thinking skills, lazy personal habits and financial illiteracy, a narrative that is pervasive in society (Beverly & Burkhalter, 2005; Billitteri, 2009; Koenig, 2007; Mandell & Klein, 2009; Schuchardt et al., 2007; Varcoe, Martin, Devitto, & Go, 2005).

In the spring of 2008, the Chairman of the Federal Reserve Bank, Ben Bernanke (as cited by Billitteri, 2009) stated:

“In light of the problems that have arisen in the subprime mortgage market," he said at a briefing on the Jump\$tart Coalition's biennial survey of high-school

seniors, "we are reminded of how critically important it is for individuals to become financially literate at an early age so that they are better prepared to make decisions and navigate an increasingly complex financial marketplace." (p. 721)

Clearly policy makers are partially blaming the collapse of the world financial system on American citizens who made poor financial decisions. If this assumption is true, then better financial education and training could help citizens and thus the country avoid the consequences of bad personal financial decisions. Of course, if this assumption is not accurate, then teaching young Americans a financial literacy curriculum would have no effect on world financial markets. Furthermore, if a higher level of financial literacy will result in greater wealth for America, then it would seem to be a wise investment of public resources. But who needs a better financial literacy education and what could we teach these people to protect the world's financial markets while at the same time increasing America's wealth?

Instead of identifying all of the necessary financial skills needed to guarantee economic prosperity and discovering a method of teaching these skills to 300 million Americans, another approach should be considered. It may be easier and more effective for the U.S. government to meet its policy goal of promoting free markets by enacting laws that promote free market assumptions. Likewise, it could protect its vulnerable citizens from being taken advantage of in complex financial transactions by enacting more stringent restrictions on fraud and usury. One government policy maker disclosed why the U.S. government did not elect to take this approach. Schmitt (2009) chronicled the observations of a government attorney named Brooksley E. Born:

**SHORTLY AFTER** she was named to head the Commodity Futures Trading Commission in 1996, Brooksley E. Born was invited to lunch by Federal Reserve chairman Alan Greenspan.



The influential Greenspan was an ardent proponent of unfettered markets. Born was a powerful Washington lawyer with a track record for activist causes. Over lunch, in his private dining room at the stately headquarters of the Fed in Washington, Greenspan probed their differences.

“Well, Brooksley, I guess you and I will never agree about fraud,” Born, in a recent interview, remembers Greenspan saying.

“What is there not to agree on?” Born says she replied.

“Well, you probably will always believe there should be laws against fraud, and I don’t think there is any need for a law against fraud,” she recalls. Greenspan, Born says, believed the market would take care of itself.

For the incoming regulator, the meeting was a wake-up call. “That underscored to me how absolutist Alan was in his opposition to any regulation,” she said in the interview.

Over the next three years, Born, ’61, JD ’64, would learn first-hand the potency of those absolutist views, confronting Greenspan and other powerful figures in the capital over how to regulate Wall Street (Schmitt, 2009).

Greenspan was not an indifferent observer. As Chairman of the Federal Reserve Board, he was the chief architect of America’s monetary policy and the U.S. Government official entrusted with the responsibility of protecting America’s financial consumers. Unfortunately, Greenspan championed a laissez-faire ideology that fraud, also known as “ripping people off,” should not be against the law because he believed that the “free market” would magically correct any inequity. Researching the content of financial literacy education will enable me to understand if it can be a substitute for consumer protection legislation in promoting symmetry of information.

*The Education Apparatus: Supporting the “Truth”*

Althusser (1971) described the role of the education apparatus in reinforcing the “truth” in society as:

... one Ideological State Apparatus certainly has the dominant role, although hardly anyone lends an ear to its music: it is so silent! This is the School. It takes children from every class at infant-school age, and then for years, the years in which the child is most ‘vulnerable’, squeezed between the Family State Apparatus and the Educational State Apparatus, it drums into them, whether it uses new or old methods, a certain amount of ‘know-how’ wrapped in the ruling ideology (French, arithmetic, natural history, the sciences, literature) or simply the ruling ideology in its pure state (ethics, civic instruction, philosophy). Somewhere around the age of sixteen, a huge mass of children are ejected ‘into production’: these are the workers or small peasants. Another portion of scholastically adapted youth carries on: and, for better or worse, it goes somewhat further, until it falls by the wayside and fills the posts of small and middle technicians, white-collar workers, small and middle executives, petty bourgeois of all kinds. A last portion reaches the summit, either to fall into intellectual semi-employment, or to provide, as well as the ‘intellectuals of the collective labourer’, the agents of exploitation (capitalists, managers), the agents of repression (soldiers, policemen, politicians, administrators, etc.) and the professional ideologists (priests of all sorts, most of whom are convinced ‘laymen’).

The U.S. education system is purported by many to be an institution that equalizes opportunities for all citizens, regardless of existing class structures. However, if the system is teaching

dogmatic adherence to myths of the American Dream, the American Meritocracy and the “free market,” then it will not achieve its lofty goals of empowering all men because dogma and mythology do not promote symmetry of information. Instead it will merely create an illusion of equal opportunity for all while placing many at an economic disadvantage.

Public education is a major component of public spending in the United States, making up 15 percent of all government (federal, state, and local) expenditures (Hindricks & Myles, 2006). This makes education the third highest category of spending after Social Security (21 percent) and healthcare (Medicare and Medicaid, 17 percent), narrowly exceeding national defense (14 percent) (Hindricks & Myles, 2006). In New Mexico, public education consumes nearly half of the state’s general revenues as well as the majority of regressive local property and sales taxes. While the level of public spending is significant, it does not accurately reflect the level of importance of education in American society. All children enter the education system when they are 5 years old and those who are most successful will spend twenty years or more as a consumer of education services, in most cases, highly subsidized by public funds. For Americans not inheriting great wealth, personal economic success is dependent upon successfully navigating through the education system and earning at a minimum, a college degree. U.S. Census data that correlates education levels with lifetime earnings clearly demonstrates that those who achieve at a high level, receiving an advanced degree, are economically successful while people without education beyond high school are virtually assured a life of poverty (Bureau, 2002).

Who is educated and what they are taught is the subject of great policy debate. Rather than being an institution that creates equal opportunity for all of its citizens where the best and brightest are rewarded based on their individual merit and achievement, the U.S. education

system instead acts to reinforce existing social class distinctions. The evidence suggests that America's education system does not provide an equal opportunity for academic achievement for all of its citizens (Alon & Tienda, 2007; Aronson, 2008; Arum, 2007; Banerji, 2006; Bastedo, 2003; Bergersun, 2009; Cobb & Glass, 2009; Dowd & Melguizo, 2008; C. R. Ellis, 2007; J. B. Ellis, Lamoureux, Awender, Wessel, & Donohoo, 2008; Holme & Richards, 2009; Looney, 2006; Stambach & Becker, 2006). This should not come as a shock when one considers that public education does not have unlimited budgets to meet its mission, it must compete with other public services for funding. While knowledge is not a scarce resource, unfortunately, teaching resources are scarce and therefore must be allocated. As a result, American schools are hegemonic institutions that teach students the tools that they need to succeed in the economy by reinforcing the "truth" that serves those in power. Not surprisingly, the students who perform best in the system are the children of individuals who have succeeded in the economic system. Investigating the relationship between education and personal wealth creation will help me determine if financial literacy education will meet its stated purpose of increasing personal and in turn, national wealth.

What is taught to the citizenry has a direct impact on national wealth. As Adam Smith observed in 1776, the Industrial Revolution led to specialization and division of labor thus creating efficiency and more production, hence greater national wealth. Smith observed that a craftsman could produce ten sewing pins a day on his own, but nearly 5,000 (of higher quality and uniformity) working within a team of ten men. The knowledge economy of 2010 is far more complex than the 18<sup>th</sup> century economy, requiring even greater specialization. While man is vastly more productive than ever before, his specialization means that he is also more dependent upon his neighbors for his personal wealth. In order to increase individual personal wealth, all of

the members of a society must acquire knowledge that prepare them for the highly specialized jobs in the present economy as well as the critical thinking skills that allow them to envision and create technologies that will lead to even higher productivity and greater wealth for all. This study will seek to discover if financial literacy knowledge that is assessed with the Jump\$start test meets this standard and will enable students to produce greater personal and national wealth.

*The Jump\$start Coalition For Personal Financial Literacy: Taking Control of the Education Apparatus*

The Jump\$start Coalition is a Washington DC based public interest group advocating for financial literacy education (Beverly & Burkhalter, 2005; Billitteri, 2009; Koenig, 2007; Mandell & Klein, 2009). On its website, the organization describes itself as follows:

The Jump\$start Coalition® for Personal Financial Literacy is a 501-c-3 non-profit organization based in Washington, DC. It is a coalition—an organization of organizations that share an interest in advancing financial literacy among students in pre-kindergarten through college. Today, Jump\$start is a partnership of about 150 national organizations and entities from the corporate, non-profit, academic, government and other sectors. Many of these coalition partners are “household names.” Generally, these partner organizations conduct and/or support financial education or offer financial education tools and materials for youth and others (Literacy, 2010).

The Jump\$start Coalition is influential and in the last decade it has successfully lobbied nearly every state in the nation to adopt some kind of financial literacy curriculum requirement for its high-school students (Billitteri, 2009). Its thirty-one question financial literacy test is the most widely recognized measure of financial literacy and its curriculum is recognized as the de facto

national standard (Schwab, 2009). The most recent available test results cited from 2008 showed that high-school students on average answered 48.3% of the questions correctly, a decrease of 10% from 1997 (Beverly & Burkhalter, 2005; Billitteri, 2009; Varcoe, et al., 2005). The group presents its 2008 annual test results as clear and convincing evidence that financial literacy of high school and college students decreased during the same period that financial markets were being destroyed by poor personal decision making, suggesting proof of a cause and effect relationship. The solution proposed by the President’s Advisory Commission on Financial Literacy is to require every student in the country to be taught a curriculum that can be assessed with the Jump\$Start financial literacy test or its equivalent (Schwab, 2009).

Billitteri (2009) points out that Jump\$Start receives the bulk of its private funding from the financial services industry. However, the term “private funding” is dubious here since the financial services industry would not have any money if not for the largesse of the federal government, in the form of a multi-trillion dollar bailout. Key Jump\$Start donors include Merrill Lynch, a failed financial institution that the U.S. Federal Reserve Bank had to pay Bank of America \$100 billion to take over and Experian, the owners of Freecreditreport.com, a company that was forced to change its fraudulent business practices by the Federal Trade Commission. Lusardi as cited by Billitteri, (2009) stated:

The financial industry should not be devising curriculum for schools and what to teach. It’s critically important in the financial education arena that there is complete independence from the financial industry and the suppliers of financial products. (p. 734)

In addition to including marketing materials in school lessons, educators who use Jump\$Start curriculum risk presenting biased and flawed information as fact, creating an unfair advantage

for the financial services industry by teaching students to act against their own best interests.

Andrea Batista Schlesinger (as cited by Billitteri, 2009) opined that Jump\$tart's thirty-one question assessment tool promoted an anti-government and anti-tax, conservative ideology that reinforced myths that were not in the best interest of most students.

Billitteri (2009), Mandell & Klein (2009) and Schuchardt, et al., (2007) recognized that education, while highly valuable, has its limitations when compared to government policy which can be much more effective in affecting personal behavior. Schuchardt, et al., (2007) observed that well-informed public policies can encourage and foster household wealth. Lauren Willis, a professor at Loyola Law School in Los Angeles argued that improving individual financial outcomes required passing effective consumer protection laws, not teaching more financial literacy classes. "A society that believes that financial-literacy education will solve consumer financial problems has an all-too-convenient excuse not to engage in the difficult task of finding better consumer finance public policies" (Billitteri, 2009, p. 721). The markets that pose the greatest financial danger to Americans are home mortgages, student loans and credit cards. Billitteri (2009) points out that many people bought homes at artificially inflated prices which they could not afford, betting incorrectly that real-estate prices would only go up. Concurrent with this phenomenon, student debt incurred to finance higher education has expanded exponentially (Billitteri, 2009; Mandell & Klein, 2009). Through government-backed student loans and multiple credit cards, students borrow much more than the economic value of their degrees with the false hope that they will be able to pay off their debts with increased earning power. Clawson & Leiblum (2008) cite a 2003-2004 study by the National Center for Public Policy and Higher Education that states "over 65% of students borrow money to attend college, with graduates incurring an average of \$17,250 in debt" (p. 21). Those who do not graduate still

incur a large debt, and are ten times more likely to default on their loans (Clawson & Leiblum, 2008). A curriculum that seeks to teach students to make better financial decisions, even when it means resisting behavior that is promoted by the government, must concentrate on the three aforementioned financial markets. It is unknown if the Jump\$start curriculum teaches students how to properly appraise the value of a college degree program and dispassionately assess their chances of completing a given degree program, ensuring their ability to make a good financial bet and avoid excessive student loan debt. Furthermore, it is not known if the curriculum will enable students to project future real estate values and unemployment rates when they are trying to decide whether or not to buy a house at some point in their future. In any case, curriculum that teaches students to protect their assets (and resist liabilities) is seemingly less important than one that teaches students *how* to create wealth.

In studying the impact of financial literacy curriculum, Mandell and Klein (2009) provide the seminal work that informs a portion of my research question. As the primary researcher of the Jump\$start Coalition, Mandell has been administering the aforementioned Jump\$start test annually to discover the level of financial literacy of America's youth. In the past, Mandell has been criticized for producing his annual financial literacy survey on behalf of Jump\$start and the Merrill Lynch Foundation (Billitteri, 2009). In his study published in 2009, Mandell and Klein sought to discover the impact that the Jump\$start course had on the subsequent financial literacy behavior and attitudes of students as measured by the Jump\$start exam. The conclusions reached in his 2009 study are important to education policy makers.

The findings from this study cast some doubt on the ability of a high school course in personal financial management, as currently administered, to significantly improve financial decision-making later in life... Until more



evidence can be presented to demonstrate that high school courses in personal financial management positively influence subsequent financial behavior, further allocation of scarce educational resources toward mandatory classes of this type should be reconsidered (Mandell & Klein, 2009, p. 23).

Mandell and Klein discovered that financial literacy programs used in high schools, including JumpStart's curriculum, do not increase financial literacy test scores. However, Mandell and Klein missed a more important point. What exactly is the exam measuring? Does it measure knowledge that will help create more wealth in society? I will use qualitative analysis to evaluate the JumpStart financial literacy exam to determine what it is measuring and determine if this knowledge affects student behavior in a manner that increases wealth and if this knowledge could prevent another financial collapse.

#### *Statement of Problem Significance*

Education resources are being allocated and state laws are being enacted requiring financial literacy instruction, even going as far as to substitute financial literacy instruction for required math curriculum. However, it is not known if the societal problems of economic growth, wealth inequity and market collapse can be solved with financial literacy education. Furthermore, financial literacy education policy is being used as a substitute for government inaction on consumer protection legislation that could deal with these problems. Does financial literacy education create more wealth for the students who are mandated to take it, or does it only reinforce the policies that create economic disadvantage for the masses? The issue is timely, as shrinking state and local tax revenues are decreasing the resources available for the education system, the very system that is a cornerstone of the American Dream and the American Meritocracy (*Navigating the Fiscal Challenges Ahead*, 2010). Furthermore, an exploration of

the question could help policy makers and leaders improve the efficacy of the financial literacy education curriculum or possibly change the focus to a curriculum that leads to wealth creation.

*Purpose of the Study*

This study will add to the theoretical understanding of financial literacy education. In addition, the research will focus on assessing the efficacy of financial literacy education. The research question is:

*How does the Jump\$tart assessment questionnaire measure knowledge that reflects the adoption of wealth creating behavior?*

*Significance of the Study*

Who do we want to teach and what do we want to teach them? President Obama asserted the opinion that financial literacy education was the key to economic prosperity. However, while there is a movement to teach financial literacy to all students, as educators we should question exactly what financial skills can be taught that will lead to better outcomes for our students and the greater society. Presenting financial industry ideology as indisputable facts to students does them a great disservice, but helping students understand the importance of public policy and consumer protection can create a generation of socially active citizens who are able to make better informed personal decisions that will lead to a more prosperous and democratic society. This would be a favorable outcome for students, and would help us achieve a more perfect union.

*Summary*

America's culture is based on commerce and its rules are enforced and perpetuated by nearly every organization. Opposing views see government as either subjugating the individual to the group or as the vehicle that empowers the individual to reach his full potential. As leaders, our role should be to constantly strive for the latter, while recognizing that government has the

potential to act in a destructive manner. Financial literacy education represents an opportunity for government to achieve either outcome. This study will seek to understand the content of the pervasive financial literacy program promoted by the Jump\$Start organization in order to allow leaders to answer the question for themselves as to whether it represents the kind of government that we strive for or the type of government that we all fear.

## **Chapter 2: Literature Review**

### *Introduction*

The U. S. government promotes the notion that financial literacy education is the key to achieving personal financial success. President Obama made the following comments in his Proclamation of Financial Literacy Month:

In recent years, our Nation's financial system has grown increasingly complex.

This has left too many Americans behind, unable to build a secure financial future for themselves and their families. For many, financial literacy can mean economic prosperity and protection against fraud and predatory banking practices. During National Financial Literacy Month, we recommit to teaching ourselves and our children about the basics of financial education....

Our recent economic crisis was the result of both irresponsible actions on Wall Street, and everyday choices on Main Street (Obama, April 2, 2010).

The “economic crisis” referred to by President Obama was the collapse of the world financial market in September 2008. It is an ongoing crisis that has led to rising personal bankruptcies and unemployment and it is threatening to significantly diminish important institutions including state and local governments, public education systems and pension plans that lie at the very foundation of American Society (*Navigating the Fiscal Challenges Ahead*, 2010).

Economic opportunity and prosperity for all are integral components of the American Dream and represent a social contract between America and her citizens. The current economic paradigm is a framework that promises economic rewards for intelligence and hard work. It is thought that economic success is possible for any person, regardless of who their parents are or where they start in life. The purpose of this study is to investigate what is assessed as financial literacy by the Jump\$tart exam to evaluate the hypothesis that financial literacy education for all Americans will save world financial markets while at the same time, increase America's national wealth.

This study will add to the scholar's understanding of financial literacy education, what it is, what it professes to accomplish and what it will likely accomplish. Providing financial literacy education to all Americans as a strategy to achieve broad macroeconomic goals is a radical new proposal that has never been attempted anywhere before in the history of mankind. The research question dependent variable is personal wealth creation while the independent variables are behaviors that create personal wealth and financial literacy curriculum that teaches students to adopt these behaviors. This literature review will concentrate primarily on the dependent variable because teaching students how to accumulate wealth is the stated goal of financial literacy education. Without a clear definition of exactly what wealth is and an understanding of how it is created, curriculum design will be unfocused and ineffective. On the other hand, if a national financial literacy curriculum, as represented by the Jump\$tart curriculum, can teach citizens how to create and protect personal wealth as President Obama has asserted, then it is perhaps the most important curriculum that the U.S. education system has to offer. However, if the curriculum proves to be a vehicle to promote the interests of the financial

services industry at the expense of the student, implementing it in all schools could profoundly damage the institute of public education.

### *Dependent Variable*

The concept of wealth and its field of scientific study, economics, represent a social paradigm that is accepted by members of the culture as an absolute truth that is the basis for most human social interaction, motivation and behavior. While the phenomenon of an economic paradigm is as old as humanity, its manifestation has changed through the ages. The historic written record provides evidence of numerous different economic paradigms; however, it is clear that only one exists at a time within a culture and failure to live in accordance with its rules will result in poverty and perhaps even punishment. Alfred Marshall (Marshall, 1890), known as the father of neoclassical economics described the study of economics as follows:

We have seen that economics is, on the one side, a Science of Wealth; and, on the other, that part of the Social Science of man's action in society, which deals with his efforts to satisfy his wants, in so far as the efforts and wants are capable of being measured in terms of wealth, or its general representative, i.e. money (Book 2: Chapter 1).

The motivation of individual man, what he does and why, is the foundation upon which the study of economics is based. Marshall authored a textbook, *Principles of Economics*, that was one of the first to describe the contemporary economic paradigm to aspiring economists, yet he warned his students of the inherent limitations of economic science: “But of course economics cannot be compared with the exact physical sciences: for it deals with the ever-changing and subtle forces of human nature” (Marshall, 1890, Book 1, Chapter 2). I will heed Marshall’s advice and,

therefore, I will expand this literature review to consider information that falls outside of the scope of current economic science.

To understand the cultural significance of this study's dependent variable, the current definition of wealth, I will begin by investigating the phenomena of paradigms. While the current economic paradigm is an imperfect creation of man, it is as inflexible and absolute to members of our culture as the law of gravity. If one doubts the power of the paradigm they could perform this simple experiment; eat a meal in a restaurant then refuse to pay and see what happens. Next I will research the transformation of economic paradigms throughout history to the present day in order to understand this study's dependent variable, our society's definition of wealth.

#### *Independent Variable: Behaviors That Create Wealth*

What are the behaviors that contribute to personal wealth creation and protection? The U.S. Government's definition of wealth is simply assets (something owned) minus liabilities (something owed) (*Flow of Funds Accounts of the United States: Flows and Outstandings Second Quarter 2010*, 2010). Therefore, in order to increase personal wealth, one must provide a service that he can sell for money, in turn allowing him to acquire assets he needs and desires in excess of what he consumes. The amount of wealth that an individual can acquire is primarily dependent upon his relative earning power compared to that of his fellow citizens. In addition, spending habits and financial caution are important skills; however, they are much less important than learning *how* to earn money. A person who learns the benefits of thrifty behavior and economic skepticism has been taught useless trivia if he is unable to earn money. The bulk of the literature in the area of personal earning power focuses on discovering factors that correlate to worklife earnings (Day & Newburger, 2002; Kominski & Julian, 2010). According to U.S.

Census data, educational achievement is the most important factor in determining the wages that an individual will earn over his entire “worklife” from age 25 to 65. Since educational achievement is a product of education it will be a focus of this literature review. Other important factors cited were race and gender, both of which were significant in determining synthetic worklife earnings estimates. However, both studies that were reviewed concluded that individuals of all races and genders with higher academic achievement earn more money over their careers than those of the same race and gender with lower academic achievement (Day & Newburger, 2002; Kominski & Julian, 2010). Since race and gender cannot be changed through education, they will not be addressed in this study.

Even though it is less important than learning how to acquire wealth, in order to grow wealth over a lifetime an individual needs to learn how to live within his means and protect his assets from financial transactions that run counter to his best interests. In his Proclamation, President Obama declared that financial literacy education can protect citizens from fraudulent and predatory lending practices. Predatory lending is a practice that is not illegal because policy makers tacitly approve of its existence, yet it describes an insidious practice that tempts an unwitting individual into acting against his best interests, possibly to commit financial ruin. I will investigate an example of a pervasive predatory lending scheme in the United States, Federal Government backed college student loans, in order to understand the phenomena. The U.S. government’s policy of teaching citizens financial literacy in order to protect themselves from this insidious practice harkens back to an ideal of rugged individualism, where every man takes care of himself, an ideal that may have never existed in America and seemingly runs counter to the economic principle of division of labor where man is ever more reliant on his neighbors for his financial and physical security. One of the primary roles of the U.S.

government is to protect its citizens from dangers, be they financial or physical in nature. This literature review will seek to discover if all citizens should be taught to specialized financial skills to protect their personal wealth from financial transactions that are not in their best interest.

Not all of the factors that correlate to wealth generation are dependent on the intelligence and effort of individual citizens. Government can promote the growth of scientific knowledge that increases national wealth. Furthermore, government policy plays a significant role in allocating wealth. The vast majority of the world's riches, which include fresh water, fossil fuels, minerals and land, are not man-made. Governments make laws directing who receives the wealth that no man had any hand in creating. In many cases, where a child is born and who his parents are play a far greater role than his natural abilities and efforts in determining his opportunity for economic success. Groups of people who benefit from government policy are merely lucky that their interests happened to correlate with the interests of policy makers in power. However, personal luck is often difficult to acknowledge for those who benefit from it. Privileged people are more likely to mistakenly attribute their good fortune to personal qualities of beauty and intelligence and hard work instead of luck. This literature review will explore government allocation of resources, but since this is not a function of learned behavior, it will be limited.

*Independent Variable: Teaching Behaviors That Create Wealth*

*Who are we teaching and what are we teaching them?*

Arlie Woodrum, 2008

Public education is a major component of public spending in the United States, making up 15 percent of all government (federal, state, and local) expenditures (Hindricks & Myles, 2006). This makes education the third highest category of spending after Social Security (21



percent) and healthcare (Medicare and Medicaid, 17 percent), narrowly exceeding national defense (14 percent) (Hindricks & Myles, 2006). In New Mexico, public education consumes nearly half of the state's general revenues as well as the majority of local property taxes. While the level of public spending is significant, it does not accurately reflect the level of importance of education in American society. All children enter the education system when they are five years old and those who are most successful will spend twenty years or more as a consumer of education services, in most cases, highly subsidized by public funds. For the vast majority of people, personal economic success is dependent upon successfully navigating the education system. Since educational achievement is the key factor in determining how much a person can earn, then it is important to address the questions of who is getting educated and what they are being taught. Specifically, this literature review will investigate how the Jump\$tart financial literacy curriculum, the de facto national standard, relates to personal wealth creation (Schwab, 2009).

*Independent Variable: Other Factors That Influence Personal and National Wealth Creation*

In this section I will take a worldview of wealth creation and examine the United States as a component of the world economy. What factors led the United States to become the wealthiest country on the planet (and in the history of mankind), and what does this mean to its economic future? For tens of thousands of years, man was primarily a subsistence hunter/gatherer, consuming only what he could produce with his own efforts. By living in social groups, he was able to improve his productivity through specialization by concentrating his efforts on a few tasks instead of having to provide all of the goods and services needed for his own survival. By embracing this economic paradigm, America experienced exponential economic growth. By the mid 1800s, the Gross Domestic Product (“GDP”) per worker in

America was \$7,500 (in 1998 dollars), less than one-eighth of what it is today (DeLong, 1998). And not only is an American worker producing eight times more wealth than he was 150 years ago, the quality and utility of goods produced are infinitely superior (DeLong, 1998; McTeer, 1997). The role that energy plays in wealth creation will be reviewed; however this cannot be the only factor that has led to an explosion in wealth. Fossil fuels that now power the world economy have been available to mankind for the entirety of his existence, yet they have only been exploited in the last 200 years. This literature review will seek to discover the role that knowledge plays in creating wealth in society. For it is evident that the knowledge of how to exploit available resources enabled mankind to exponentially increase his wealth.

#### *Alternative points of view*

It is important to understand dissenting voices to the current financial paradigm, not because they are superior but because it reminds us that we are not dealing in absolutes. In writing this dissertation I have challenged my personal beliefs in order to understand the root of economic knowledge, its assumptions, benefits, compromises and in some cases, its drawbacks. The current economic system has resulted in the most productive and democratic era in human history. The last 200 years have seen the world population skyrocket and more people are enjoying an affluent, modern lifestyle than ever before. However, our economic paradigm uses dollars as an absolute measurement of value and things that are not easily measured with money tend to be devalued and ignored. For example, poverty, diminishing finite resource and the natural environment are all examples of social issues that are not measured in GDP. There is ample evidence that the paradigm is imperfect and as a result, social critics are eager to point out its flaws and inequities. This is nothing new. Our national identity was established by social critics who were unsatisfied with the status quo as the Preamble to the U.S. Constitution states:

We the people of the United States, in order to form a more perfect union, establish justice, insure domestic tranquility, provide for the common defense, promote the general welfare, and secure the blessings of liberty to ourselves and our posterity, do ordain and establish this Constitution for the United States of America. (*Constitution of the United States of America, 1787*)

A “more perfect union” that seeks increasingly greater achievements in health, welfare and social justice, could not be achieved by blindly accepting the contemporaneous political paradigm as an unchangeable physical law. In order to understand problems with the current economic system and seek to discover improvements, alternative points of view should be understood rather than dismissed.

*Dependent Variable: Defining Wealth*

The concept of wealth has been extensively chronicled throughout recorded history, yet it is not a universally descriptive term. To narrow the focus of this literature review I will begin by eliminating positive personal attributes that can be confused with wealth. What isn't wealth is explained well by Socrates' student Xenophon (whose exploits inspired *The Warriors*, a marvelous American film) in *Oeconomicus*, “Does this horse have wealth?” Socrates asks of a revered “noble animal”. The resounding answer from his fellow Athenians was NO (Xenophon, 362 BCE). Health, strength, intelligence, confidence, happiness, ability and the adoration of others are not wealth, though in the opinion of the author, they do not hinder a man who is attempting to acquire it. Currently, wealth is defined and measured by money and while definitions of wealth have differed throughout time, all of the works I reviewed include money in their description of wealth, including the *King James Bible* and the *Qur'an* (Aquinas, 1273; *Flow of Funds Accounts of the United States: Flows and Outstandings Second Quarter 2010, 2010*;

Hindricks & Myles, 2006; Marshall, 1890; Mill, 1877; Mun, 1664; Say, 1821; Smith, 1776; System, 2010; Veblen, 1899; Weber, 1949; Xenophon, 362 BCE). Money provides man a means of exchange that enables him to trade for things he needs as well as an ability to store wealth for future consumption. It is a man-made creation, the value of which is dependent on its acceptance by people and it represents a common language spoken throughout the world; and throughout recorded history, it is a good thing to have. Philosophers have proclaimed that wealth can encompass a far greater scope than merely money and the ability to consume, including happiness, a pleasant community, making a contribution to society, health and opportunities for children (Kennedy, March 18, 1968). However, the current economic paradigm defines it simply as assets minus liabilities, things “owned” minus things “owed.” Since the value of money is a function of the economic paradigm that defines it, in order to understand the definition of wealth, it is imperative to first understand the nature of social constructs that establish rules for social interaction.

### *Epistemology and Paradigms*

*“Whoever is searching for the human being first must find the lantern” Nietzsche*

Human knowledge is constructed by an individual’s perception and social experience.

The theory of human knowledge, known as epistemology, encompasses the following five questions:

1. What is knowledge?
2. How is knowledge acquired?
3. What do people know?
4. How do we know what we know?
5. Why do we know what we know?

These questions outline a framework that enables the study of human knowledge. A paradigm is a framework, or set of rules and boundaries for knowledge. Without a framework, man is ineffective and must question everything, hence, he knows nothing. Paradigms can be viewed as the structure of society... the culture and accepted norms that enable man to stand on the shoulders of those who came before him. Absent a paradigm, man is alone, lacking rules for interacting with others and having to learn and understand everything on his own resulting in an absence of societal structure. Therefore, even paradigms that are greatly flawed have value to mankind. Understanding how paradigms are established and how they are replaced by new ones will inform the author's research question.

In his book, *The Structure of Scientific Revolutions*, Thomas S. Kuhn recognized the role of paradigms in epistemology by observing that social scientists many times couldn't agree on "the" question, let alone the method of scientifically finding an answer to "the" question, while natural scientists did not have this problem. Yet he knew that based on history and his knowledge of the natural sciences, the answers from the natural scientists were no more absolute and permanent than were the answers of the social scientists (Kuhn, 1996). New physical science discoveries can invalidate previously accepted "facts." For example, if man discovered that the interior of the moon contained an advanced civilization of lizard people, much of what he thought that he knew, including the paradigms governing many of our natural sciences would be proven wrong. However, even if lizard people are not discovered, it is certain that many if not all natural science paradigms are imperfect and will be replaced as knowledge improves. Through examination of historic natural science paradigm changes, Kuhn attempts to prove the importance of paradigms, even ones that are incomplete, in advancing man's knowledge of the world around him. For example, the periodic table of elements provides scientists a paradigm

that facilitates study of the nature of chemicals. However, scientists are aware of flaws and limitations in the paradigm and someday, it will be replaced with an improved paradigm, relegating the ubiquitous colorful poster that adorns science classrooms around the world to the trash bin of history. In the meantime it is an invaluable tool that facilitates the dissemination of knowledge throughout the world. While Kuhn primarily addresses natural science paradigms, he points out that a paradigm's relationship to epistemology is the same for all human knowledge, natural (hard) science and social (soft) science. In fact, Kuhn demonstrates that the concept of hard and soft science is a fallacy because human knowledge is not absolute in any scientific discipline and mankind must endeavor to continually improve his knowledge.

Kuhn's observations can be extrapolated to society at large because a scientific community is a social system organized around a single paradigm just as society is organized around an economic paradigm. The framework is the foundation upon which the community is built, providing its rules for communication and social interaction. Without the framework the community does not exist. Understanding the framework, how it was established, its rules, terms of communication, tools, boundaries and even its known flaws is invaluable in understanding its product. Kuhn (1996) declared that the paradigm is not theoretical for its members, rather, it is part of their life and each member has personally observed evidence of its accuracy.

If, for example, the student of Newtonian dynamics ever discovers the meaning of terms like force, mass, space, and time, he does so less from the incomplete though sometimes helpful definitions in this text than by observing and participating in the application of these concepts to problem-solving (p. 46-47).

The following quote from Kuhn (1996) demonstrates that two accomplished scientists operating in different paradigms can have opposing views of the same fact.

An investigator who hoped to learn something about what scientists took the atomic theory to be asked a distinguished physicist and an eminent chemist whether a single atom of helium was or was not a molecule. Both answered without hesitation, but their answers were not the same. For the chemist the atom of helium was a molecule because it behaved like one with respect to the kinetic theory of gases. For the physicist, on the other hand, the helium atom was not a molecule because it displayed no molecular spectrum. Presumably both men were talking about the same particle, but they were viewing it through their own research training and practice (p. 50).

Practically this informs the author that perhaps there is not an absolute right and wrong, but instead a different framework for viewing evidence. Understanding the structure and rules of different paradigms and how each defines a certain term (wealth) will lead to a more complete understanding of the nature of the subject of study.

*Anomaly and the Emergence of Scientific Discoveries*

Paradigms create boundaries that restrict the thoughts of its members. In effect, people are forced to think within the framework in order to function in their community. For example, a chemist must communicate with his colleagues using the language of the imperfect Periodic Table of Elements. Kuhn (1996) concedes that this is a limitation imposed by paradigms but the benefits outweigh the limitations.

Ought we conclude from the frequency with which such instrumental commitments prove misleading that science should abandon standard tests and standards instruments? That would result in an inconceivable method of research. Paradigm procedures and applications are as necessary to science as paradigm

laws and theories, and they have the same effects. Inevitably they restrict the phenomenological field accessible for scientific investigation in a given time (p. 60).

The words “in a given time” are profound for if a given paradigm ceases to change, it is a sign that scientific advancement has stopped. But abandoning a paradigm hoping a better one will eventually come along is nonsensical because it is the knowledge gained in the current paradigm that leads to scientific revolution and paradigm replacement. John Stuart Mill (1877) explained that paradigms are not constructed from a master plan with strict timelines but instead are established as needed after scientific and social revolutions invalidate the previous framework.

Like the wall of a city, it has usually been erected, not to be a receptacle for such edifices as might afterward spring up, but to circumscribe an aggregation already in existence. Mankind did not measure up the ground for intellectual cultivation before they began to plant it; they did not divide the field of human investigation into regular compartments first, and then begin to collect truths for the purpose of being therein deposited; they proceeded in a less systematic manner (p. 120).

The current economic paradigm evolved as a result of the actions of man. The Industrial Revolution and the evolving democracies in America and Western Europe resulted from the adoption of a new economic paradigm that was observed and documented by social scientists. The brilliant economists cited in this literature review did not create an economic paradigm; they merely described how it works and established a common language to describe it and standard tools to measure it.

In the practice of “Normal Science,” scientists will identify unanticipated results through their observations that demonstrate an error in the paradigm. However, people who are



committed members of the paradigm will have a difficult time accepting evidence of a flaw, as Kuhn (1996) describes in the following excerpt:

In a psychological experiment that deserves to be far better known outside the trade, Bruner and Postman asked experimental subjects to identify on short and controlled exposure a series of playing cards. Many of the cards were normal, but some were made anomalous, that is, a red six of spades and a black four of hearts. Each experimental run was constituted by the display of a single card to a single subject in a series of gradually increasing exposures. After each exposure the subject was asked what he had seen, and the run was terminated by two successive correct identifications. Even on the shortest exposures many subjects identified most of the cards, and after small increase all of the subjects identified them all. For the normal cards these identifications were usually correct, but the anomalous cards were almost always identified, without apparent hesitation or puzzlement, as normal. The black four of hearts might, for example, be identified as the four of either spades or hearts. Without any awareness of trouble, it was immediately fitted to one of the conceptual categories prepared by prior experience. One would not even like to say that the subject had seen something different from what they identified. With a further increase of exposure to the anomalous cards, subjects did begin to hesitate and to display awareness of anomaly. Exposed, for example, to the red six of spades, some would say: that's the six of spades, but there's something wrong with it-the black has a red border. Further increases of exposure resulted in still more hesitation and confusion until finally, and sometimes quite suddenly, most subjects would produce the correct

identification without hesitation. Moreover, after doing this with two or three of the anomalous cards, they would have little difficulty little further difficulty with the others. A few subjects, however, were never able to make the requisite adjustment of their categories (p. 62-63).

Members of a society will find it difficult to recognize anomalies that contradict their expectations as dictated by the defining paradigm. This is especially true of anomalies that are not pointed out by authoritative experts who would be expected to do so. Furthermore, if the leaders of the paradigm refuse to acknowledge and disclose anomalies, it will be extremely difficult for many of its members to recognize flaws in the paradigm.

When enough members of a society accept the existence of a critical error in the framework, the paradigm will change to accommodate the new discovery. As Kuhn (1996) tells us, when evidence of flaws in the paradigm become overwhelming, portions of it will be destroyed and replaced; there is no middle ground, a new paradigm necessarily results in the destruction of the old one:

Furthermore, the changes in which these discoveries were implicated were all destructive as well as constructive. After the discovery had been assimilated, scientists were able to account for a wider range of natural phenomena or to account with greater precision for some of those previously known. But that gain was achieved only by discarding some previously standard beliefs or procedures and, simultaneously, by replacing those components of the previous paradigm with others. Shifts of this sort are, I have argued, associated with all discoveries achieved through normal science, excepting only the unsurprising ones that had been anticipated in all but their details (p. 66).

There is not room for two frameworks in the same society; this would be akin to anarchy. If the backers of the new paradigm win, then the backers of the old paradigm must lose. Society only has one economic paradigm at a time and the full force of the government enforces it as a matter of law. Members of society who do not support a new economic paradigm will nevertheless be obliged to honor it. The stakes are high. Those who stand to lose from the adoption of a new paradigm can be expected to use any means to oppose it, even denying the existence of fatal flaws in the current paradigm.

### *Response to a Paradigm Crisis*

Kuhn (1996) tells us that an attack on the existing paradigm has a psychological effect on the members of its society who will not repudiate the old paradigm until there is a new improved one to take its place.

Let us assume that crises are a necessary precondition for the emergence of novel theories and ask next how scientists respond to their existence. Part of the answer, as obvious as it is important, can be discovered by noting first what scientists never do when confronted by even severe and prolonged anomalies. Though they may begin to lose faith and then to consider alternatives, they do not renounce the paradigm that has led them into crisis. They do not, that is, treat anomalies as counter instances, though in the vocabulary of philosophy of science that is what they are.... once it has achieved the status of a paradigm, a scientific theory is declared invalid only if an alternative candidate is available to take its place (p. 77).

This would explain why almost all members of our society, even those who are suffering in the current economic paradigm, will continue to cling to the ideals of the American Dream,

American Meritocracy and the “free market,” even when faced with personal substantive evidence to the contrary. As described in the playing card example above, a scientist (or member of a society) is much more likely to believe he did an experiment incorrectly than he is to conclude that he has discovered a paradigm error. It is logical then that the average American citizen who is suffering in the current economic system can be expected to blame his own actions, inactions, bad luck or stupidity before he would indict the economic system, especially if leaders and authoritative experts mislead him by denying the existence of paradigm anomalies.

Normal science does and must continually strive to bring theory and fact into closer agreement, and that activity can easily be seen as testing or as a search for confirmation or falsification. Instead, its object is to solve a puzzle for whose very existence the validity of the paradigm must be assumed. Failure to achieve a solution discredits only the scientist and not the theory. Here, even more than above the proverb applies: it is a poor carpenter who blames his tools (Kuhn, 1996, p. 80) .

An American citizen is a member of the economic paradigm whose life is an economic experiment that must be conducted with tools provided to him by the paradigm; he cannot achieve economic success by working outside of the paradigm. His most important resource is the education system that provides knowledge, enabling him specialize his labor and to make rational decisions that are in his best interest. Unfortunately, his experiments are constrained by time and the quantity and quality of support he receives from his community.

*Paradigm Revolution*

Kuhn (1996) points out that the positive benefits of adopting a new and improved paradigm can be substantial. Paradigm members are able to view old problems in a new light resulting in a burst of new knowledge. Therefore, paradigm changes are by definition revolutionary, not evolutionary.

The transition from a paradigm in crisis to a new one from which a new tradition of normal science can emerge is far from a cumulative process, one achieved by articulation or extension of the old paradigm. Rather it is a reconstruction of the field from new fundamentals, a reconstruction that changes some of the field's most elementary theoretical generalizations as well as many of its paradigm methods and applications. During the transition there will be a large but never complete overlap between the problems that can be solved by the old and by the new paradigm. But there will also be a decisive difference in the modes of solution. When the transition is complete, the profession will have changed its view of the field, its methods, and its goals. One perceptive historian, viewing a classic case of a science's reorientation by paradigm change, recently described it as "picking up the other end of the stick," a process that involves "handling the same bundle of data as before, but placing them in a new system of relations to one another by giving them a different framework." (p. 84).

Incremental social changes are not accomplished by incrementally altering an existing paradigm. Paradigms are the foundation upon which a community is constructed and they are not easily altered. A paradigm change can only occur when the old paradigm is destroyed. Mandating financial literacy education for all Americans represents an attempt to make an incremental change, declaring that it will cure world financial markets. This is an absurd premise that is

rejected by the G20 leaders (*The G20 Seoul Summit Leaders' Declaration November 11-12, 2010*, 2010).

The tools of the economic scientists are useful in describing activity within the paradigm but are poor at highlighting flaws in the paradigm. To substantially improve the current economic paradigm man must break from its bonds because it is clear that its tools will not prescribe the framework for an improved paradigm. John Stuart Mill lamented that economic scientists could not discover anomalies through testing and discover better ways of doing things using the scientific method of observing economic output changes by holding all variables constant except one independent variable (Mill, 1877). Alfred Marshall (1890) explained that in economics it was up to leaders to question the existing paradigm.

Ought we rest content with the existing forms of division of labor? Is it necessary that large numbers of the people should be exclusively occupied with work that has no elevating character? Is it possible to educate gradually among the great mass of workers a new capacity for the higher kinds of work; and in particular for undertaking co-operatively the management of the business in which they are themselves employed? (Book 1, Chapter 4)

Our economic paradigm is not carved in stone by an all-powerful deity. It is a relatively new phenomenon that will undoubtedly change for the better in the future. In fact, our current paradigm is radically different from past paradigms and is evidence of man's ability to change his social structures. However, we have never seen evidence of man successfully designing and implementing an improved economic paradigm by intention through his democratic institutions.

*The Nature and Necessity of Scientific Revolutions*

Social paradigms create problems that cannot be solved by the rules of the framework. Therefore, problems caused by the paradigm are cumulative, leading to cultural deterioration. Slavery, financial market collapse, environmental destruction and the depletion of finite resources are all examples of destructive anomalies that were not corrected by the paradigm that gave birth to them. Members of the paradigm who benefit from a destructive anomaly will not acknowledge that a crisis exists and can be expected to create disinformation as to its existence. For example, slave owners in America claimed that Blacks were sub-human and unable to care for themselves. Another more recent example is oil companies funding propaganda claiming that climate change is a hoax. “In both political and scientific development the sense of malfunction that can lead to crisis is prerequisite to revolution” (Kuhn, 1996, p. 92). Therefore, those who have the most to lose from a paradigm change can be expected to mislead other members of the paradigm in order to delay a revolution. As Kuhn (1996) further points out, ushering in a new paradigm is by its definition revolutionary.

Political revolutions aim to change political institutions in ways that those institutions themselves prohibit. Their success therefore necessitates the partial relinquishment of one set of institutions in favor of another, and in the interim, society is not fully governed by institutions at all. Initially it is crisis alone that attenuates the role of political institutions as we have already seen it attenuate the role of paradigms. In increasing numbers individuals become increasingly estranged from political life and behave more and more eccentrically within it. Then, as the crisis deepens, many of these individuals commit themselves to some concrete proposal for the reconstruction of society in a new institutional framework. At that point the society is divided into competing camps or parties,

one seeking to defend the old institutional constellation, the others seeking to institute some new one. And once that polarization has occurred, political recourse fails. Because they differ about the institutional matrix within which political change is to be achieved and evaluated, because they acknowledge no super institutional framework for the adjudication of revolutionary difference, the parties to a revolutionary conflict must finally resort to the techniques of mass persuasion, often including force (p. 93).

Social paradigm change is painful, the American and French Revolutions and the American Civil War are but a few of many examples.

To the extent, as significant as it is incomplete, that two scientific schools disagree about what is a problem and what a solution, they will inevitably talk through each other when debating the relative merits of their respective paradigms. In the partially circular arguments that regularly result, each paradigm will be shown to satisfying more or less the criteria that it dictates itself and to fall short of a few of those dictated by its opponentc (Kuhn, 1996, p. 94).

Paradigms are not constructed through compromise. Attempts to ameliorate the concerns of all of members of society by trying to find common ground may create a temporary standoff, but fatal flaws in the paradigm will continue to deteriorate until inevitably, a revolution occurs.

### *Paradigm Summary*

A new paradigm changes all of the rules. Consider how public discourse would change if the world's leaders guaranteed every person the services that they needed in order to become rational, utility seeking beings. Public discourse would change from arguing about whether or not people deserve services to debating how best to deliver the services. Or consider the impact



to society of establishing a paradigm on the basis of protecting the natural environment for future generations. Changing the paradigm reframes the debate as described by Alfred Marshall (Marshall, 1890):

The substitution of the term “interest” for “usury” corresponds to a general change in the character of loans, which has given an entirely new key-note to our analysis and classification of the different elements into which the cost of production of a commodity may be resolved (Book 2, Chapter 1).

Through a paradigm change, an insidious and illegal practice became the cornerstone of financial markets. As a result, capital moves more efficiently across the globe. In my research it is important to understand the makeup of the current economic paradigm as well as understanding its shortcomings. As good as the current economic paradigm may be, there can be no doubt that it can be improved.

#### *Ancient Views on Wealth*

The historic writings in the *Qur'an*, King James Version of the *Bible* and of Confucius all contain passages that make value judgments regarding how wealth is obtained. In Analects IV: 5, Confucius states:

Wealth and high station are what men desire, but unless I got them in the right way, I would not remain in them. Poverty and low station are what men dislike, but even if I did not get them in the right way, I would not try to escape from them.

According to ancient writings, wealth itself is not necessarily bad, but acquiring it in a manner that is deceitful or harmful to others is frowned upon. The *Bible* describes the ill esteem in which those who achieved wealth in the wrong way are held:

I will not overlook, O sinful house, the dishonest gain you have hoarded away, or the smaller-than-standard measure I hate so much. I do not condone the use of rigged scales, or a bag of deceptive weights. The city's rich men think nothing of resorting to violence; her inhabitants lie, their tongues speak deceptive words.

(Micah 6:10-12, King James Version)

In some passages, earning money in the “wrong way” is not only frowned upon, it carries dire consequences. The *Qur'an* strictly forbids the charging of interest on loaned money. “O you who believe, you shall not take usury, compounded over and over. Observe GOD, that you may succeed. Beware of the hellfire that awaits the disbelievers” (3:130-131). In some societies, disobeying religious teachings invited more than scorn. Many of these rules were part of the economic paradigm of their time and were enforced by government as a matter of law. Those who displayed wealth in ancient times were judged by society on their methods of accumulating wealth. This stands in stark contrast to today as those who “conspicuously consume” (Veblen, 1899) are viewed as smarter and harder working.

With wealth comes responsibility. The *Bible* celebrates those who share their good fortune with others:

But Zacchaeus stood up and said to the Lord, "Look, Lord! Here and now I give half of my possessions to the poor, and if I have cheated anybody out of anything, I will pay back four times the amount. Jesus said to him, "Today salvation has come to this house, because this man, too, is a son of Abraham” (Luke 19:8-9 King James Version).

The *Qur'an* makes a similar point (17:26-27) and adds a warning of extravagant spending "Give the kinsman his due, and the needy, and the wayfarer, and squander not (your wealth) in

wantonness. Lo! the squanderers were ever brothers of the devils, and the devil was ever an ingrate to his Lord.” Both religions repeat this warning against idolizing wealth. The *Bible* provides a warning from god to those who idolize treasure:

They will discard their silver in the streets, and their gold will be treated like filth. Their silver and gold will not be able to deliver them on the day of the Lord’s fury. They will not satisfy their hunger or fill their stomachs because their wealth was the obstacle leading to their iniquity. They rendered the beauty of his ornaments into pride, and with it they made their abominable images – their detestable idols. Therefore I will render it filthy to them (Ezekiel 7:19-20 King James Version).

This warning carries an underlying message that treasure alone does not contain the essence of life and acquiring it should not be man’s sole motivation. This theme is echoed in *Oeconomicus*:

You are pleased to jest, Socrates (Ischomachus replied), in spite of which I will recount to you those habits and pursuits by aid of which I seek to traverse life's course. If I have read aright life's lesson, it has taught me that, unless a man first discover what he needs to do, and seriously study to bring the same to good effect, the gods have placed prosperity beyond his reach; and even to the wise and careful they give or they withhold good fortune as seemeth to them best. Such being my creed, I begin with service rendered to the gods; and strive to regulate my conduct so that grace may be given me, in answer to my prayers, to attain to health, and strength of body, honour in my own city, goodwill among my friends, safety with renown in war, and of riches increase, won without reproach (p. 42).

The use of value judgment when defining wealth was part of man's economic paradigm throughout much of recorded human history. In these economic paradigms, individual motivation was based choosing right from wrong as opposed to doing what a person thought was best for his own interests. But who decides what is right and what is wrong and who is served by this paradigm? While religious views are important personal foundations to many people, the paradigms of wealth that they describe are irrelevant in the U.S. today because two paradigms cannot coexist and our current system is not rooted in religious doctrine.

*Oeconomicus: Socrates' View of Wealth*

Xenophon, a student of Socrates, recorded a conversation between his teacher and Critobulus in which they discuss wealth. The dialog includes a lengthy recollection by Socrates of a discussion with "good and beautiful man," named Ischomachus. The document is roughly 2,500 years old and is described by many as the oldest written work on economics, the social science which derives its name from the work. In discussing the management of one's financial affairs, Socrates poses an important question to Critobulus:

I once heard him discuss the topic of economy after the following manner.

Addressing Critobulus, he said: Tell me, Critobulus, is "economy," like the words "medicine," "carpentry," "building," "smithying," "metal-working," and so forth, the name of a particular kind of knowledge or science?

Crit. Yes, I think so.

Soc. And as, in the case of the arts just named, we can state the proper work or function of each, can we (similarly) state the proper work and function of economy?

Crit. It must, I should think, be the business of the good economist at any rate to manage his own house or estate well (Xenophon, 362 BCE)(p. 3-4).

In ancient Athens, some men were more skilled than others in acquiring and accumulating wealth. Through his questioning, Socrates identified this as a skill that could be learned like any other. Those lacking the skill would suffer, even if they had the good fortune of coming into wealth as Socrates describes to Critobulus:

Yes, for they too are slaves [those who have wealth but no financial skill], and harsh enough are their taskmasters; slaves are they to luxury and lechery, intemperance and the wine-cup along with many a fond and ruinous ambition. These passions so cruelly belord it over the poor soul whom they have got under their thrall, that so long as he is in the heyday of health and strong to labour, they compel him to fetch and carry and lay at their feet the fruit of his toils, and to spend it on their own heart's lusts; but as soon as he is seen to be incapable of further labour through old age, they leave him to his gray hairs and misery, and turn to seize on other victims. Ah! Critobulus, against these must we wage ceaseless war, for very freedom's sake, no less than if they were armed warriors endeavouring to make us their slaves. Nay, foemen in war, it must be granted, especially when of fair and noble type, have many times ere now proved benefactors to those they have enslaved. By dint of chastening, they have forced the vanquished to become better men and to lead more tranquil lives in future. But these despotic queens never cease to plague and torment their victims in body and soul and substance until their sway is ended (p. 7).

This passage proclaims that many men are unable to make correct economic decisions and are better off enslaved by a benevolent master who looks out for their best interests and provides for them over their lifetime. As an example Socrates describes two types of people:

Well then, Critobulus (Socrates replied), what if I begin by showing you two sorts of people, the one expending large sums of money in building useless houses, the other at far less cost erecting dwellings replete with all they need; will you admit that I have laid my finger here on one of the essentials of economy (p. 11)?

This is a relevant example of people encountering a common problem, needing a place to live. One person makes a good economic decision while the other does not. If a wealth accumulating behavior can be identified, then it can be taught. Today, many people in America would invite Socrates' scorn for purchasing larger houses than they needed and compounding the problem by going deep into debt while paying artificially inflated prices. Socrates would probably say that most men are incapable of making this decision in their own best interest and instead a better method would be for a master to provide a man with what he needs as opposed to what he desires, which would likely be wasteful.

The economic paradigm of Ancient Greece described in *Oeconomicus* accentuates the economic value and importance of organization and order. In the following passage, Socrates recalls a story told to him from Ischomachus on the value of personal organization in the home:

Yes, certainly (Ischomachus answered), and I remember how piqued she was at one time and how deeply she blushed, when I chanced to ask her for something which had been brought into the house, and she could not give it me. So I, when I saw her annoyance, fell to consoling her. "Do not be at all disheartened, my wife, that you cannot give me what I ask for. It is plain poverty, no doubt, to need a

thing and not to have the use of it. But as wants go, to look for something which I cannot lay my hands upon is a less painful form of indigence than never to dream of looking because I know full well that the thing exists not. Anyhow, you are not to blame for this," I added; "mine the fault was who handed over to your care the things without assigning them their places. Had I done so, you would have known not only where to put but where to find them. After all, my wife, there is nothing in human life so serviceable, nought so beautiful as order (p. 30).

Socrates employed humor that all can easily relate to in order to describe an important economic concept. In the 2,500 years since this passage was written, consider how many billions of times that family members and roommates have clashed over the accusatory question of: What did you do with my socks? The social science concept that Socrates described is that a knowledge paradigm facilitates communication between people, increasing societal knowledge and dramatically increasing wealth. In the following passage, Socrates completes Ischomachus' thoughts on the value of a knowledge paradigm in society.

"For instance, what is a chorus?--a band composed of human beings, who dance and sing; but suppose the company proceed to act as each may chance--confusion follows; the spectacle has lost its charm. How different when each and all together act and recite with orderly precision, the limbs and voices keeping time and tune. Then, indeed, these same performers are worth seeing and worth hearing. "So, too, an army," I said, "my wife, an army destitute of order is confusion worse confounded: to enemies an easy prey, courting attack; to friends a bitter spectacle of wasted power; a mingled mob of asses, heavy infantry, and baggage-bearers, light infantry, cavalry, and waggons. Now, suppose they are on the march; how

are they to get along? In this condition everybody will be a hindrance to everybody: 'slow march' side by side with 'double quick,' 'quick march' at cross purposes with 'stand at ease'; waggons blocking cavalry and asses fouling waggons; baggage-bearers and hoplites jostling together: the whole a hopeless jumble. And when it comes to fighting, such an army is not precisely in condition to deliver battle. The troops who are compelled to retreat before the enemy's advance are fully capable of trampling down the heavy infantry detachments in reserve. "How different is an army well organised in battle order: a splendid sight for friendly eyes to gaze at, albeit an eyesore to the enemy. For who, being of their party, but will feel a thrill of satisfaction as he watches the serried masses of heavy infantry moving onwards in unbroken order? who but will gaze with wonderment as the squadrons of the cavalry dash past him at the gallop? And what of the foeman? will not his heart sink within him to see the orderly arrangements of the different arms: here heavy infantry and cavalry, and there again light infantry, there archers and there slingers, following each their leaders, with orderly precision. As they tramp onwards thus in order, though they number many myriads, yet even so they move on and on in quiet progress, stepping like one man, and the place just vacated in front is filled up on the instant from the rear (p. 30-31).

Knowledge and social coordination facilitate order and help create a greater amount of wealth because an organized group of people is greater than the sum of its parts. This passage describes not merely a collection of individuals, but a system in which all members of the social group share common knowledge, including their individual roles and responsibilities. This is



accomplished through a hierarchical, top-down command structure where the common man must do as he is told. The interests of the individual are subordinated to the interests of the group as defined by its leader. Socrates would have viewed Adam Smith's description of every man acting in his own best interests as a recipe for "confusion" and chaos.

*Perpetuating the Economic Paradigm in Ancient Greece*

In the following passage, Ischomachus explains to Socrates the manner in which an economic paradigm is constructed through education and both economic and non-economic rewards. Through careful selection and training, members of the peasant class become bailiff's (managers, administrators and executive class) who perpetuate and enforce the paradigm and are handsomely rewarded for their unquestioning adherence to its social framework. Of course, the main benefactors of the established social order are the Kings and masters who keep the bulk of the natural wealth as well as all of the social power for themselves.

Soc. But suppose him to have learnt the whole routine of business, will he need aught else, or have we found at last your bailiff absolute?

Isch. He must learn at any rate, I think, to rule his fellow-workmen.

What! (I exclaimed): you mean to say you educate your bailiffs to that extent?

Actually you make them capable of rule?

At any rate I try to do so (he replied).

And how, in Heaven's name (I asked), do you contrive to educate another in the skill to govern human beings?

Isch. I have a very simple system, Socrates; so simple, I daresay, you will simply laugh at me.

Soc. The matter, I protest, is hardly one for laughter. The man who can make another capable of rule, clearly can teach him how to play the master; and if [you] can make him play the master, he can make him what is grander still, a kingly being. Once more, therefore, I protest: A man possessed of such creative power is worthy, not of ridicule, far from it, but of the highest praise.

Thus, then, I reason, Socrates (he answered): The lower animals are taught obedience by two methods chiefly, partly through being punished when they make attempts to disobey, partly by experiencing some kindness when they cheerfully submit. This is the principle at any rate adopted in the breaking of young horses. The animal obeys its trainer, and something sweet is sure to follow; or it disobeys, and in place of something sweet it finds a peck of trouble; and so on, until it comes at last to yield obedience to the trainer's every wish. Or to take another instance: Young dogs, however far inferior to man in thought and language, can still be taught to run on errands and turn somersaults, and do a host of other clever things, precisely on this same principle of training. Every time the animal obeys it gets something or other which it wanted, and every time it

misbehaves it gets a whipping. But when it comes to human beings: in man you have a creature still more open to persuasion through appeals to reason; only make it plain to him "it is his interest to obey." Or if they happen to be slaves, the more ignoble training of wild animals tamed to the lure will serve to teach obedience. Only gratify their bellies in the matter of appetite, and you will succeed in winning much from them. But ambitious, emulous natures feel the spur of praise, since some natures hunger after praise no less than others crave for meats and drinks. My practice then is to instruct those whom I desire to appoint as my bailiffs in the various methods which I have found myself to be successful in gaining the obedience of my fellows. To take an instance: There are clothes and shows and so forth, with which I must provide my workfolk. Well, then, I see to it that these are not all alike in make; but some will be of better, some of less good quality: my object being that these articles for use shall vary with the service of the wearer; the worse man will receive the worse things as a gift, the better man the better as a mark of honour. For I ask you, Socrates, how can the good avoid despondency seeing that the work is wrought by their own hands alone, in spite of which these villains who will neither labour nor face danger when occasion calls are to receive an equal guerdon with themselves? And just as I cannot bring myself in any sort of way to look upon the better sort as worthy to receive no greater honour than the baser, so, too, I praise my bailiffs when I know they have apportioned the best things among the most deserving. And if I see that some one is receiving preference by dint of flatteries or like unworthy means, I do not let

the matter pass; I reprimand my bailiff roundly, and so teach him that such conduct is not even to his interest (p. 50-51).

This section is quite profound as it describes the concept of individual self-interest which is infinitely more powerful than a carrot and stick method of training animals. By teaching a bailiff that it is in his self-interest to adopt an economic paradigm, he will unquestioningly follow it for his entire life without ever needing to experience the “stick.” The Ancient Greeks were keenly aware of how to harness the power of individual self-interest to motivate their bailiffs. By aligning the interests of their bailiffs with their own, the Kings and masters were able to perpetuate an economic paradigm that served them well.

As Ischomachus further clarifies to Socrates, even though a bailiff can be taught to rule other men, he must understand that he is a servant to the system and his interest are not served by challenging the system. In fact, a bailiff has far more to lose than a common worker.

Soc. Well, then, Ischomachus, supposing the man is now so fit to rule that he can compel obedience, is he, I ask once more, your bailiff absolute? or even though possessed of all the qualifications you have named, does he still lack something?

Most certainly (replied Ischomachus). **One thing is still required of him, and that is to hold aloof from property and goods which are his master's; he must not steal** (author's emphasis). Consider, this is the very person through whose hands the fruits and produce pass, and he has the audacity to make away with them! perhaps he does not leave enough to cover the expenses of the farming operations! Where would be the use of farming the land by help of such an overseer?

What (I exclaimed), can I believe my ears? You actually undertake to teach them virtue! What really, justice!

Those of my household (he proceeded) whom, in spite of kindly treatment, I perceive to be persistently bent on evil-doing, in the end I treat as desperate cases. Incurable self-seekers, plain enough to see, whose aspiration lifts them from earth, so eager are they to be reckoned just men, not by reason only of the gain derivable from justice, but through passionate desire to deserve my praise--these in the end I treat as free-born men. I make them wealthy, and not with riches only, but in honour, as befits their gentle manliness. For if, Socrates, there be one point in which the man who thirsts for honour differs from him who thirsts for gain, it is, I think, in willingness to toil, face danger, and abstain from shameful gains--for the sake of honour only and fair fame (p. 52-53).

Convincing society to adopt definitions of honor, virtue and justice that serve to protect and perpetuate the economic paradigm was a key component of the culture described by Xenophon. Mankind is a unique animal who will strive to achieve these intangible concepts as if they were absolutes, even giving his life in support of the paradigm. While this may seem prima facie exploitive, paternalistic and self-serving for those who benefit from the paradigm, recall that mankind benefits from a paradigm, even a flawed one. The Athenian economic framework was established by the very wealthy for their benefit. Based on the science of paradigms, the structure described by Xenophon was better than anarchy, but hopefully mankind has discovered a better paradigm in the 2,500 years since.

*Wealth: The Product of the Current Paradigm*

The two most recent economic paradigms occurred in the last 250 years and correspond to the greatest economic expansion in human history. From the mid 18<sup>th</sup> century to the present day, the world population increased more than tenfold, to seven billion people with more people than ever before enjoying a comfortable modern lifestyle. While the planet's natural resources are the same today as they have been for the last million years or so, there is more wealth (as defined by the current paradigm) than ever before. The spread of knowledge and the global expansion of the existing economic paradigm enabled mankind to exploit natural resources with increasing efficiency and effectiveness. Russian economist Nikolai Kondratieff was the first to identify this phenomenon in his thesis published in 1925, *The Major Economic Cycles*. At that time, Kondratieff was working under the Stalin regime, which sentenced him to death for discovering the benefits of the “Capitalistic Processes.” Stalin did not appreciate evidence that demonstrated “so-called” free market economic forces could lead to rapid and substantial improvement in the standard of living of the inhabitants of the paradigm. Economist Joseph Schumpeter recognized the importance of economic waves in his book, *Business Cycles: A Theoretical, Historical and Statistical Analysis of the Capitalist Process*, published in 1939. Schumpeter suggested later, naming his Business Cycles model in honor of Nikolai Kondratieff and the name of the Kondratieff Cycles (or Kondratieff Waves) was born.

The Kondratieff Cycles are important in understanding the current economic paradigm including the definition of wealth because it describes how wealth is produced. Starting in the late 18<sup>th</sup> century with the steam engine and the cotton gin, each Kondratieff Cycle followed roughly every fifty years creating exponentially more wealth than the preceding cycle. Subsequent Kondratieff Cycles were steel and railways (1850), electrical engineering and

chemistry (1900), petrochemicals and automobiles (1950), and finally information technology and semi-conductors (1990). It took tens of thousands of years of human history for world population levels to reach one billion people in roughly 1800 and only 200 more years to reach 7 billion. Mankind is producing more food, shelter and life sustaining goods than ever before. We know it is not because man has become more intelligent. It is evident from the teachings of Socrates that mankind is no more intelligent now than he was 2,500 years ago. Examination of the beautiful paintings in the Caves of Lascaux informs us that the same is true for men who lived 30,000 years ago. Nor is increased wealth solely the result of discovering breakthrough technologies. The 2,000 year old Antikythera Device provides evidence that the ancient Greeks possessed advanced technology that was arguably more complicated than the steam engine and cotton gin, yet it did not create Kondratieff Cycles (Nefiodow, 2006). The top-down economic paradigm of the Athenians did not foster broad individual motivation throughout the general population and as a result, advanced technology was created and used by a privileged few. When the inventors died, their knowledge and machines perished with them. According to Nefiodow, it is the social system that creates technological breakthroughs, not vice versa (Nefiodow, 2006).

In contrast to the Antikythera Device, the most recent basic innovation is the integrated circuit developed in 1958 by Gordon Moore (among others) and his colleagues at Bell Laboratories, at the time the biggest producer and operating authority of analog telephone technology, in 1958. Since Bell chose not to use that technology, the men left the corporation and developed the patent themselves. Digital technology was less expensive than analog devices, more reliable and above all scalable and intelligent. Starting in the mid 1970's, the semiconductor industry with its superior technology began to replace analog technology and before

the end of the 20<sup>th</sup> century, digital technology was one of the cornerstones of the world economy. The microchip has touched nearly every person on the planet and the technology has been responsible for creating of more wealth than any basic innovation before it.

“The number of circuit elements on an integrated circuit is doubling yearly.”

Gordon Moore, 1965

Unlike the Antikythera Device that was built for a privileged few, the semiconductor is built for all people. Educated people acting in their own best interests desired the devices that were built using microchips including televisions, computers and cellular telephones. This motivation and desire has fostered an environment of rapid technological improvement and cost reduction. Without educated scientists like Gordon Moore and an economic system that empowers the individual, the informatics Kondratieff Wave would not have taken place. Practically this means that we would not have cell phones, the internet or personal computers. Furthermore, Moore’s prognosis has proven to be correct. In 1958, most advanced integrated circuit consisted of 64 transistors and was produced in the thousands. By 1975, Moore increased this number one-thousand times, achieving of 64,000 transistors on a chip. Today an Intel® Core™ i7 Extreme Processor contains 731 million transistors, is far less expensive than a circa 1958 circuit board and is produced in the hundreds of millions.

#### *Wealth: The Evolution of the Current Paradigm*

The analysis of the evolution of the current paradigm focuses on Western economists, mainly British, because this area of the world is where the paradigm began. Thomas Mun’s (Mun, 1664) book *England’s Treasure by Forraign Trade* prescribed how England’s wealth could be increased by trading with others outside of the country. In the early 17<sup>th</sup> century when this book was written, England rapidly expanded her foreign trade while she competed with



Spain and other European countries for world domination. The desire to trade with others in far-off lands had many byproducts including improved ship building technology and national policies to improve naval power to protect shipping and project military power to oversee colonies. By virtue of arriving in force at new lands before her rivals, England created an empire controlling nearly one-fourth of the world's population. In addition to enabling it to dictate trading terms that they were favorable to Britain (one-sided), her culture, including the economic paradigm that was based on the motivation and desires of individual citizens driving economic activity, spread around the globe. The economic theories of Mun have been criticized as simplistic and self-serving (he was a Director in the East India Trading Company), however, his work is nonetheless important in understanding the worldwide expansion of the existing economic paradigm. Men acting in their own best interests demanded improved technology and as a result, wealth, knowledge and democracy (at least for wealthy Englishmen) expanded.

*Adam Smith: Classical Economics*

Adam Smith described the economic paradigm's change in focus from King and country to the individual citizen. Whereas Socrates described the economic benefit of teaching men to work for the greater good, Smith asserted that expecting a benevolent economic architect to create a greater good was an impossible and unrealistic dream. Smith observed that a rational man acting in his own self-interest produced the greatest amount of wealth. Through specialization and division of labor, each man becomes more productive by deciding for himself how best to spend his time. In short, the paradigm can be described as thinking small, concentrating on the individual desires and motivation of men, in order to accomplish something grand, creating the greatest amount of wealth.

Give me that which I want, and you shall have this which you want, is the meaning of every such offer; and it is in this manner that we obtain from one another the far greater part of those good offices which we stand in need of. It is not from the benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regard to their own interest. We address ourselves, not to their humanity but to their self-love, and never talk to them of our own necessities but of their advantages. (Smith, 1776, Book 1, Chapter II, Paragraph 2)

The idea that the best way to increase wealth in the economy was to give ALL men the knowledge and freedom to act in their own best interest was revolutionary and represented the destruction of the previous “top-down” economic paradigm. Smith did not prescribe this as a new economic paradigm, instead he observed and painstakingly documented the phenomenon with empirical evidence gathered through observation and quantitative data analysis.

Smith proclaimed that the role of government should be limited to only three types of activities each of which supports the individual; defense from foreign threats, domestic police and civil court systems and providing services to individuals that the market cannot provide due to market failure (Smith, 1776). This does not mean he was for limited government, to the contrary, he strongly advocated for competent government where it was needed to support the individual, enabling him to act rationally in his best interest to facilitate a free market economy. If government does not provide services to the citizenry that they cannot provide for themselves because of market failure, then a free market economy cannot be achieved. Smith proclaimed public education to be an example of an indispensable government service.

The institutions for instruction are of two kinds: those for the education of youth, and those for the instruction of people of all ages (Smith, 1776, Book V, Chapter I, Paragraph 70).

Loudly demeaning necessary public services like education or Social Security as “socialism,” a dirty word in 21<sup>st</sup> century American politics, is the tool of a demagogue who in fact seeks to diminish the ability of America to achieve a free market.

Smith steadfastly warned against governments picking winners and losers through monopolistic trade licenses and intrusive commercial policy. He observed that these policies represented a top-down reallocation of wealth to the richest that interfered with the free market and resulted in less wealth for all (he was not a fan of the monopolistic trade deals conferred to the East India Trading Company). Furthermore, he asserted that mankind had unlimited potential that would lead to technological advancement and expansion of democracy rendering war irrelevant. He was correct. Individuals who are self-motivated will figure out a way to move forward, if necessary, they will innovate by creating new technologies that exponentially increase wealth. Government selection of economic winners and losers inhibits this process.

#### *Jean Baptiste Say and John Stuart Mill*

As the world economy grew in the first half of the 19<sup>th</sup> century, two prominent classical economists eloquently described the evolving wealth paradigm. Jean Baptiste Say and John Stuart Mill leveraged the scholarly work of Adam Smith and through scientific observation, developed tools and terminology to describe the contemporaneous Kondratieff Cycles that were rapidly improving the standard of living for so many people. Both refined Smith’s theory of individual effort creating wealth and both created mathematical modeling tools that facilitated economic analysis. Say (1821) described wealth as follows:

If we take the pains to inquire what that is, which mankind in a social state of existence denominate wealth, we shall find the term employed to designate an indefinite quantity of objects bearing inherent value, as of land, of metal, of coin, of grain, of stuffs, of commodities of every description. When they further extend its signification to landed securities, bills, notes of hand, and the like, it is evidently because they contain obligations to deliver things possessed of inherent value. In point of fact, wealth can only exist where there are things possessed of real and intrinsic value (Book I, Chapter I, Paragraph 1)

The definition of wealth was becoming more value-free and limited in scope. In addition, Say observed that production equaled demand (Say's Law), meaning that man can only desire the things that he produces. Or stated another way, if man wanted more wealth (demand) he would work hard enough (production) to acquire it. The old paradigm of judging how a person accumulated his money, how much was too much and how he spent his money was now irrelevant, jettisoned in favor of a simple value-free measurement using money. Instead of focusing on the output of the entire economy, the key component in the economic paradigm was the individual. What previously may have been characterized as "greed" was now seen as a positive economic virtue that created wealth. Both economists refined the definition of man as a being who seeks to maximize his acquisition of wealth with the least amount of effort as described by Mill in 1840 (Mill, 1877):

It makes entire abstraction of every other human passion or motive; except those which may be regarded as perpetually antagonizing principles to the desire of wealth, namely, an aversion to labor, and desire of the present enjoyment of costly indulgences....

Political economy considers mankind as occupied solely in acquiring and consuming wealth, and aims at showing what is the course of action into which mankind, living in a state of society, would be impelled, if that motive, except in the degree in which it is checked by the two personal counter-motives above adverted to, or absolute ruler of all their actions (p. 137-138).

While this standard definition of man facilitates economic scientific analysis, both Say and Mill understood the limitations of mathematical models that accepted this definition as absolute.

Although Say was a brilliant developer of quantitative tools, he was reluctant to accept mathematical and statistical economics as absolutes and was a proponent of testing mathematical theories with real-life observation (Natoli & Zuhair, 2009). Mill described the limitations of this economic analysis as follows:

So far as it is known, or may be presumed, that the conduct of mankind in the pursuit of wealth is under the collateral influence of any other of the properties of our nature than the desire of obtaining the greatest quantity of wealth with the least labor and self-denial, conclusions of Political Economy will so far fail of being applicable to the explanation or prediction of real events, until they are modified by correct allowance for the degree of influence exercised by the other cause (Mill, 1877, p. 567).

The observations and warnings of these two great scientists, regarding the fallibility of mathematical economic science, would eventually be disregarded by scientists operating in the current economic paradigm.

*Quantifying Human Behavior*

Alfred Marshall's (Marshall, 1890) textbook, *Principles of Economics* further refined economic theory and while he taught a generation of students to express economic thought through mathematical modeling, he clearly stated the dangers of forgetting what the numbers represent.

Economic laws are statements with regard to dependencies of man's action under certain conditions. They are hypothetical only in the same sense as are the laws of the physical sciences: for those laws also contain or imply conditions. But there is more difficulty in making the conditions clear, and more danger in any failure to do so, in economics than in physics. The laws of human action are not indeed as simple, as definite or as clearly ascertainable as the law of gravitation; many of them rank with the laws of those natural sciences which deal with complex subject-matter. (Book 1, Chapter 4)

Max Weber on the other hand was concerned that economists were injecting personal value judgments into their scientific studies. He asserted that by using an ideal type, scientific results were more repeatable and relevant.

We have in abstract economic theory in the illustration of those synthetic constructs which have been designated as "ideas" of historical phenomena. It offers us an ideal picture of events on the commodity-market under conditions of a society organized on the principles of an exchange economy, free competition and rigorously rational conduct. This conceptual pattern brings together certain relationships and events of historical life into a complex, which is conceived as an internally consistent system. Substantively, this construct in itself is like a utopia which has been arrived at by the analytical accentuation of certain elements of

reality. Its relationship to the empirical data consist solely in fact that where market-conditioned relationships of the type referred to by the abstract construct are discovered or suspected to exist in reality to some extent, we can make the characteristic features of this relationship pragmatically clear and understandable by reference to an ideal type. This procedure can be indispensable for heuristic as well as expository purposes. The ideal typical concept will help to develop our skill in imputation in research. (p. 89-90)....

What is the significance of such ideal-typical constructs for an empirical science, as we wish to constitute it? Before going any further, we should emphasize that the idea of an ethical imperative, of a “model” of what “ought” to exist is to be carefully distinguished from the analytical construct, which is ideal in the strictly logical sense of the term. It is a matter here of constructing relationships which our imagination accepts as plausibly motivated and hence as “objectively possible” in which appear as adequate from the nomological standpoint (Weber, 1925, p. 91).

Weber’s logic was accepted by the economic scientific community and thereafter, the “rational” utility-seeking man became the standard unit of analysis.

By knowingly ignoring other factors that motivate mankind through the adoption of a standard rational man, economic science became a value-free method of observing, explaining and predicting human activity. Weber (1925) understood the flaws of this methodology but he argued that the benefits of a standard tool outweighed the risk of scientists injecting personal value judgments and biases into their research.

The construction of abstract ideal-types recommends itself not as an end but as a means. Every conscientious examination of the conceptual elements of historical exposition shows however that the historian as soon as he attempts to go beyond the bare establishment of concrete relationships and to determine the cultural significance of even the simplest individual event in order to characterize it, must use concepts which are precisely and unambiguously definable only in the form of ideal types. For are concepts such as individualism, imperialism, feudalism, mercantilism, conventional, etc., and innumerable concepts of like character by means of which we seek analytically empathically to understand reality constructed substantively by the presuppositionless description of some concrete phenomenon through the abstract synthesis of those traits which are common to numerous concrete phenomenon? Hundreds of words in the historians vocabulary are ambiguous constructs created to meet the unconsciously felt need for adequate expression and the meaning of which is only concretely felt but not clearly thought out. (p.91)

Paradigms require standardized tools in order to facilitate experimentation and research (Normal Science) by its scientists. By ignoring imperfections in the ideal of the “rational man,” economists were able to advance the science of economics using value-free, standardized scientific tools.

Interestingly, earlier in his career, when Weber sought to explain the reasons for the relative success of certain cultures compared to others, he cited the writings of Benjamin Franklin as the embodiment of the Anglo-Saxon Protestant culture that he theorized was superior to other religions (from an economic standpoint). Weber coined a term for the cultural values



heralded by Franklin, calling it the "Protestant ethic." The key elements of the Protestant ethic were diligence, competence, thrift, punctuality, deferment of gratification, and primacy of the work domain (Weber, 1930). His early attempt to explain the motivations of man, centered on identifying superior cultural values that led to the greatest growth in wealth. Weber's later works seem to accept that men are more alike than different and it is the economic paradigm that influences wealth creation, not a person's religion. The current economic paradigm uses a standard rational man to explain and predict behavior; gender, ethnicity and religious practices of an individual are ignored, regardless of their relevance.

The economic paradigm that focused on the rational man seeking to maximize his utility in a value judgment free environment became the standard in economic modeling. Economists did not judge the efforts of a man as good or bad, they only measured his output in dollars. Producing a nuclear bomb is measured in the same dollar terms as producing organic vegetables to be used in baby food for homeless orphans. This paradigm became institutionalized into government policy through the work of John Maynard Keynes in 1940. His pamphlet "... *The National Income and Expenditure of the United Kingdom, and How to Pay for the War...*" enabled government policy makers to "bank" future wealth creation in their country by borrowing on the capacity of their inhabitants to create wealth in the future. This created a neoclassical economic synthesis whereby individual motivation is still the foundation of economic activity but it is now managed and controlled by top-down by policy makers and finance ministers who measure progress in society with national accounts instead of focusing on the welfare of individual members of society. This is the essence of our current economic paradigm (Natoli & Zuhair, 2009).

Since the end of World War II, virtually every nation-state on the planet has adopted a system of national accounts, modeled after the British and Americans, to measure GDP (the Soviet Bloc countries resisted until the collapse of the Soviet Union) (Natoli & Zuhair, 2009). For the first time in the history of mankind, most of the people on the planet live under a common economic paradigm. While politicians seek ever increasing economic growth as measured by GDP, paradigm anomalies such as financial market collapse, pollution, natural resource depletion, disease, war and famine not specifically measured in GDP and therefore, get little policy consideration (Kennedy, March 18, 1968). The paradigm is creating short-sighted economic policies that seek ever increasing GDP, even if it means diminishing important cultural institutions that support the free market. As a result, this paradigm neglects the fundamental economic engine that creates wealth, the motivation and desires of the individual acting in his own best interest. Although the informatics Kondratieff Wave occurred during the current paradigm, it was not created by the paradigm. The individuals who were responsible for the informatics Kondratieff Wave were products of the previous economic paradigm. The current economic paradigm has yet to produce a Kondratieff Wave and there is no guarantee that it will. If the only solutions offered by both the IMF and G20 to fix the precarious world financial market are to drastically reduce government services to individuals and slightly change monetary policy, then I predict that the current economic paradigm will never produce a Kondratieff Wave (*Navigating the Fiscal Challenges Ahead*, 2010; *The G20 Seoul Summit Leaders' Declaration November 11-12, 2010*, 2010).

#### *Poverty: The Opposite of Wealth*

Poverty is the lack of wealth and while wealth is celebrated in our society, poverty is disparaged. In his Proclamation on Financial Literacy, President Obama eloquently described

the current mindset of policy leaders, namely that those who are poor are so because of their stupidity and/or laziness. “At the same time, many Americans took out loans they could not afford or signed contracts without fully understanding the terms”(Obama, April 2, 2010).

Therefore, if they “fully understood” their actions (i.e. were more knowledgeable), then they would be prosperous instead of poor. The converse is inferred, that the wealthy are smarter, more industrious and accumulated wealth based on good decisions and hard work.

The view of poverty as a self-inflicted wound is not shared by all throughout time. Many cultures in the past have addressed the issue of the poor more compassionately. Both the *Bible* and the *Quran* frown upon accumulating excess wealth and advocate equalizing wealth and giving to the poor. Both religions teach that excess wealth is bad. Excess wealth is defined as wealth in excess of what is needed to take care of oneself and family and this excess wealth is to be donated to religious institutions and the poor. Since poverty has not been eradicated, even in countries where the majority of citizens follow these religions, these religious teachings are evidently not a cure for poverty.

Being poor is generally not displayed and celebrated in the popular media. Television shows and movies prefer to show beautiful wealthy people enjoying extravagant lifestyles. An exception is the portrayal of the poor in Steinbeck’s novel, *The Grapes of Wrath*.

Then I'll be all around in the dark - I'll be ever'where—wherever you look.

Wherever they's a fight so hungry people can eat, I'll be there. Wherever they's a cop beatin' up a guy, I'll be there... I'll be in the way guys yell when they're mad an'—I'll be in the way kids laugh when they're hungry and they know supper's ready. An' when our folk eat the stuff they raise an' live in the houses they build—why, I'll be there (p. 439).

Tom Joad, *The Grapes of Wrath*, 1939 (Steinbeck, 1992)

The poor are called “stupid people,” “the dregs of society,” and are portrayed as uneducated and unsophisticated and while they may receive pity, generally it is thought that any charity towards them is wasted effort. Steinbeck portrayed Tom Joad, a poor ex-con who was on the run from the law, as a heroic figure but this is an exception in popular culture. More often the poor are ignored by the media and if they are mentioned at all, it is not to point out their heroism and ingenuity. H.L. Mencken, a noted columnist and contemporary of Steinbeck described the victims of the Dust Bowl, (a man-made environmental and economic disaster caused by short-sighted government policy), differently: “They are simply, by God’s inscrutable will, inferior men,” his solution to their unending problems was to sterilize them (Egan, 2006, p. 227). While Mencken’s proposed solution, to eradicate the inferior people, has been tried many times throughout history, it has never proven effective as there are more “inferior men” on the planet than ever before. The Organization for Economic Cooperation and Development estimated that of the nearly seven billion people on the planet, one billion are suffering from malnutrition (Food and Agricultural Organization of the United Nations, 25 February 2010). Who are these people and why are they unable to care for themselves? Is the high-minded statement that all men are created equal merely a platitude that has been proven unattainable and unrealistic? Can society achieve equality or are some people beyond help? Unfortunately, poor people live outside of the scope of wealth measurement (GDP) in the current economic paradigm and are therefore at best invisible, and at worst a burden to government policy makers. This mindset is a travesty that limits wealth creation. If the billions of poor people on the planet could be taught to create wealth it would greatly improve the standard of living for all mankind.

*Independent Variable: Introduction*

One of the primary roles of government is to establish social structures that create rules for economic interaction, for example, laws establishing private ownership of resources that can be passed down to one's descendents in perpetuity. Or laws that create trading monopolies for favored corporations (The East India Trading Company). In the current economic environment that is tightly managed and controlled by central bankers, governments have an interest in promoting the growth of wealth amongst their citizenry. Therefore, discovering policies that create wealth is of great interest to policy makers. However, this is difficult because many interested parties lobby for legislation that create economic inequities in their favor, in the name of wealth creation.

*Independent Variable: Behaviors That Create Wealth*

According to the U.S. Census Bureau, people who achieve higher levels of education earn higher levels of income over their lifetimes. It also reports that with comparable levels of education, men earn more money than women and some races earn more than others. For example, Whites earn more than Blacks (Day & Newburger, 2002; Kominski & Julian, 2010). Since it is impossible to teach a person to change his gender or race, I will ignore these variables in this dissertation. Day and Newburger (2002) calculate a full-time, year-round worker with a professional degree will earn nearly five times more over their worklife than a worker who did not graduate from high school. The message from the U.S. Government to its citizens is clear, if one studies hard and earns a college degree, he will earn more money over his worklife. While this research conclusion is logical, it is not a scientific based solution for increasing wealth in the United States. The U.S. Census Department's studies are flawed in that they do not differentiate between knowledge that enables a worker to create wealth and a college degree. According to the studies, a BS in Engineering from MIT is the same as a BA in Economics from the

University of Missouri and a BA in General Studies from University of Phoenix. However, mere academic effort does not create wealth. One must combine effort and knowledge to create something that someone else desires. If a magical educator could wave a wand and turn every American adult into a highly skilled brain surgeon, it would not increase the amount of wealth in the country because the country only needs a small amount of this good (brain surgery). Furthermore, if this magical educator could mail out college degrees to every citizen, societal knowledge would not change and productivity and wealth would not be affected. As Adam Smith warned, any involvement of government in promoting a certain occupation could lead to an oversupply of this good and an imbalance in the free market. Unfortunately, there is evidence that the federal government made this very critical error by actively promoting a college degree as a path to success, regardless of the academic and economic value of the degree program.

*Independent Variable: Behavior Promoted by Government Policy*

The U.S. Government Accountability Office (“GAO”) reported to congress that enrollment in for-profit colleges has grown from 365,000 to 1,800,000 in the last several years (Kutz, 2010). Many of these students are ill-equipped for the rigors of college and may not have been able to get into an academically superior and exponentially cheaper program at a public college (Kutz, 2010). In 2008, the population of graduates of for-profit institutions was overrepresented by women, minorities and lower-income citizens when compared to the population of graduates from public colleges (Hinze-Pifer & Fry, 2010). This could not have taken place without the funding and enthusiastic approval of the federal government. The GAO further reported that in 2009, students enrolled in for-profit colleges received \$4 billion in Pell Grants and \$20 billion in federal loans backed by the Department of Education (Kutz, 2010). According to the GAO, for-profit colleges were engaged in “fraudulent, deceptive or otherwise

questionable marketing practices” that tricked students into enrolling in expensive educational programs that would result in the student paying far more for a program than its economic value. American citizens were acting rationally in their own best interests based on the information available to them... which was precisely how the U.S. government wanted them to act. Unfortunately, the degree programs offered by these for-profit colleges have little academic or economic value. However, the government-backed loans used to pay the tuition have a real economic value. Loans that funded the for-profit higher education bubble will need to be repaid by the students who signed for them, but received little or no value in return. These students were deceived and the federal government was an accomplice in this scheme.

*Independent Variable: Government Policy in Support of Rational Behavior*

Some politicians theorize that social welfare programs like Social Security and unemployment insurance decrease individual motivation and therefore, decrease the wealth created in economy. There is little credible evidence to support this theory. Social Security provides subsistence income for people who because of age, sickness, injury or untimely death of a parent are not able to create enough wealth for their sustenance. Therefore, it is an example of government support of the individual that facilitates rational behavior of the individual over his worklife, thus increasing national wealth. The Center on Budget Policies and Policy Priorities analyzed Social Security data and found that 19.8 million Americans, including 1.1 million children under the age of 18 would be poor if not for Social Security benefits (Van de Water & Sherman, 2010, p. 1). While the program redistributes wealth, the evidence shows that it supports the individual and is a necessary government service that does not inhibit wealth creation. Social Security is part of the existing paradigm and represents an important component of the American social contract. It was created to deal with the increasingly complex life that is

much longer as result of healthcare and technology advancements created in the current economic paradigm. Social welfare benefits could be proven to decrease societal wealth only if evidence was uncovered demonstrating that individuals elected to leave the workforce in order to receive social welfare benefits and the total benefits paid to them was greater than the wealth created (over their entire worklife) by people entitled to these benefits.

*Independent Variable: Wealth as a Product of Energy*

Wealth, the things that man desires, are produced with energy. Most energy is created using fossil fuels. The International Energy Agency report on World Energy Outlook (2009) compared world GDP to energy related CO2 emissions over the last 210 years.



p. 172

This graph clearly demonstrates two important points. First, energy *is* wealth. The “tangible goods” that are required to sustain mankind including: food, shelter and water, are a product of energy. World Gross Domestic Product has increased by burning ever increasing amounts of fossil fuels to produce wealth required to support the world’s growing population. Second, Gross Domestic Product does not measure the byproduct of energy, CO2 emissions, and as a result man burns as much fossil fuel as he can without regard to the long-term environmental



consequences. The numbers on the graph from 2010 to 2100 are projections based upon the International Energy Agency's ("IEA") "450 Scenario" to reduce atmospheric CO<sub>2</sub> concentration levels to 450 parts per million. Unfortunately, the IEA has not identified a technology that will enable World GDP to grow while at the same time reducing CO<sub>2</sub> emissions.

Future energy production has important consequences for citizens of the United States. While the country represents only 5% of the world population, it emits roughly 20% of the energy related CO<sub>2</sub> and is responsible for 21% of World GDP. In 1990, with the same 5% of the world population, the U.S. share of energy related CO<sub>2</sub> emissions and World GDP was 23%. It is steadily decreasing as the rest of the world catches up to the U.S. in knowledge of how to utilize fossil fuels to create wealth. World population is growing rapidly and the IEA projects that this growth will occur in urban areas where people desire and rationally act to acquire wealth created with energy (*World Energy Outlook 2009*, 2009). Compounding this problem is the fact the U.S. must purchase a substantial portion of its crude oil (to power its automobiles) from foreign suppliers (*World Energy Outlook 2009*, 2009). Since 1976, the United States has consumed more goods than it produced, causing it to import goods (including oil) from foreign countries and now its trade deficit is approaching 10% of its GDP ("Table 1.1.5 Gross Domestic Product," 1929 - 2010). Like any individual household that consumes more than it produces, the U.S. must either spend its savings or borrowed money for current consumption. Until now, the U.S. has been able to borrow money to purchase the foreign goods that it desires but this cannot go on indefinitely. The United States is faced with an energy crisis, which means that it faces a wealth crisis.

The share of energy bills in U.S. household spending more than doubled about 8% over the five years to 2008, reducing spending on other goods and services,

and increasing household indebtedness. The rise in oil and other energy prices contributed significantly to the surge in flows of capital from oil-rich countries to the advanced economies, notable the United States, which helped temporarily to sustain consumption and imports (*World Energy Outlook 2009*, 2009)(p. 60).

Worldwide competition for finite resources will lead to increasing fuel prices that in turn will result in decreasing wealth for American citizens, regardless of their behavior. Since 2006, per capita wealth of U.S. Households has steadily declined (*Flow of Funds Accounts of the United States: Flows and Outstandings Second Quarter 2010*, 2010). If America does not change its method of producing energy, its wealth will decrease in the future regardless of the personal behavior of its citizens. To solve this wealth crisis, an inexpensive, renewable and non-polluting method of producing energy must be invented and adopted. Citizens must be educated and supported in a manner that will enable them to accomplish this task.

*Independent Variable: Teaching Behaviors that Create Wealth*

The National Center on Education and the Economy (“NCEE”), a not-for-profit organization, established a commission, The *new* Commission on the Skills of the American Workforce, to study global macro-economic trends and the U.S. education system and its role in preparing future generations of American workers. The commission focused its study on: Economics and Labor Markets, key industries such as automotive, biotechnology and telecommunications and the education systems in the U.S. and other countries. Their report, “Tough Choices Or Tough Times” (The New Commission on the Skills of the American Workforce, 2007) proposed several changes to the education system in America which they claim are necessary to make the country competitive. The commission was created to follow up on the NCEE’s original study in 1990 that failed to recognize that workers from countries other

than the U.S. could compete for highly skilled, knowledge worker jobs. While the first commission was happy to advocate for the outsourcing of low skill work, it “never dreamed” that more highly skilled jobs could be accomplished by workers in low-wage countries (The New Commission et al, 2007). This was a profound error and demonstrates a lack of understanding of the current economic paradigm as well as basic human nature.

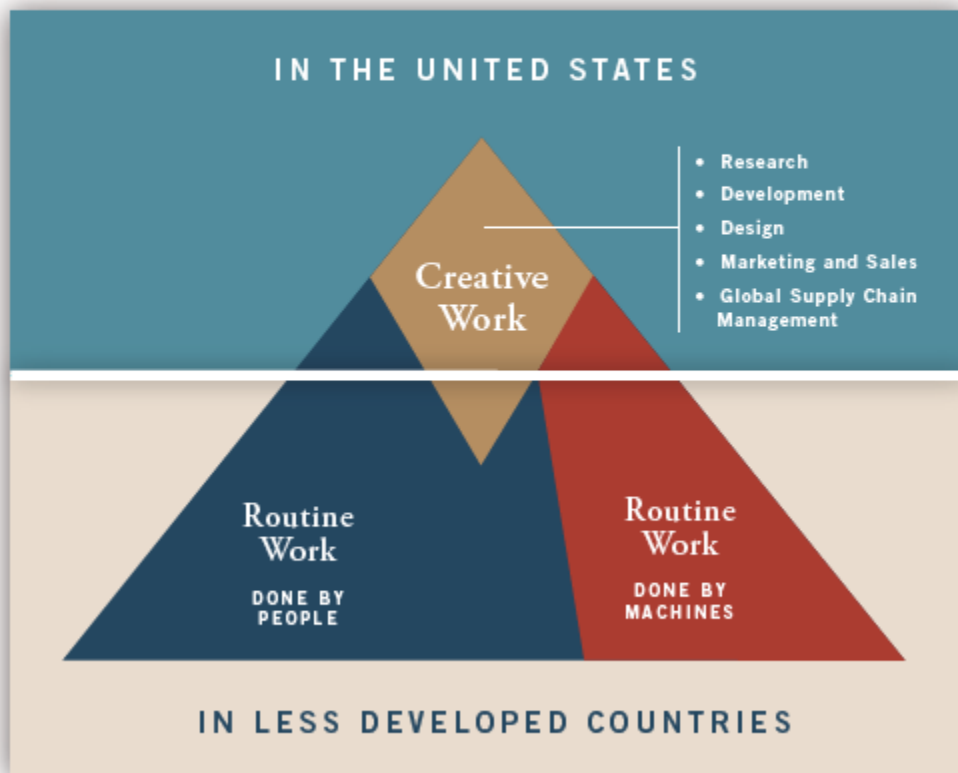
“Tough Choices Or Tough Times” cites many examples of the U.S. losing ground in education against its competitors. As evidence, The Commission et al. (2007) compares the U.S. to other countries in the proportion of workers entering the workforce with a high school diploma. Other comparisons included the percentage of world population of college students and student achievement in math, science and general literacy compared to other industrialized nations. The New Commission et al. (2007) seeks to highlight the importance of a competitively educated workforce by discussing the effects of globalization on the economy. The New Commission et al. (2007) cites U.S. leadership of “the deconstruction of the vertically integrated firm,” a pleasant way to describe outsourcing of jobs to low-wage countries. In classical economics, employers hire the most productive worker, the best trained at the lowest price, regardless of their location (Smith, 1776). The Commission’s point is that due to digital technology, at the very time that labor is more fungible and easily transferable than ever before, the U.S. education system is losing ground against our competitors and as a result, our citizens are less competitive against workers from emerging economies in China and India. In order for American citizens to increase their standard of living, they will need to be more productive than their competition. The Commission compares the cost of an Indian engineer (\$7,500 salary) to a comparably trained American engineer (\$45,000). The choice of who to hire is clear. The American worker must be over six times more productive in order to be selected over the

comparably trained Indian worker. The Commission et al. (2007) poses the question “Why would the world’s employers pay us more than they have to pay the Indians to do their work? They would be willing to do that only if we could offer something that the Chinese and Indians, and others, cannot” (p. 5).

The New Commission et al. (2007) sets as a goal to create a two tier world economy where the best and brightest Americans are trained as the creative knowledge workers, performing research and development, design, marketing and sales and supply chain management while jobs requiring neither innovation nor creativity will be done by workers “in less developed countries.”

## PROTOTYPICAL U.S. INDUSTRY

*in 10 years if all goes well*



The report carries a dire warning to the country if major changes are not made to the U.S. public education system that it concludes was “built for an era in which most workers needed only a rudimentary education” (The New Commission et al, 2007). The consequences cited include the loss of investment capital available to U.S. businesses as well as a declining standard of living for American citizens. The Commission not only ignores the importance of societal knowledge in wealth creation, it arrogantly ignores facts of basic humanity, that all men are created equal. The idea that America can somehow train her workers to sit at the top and direct the actions of the rest of the world is nonsense and more closely reflects the thinking espoused in *Oeconomicus*, 2,500 years ago. Perhaps they should read the following passage written by Adam Smith in 1776.

The difference of natural talents in different men is, in reality, much less than we are aware of; and the very different genius which appears to distinguish men of different professions, when grown up to maturity, is not upon many occasions so much the cause, as the effect of the division of labour. The difference between the most dissimilar characters, between a philosopher and a common street porter, for example, seems to arise not so much from nature, as from habit, custom, and education. When they came into the world, and for the first six or eight years of their existence, they were perhaps, very much alike, and neither their parents nor playfellows could perceive any remarkable difference (Book 1, Chapter 2.

Paragraph 4).

Any proposal that our education system should only teach the “fun”, value-added jobs to a few of our best and brightest students while the Indians and Chinese get their hands dirty is naïve and will result in the collapse of our education system, and eventually, our economic paradigm. As

Adam Smith professed, our education system is critical to the future of our society. We need to teach our citizens not to accept available technology and knowledge as limitations, but instead to constantly strive for improvements. Complacency is the enemy of progress. Currently nearly all of the electrical energy produced in the world is done with machines that were designed more than 100 years ago. If we desire to move our society forward, we need to teach our citizens that this can be improved... exponentially. In an economic paradigm where the wealth of each individual is a function of the productivity of his neighbors, it makes sense to train ALL people to be as productive as possible. Attempting to “compete” for diminishing natural resources with the rest of the world is a folly in the long-term (America wins only if others lose). America already consumes far more natural resources on a per capita basis than citizens in the developing world, including China and India. This is not sustainable over time. A more realistic strategy would be to create exponential growth of wealth for all of the world’s people made possible by technological breakthroughs. This will only occur by increasing the level of wealth creating knowledge throughout the world. Knowledge is not a finite commodity and it should not be rationed as if it is. In fact, as Adam Smith observed in 1776, our wealth is a function of the knowledge of fellow man.

At the moment when education is most important, the U.S. Government along with state and local governments have less ability to increase expenditures in education and in fact, state and local governments which provide the bulk of education funding, are running large deficits (*Flow of Funds Accounts of the United States: Flows and Outstandings Second Quarter 2010*, 2010). Since many are unable to borrow due to constitutional requirements, it is likely that future educational expenditures will actually decrease on a per capita basis because America will have less wealth as a result of its energy crisis. The International Monetary Fund is warning that

governments all over the world, including the U.S., need to reduce unsustainable deficit spending. The likely cuts are going to be in social welfare programs that support the individual worker like Social Security, healthcare, and eventually education (*Navigating the Fiscal Challenges Ahead*, 2010). While these cuts will probably create short-term budget savings, they will have a disastrous effect on wealth because these social programs were designed to support the individual worker in the current paradigm and represent the foundation of wealth creation. With this support removed, undoubtedly, personal productivity and wealth will decline.

Decisions regarding what to teach are critically important to our society and will determine the amount of future wealth that will be created. A limitation on how we will arrive at the decision of what to teach is described by John Stuart Mill who describes the difficulty of experimenting in economic science.

In chemistry and natural philosophy, we can not only observe what happens under all the combinations of circumstances which nature brings together, but we may also try an indefinite number of new combinations. This we can seldom do in ethical, and scarcely ever in political science. We cannot try forms of government and systems of national policy on a diminutive scale in our laboratories, shaping our experiments as we think they may most conduce to the advancement of knowledge. We therefore study nature under circumstances of great disadvantage in these sciences; being confined to the limited number of experiments which take place (if we may so speak) of their own accord, without any preparation or management of ours; in circumstances, moreover, of great complexity, and never perfectly known to us; and with the far greater part of the processes concealed from our observation (Mill, 1877. p. 146).

While we do not have the ability to conduct experiments, we do have thousands of years of human history that we can learn from. Students can be taught that the future of mankind can be influenced by their individual actions. There is no shortage of: knowledge that needs to be discovered, technology that needs to be created and work that needs to be done.

*Independent Variable: Behaviors that do not Increase Wealth*

There is no evidence that teaching financial literacy “facts” has any impact on changing student behavior in a manner that increases either their personal wealth or societal wealth. In Mandell’s annual report to Jump\$tart he found the following related to his assessment:

College students are far more financially literate than high school students, as literacy increases with each year of college. The mean score for all college students was 61.9% compared with just 48.3% for high school seniors. Scores range from 59.3% for college freshmen to 64.8% for college seniors. Just 27% of college seniors failed the exam in contrast to 73.9% of high school seniors, constituting a near reversal of outcomes....

Some of the difference between high school seniors and college freshmen may be due to the fact that those who go on to college are likely to be more academically gifted than those who don't, and it has been shown by college entrance scores that financial literacy is highly correlated with academic prowess (Mandell, 2008, p. 29).

Students who are more accomplished academically at solving problems score better on the Jump\$tart assessment, regardless of whether they have taken the Jump\$tart course or not. Furthermore, there is no evidence that scoring high on the assessment leads to greater individual wealth. The ability to calculate APR interest or select one financial transaction over another is



not the kind of knowledge that creates wealth. Wealth is created by knowledgeable individuals who are motivated by their own interests to produce goods and services that others desire.

While this study provides evidence that students who take financial literacy classes are no more financially literate than students who do not take such classes, it does not provide any insight into what the Jump\$tart assessment test is measuring. Analyzing the Jump\$tart assessment will enable me to understand what policy makers are referring to when they discuss “financial literacy” and determine if the test measures knowledge that leads to wealth creation.

#### *Alternative Points of View*

Critics have compelling observations, and in the case of Charlie Chaplin (the loss of humanity in the film *Modern Times*) and George Carlin (“... it’s called the American Dream ‘cause you have to be asleep to believe it”), extremely humorous critiques on the shortcomings of our social structure. Thorstein Veblen, a widely read University of Missouri economist, wrote *The Theory of the Leisure Class*, a detailed critique of consumerism. Drawing upon anthropology and sociology to describe the irrationality of human behavior, Veblen coined the terms “conspicuous consumption” and “conspicuous leisure”(Veblen, 1899). Veblen argued that man was not the rational, utility maximizing being that he was depicted to be in mathematical models, therefore, the output from these models was materially flawed. Veblen viewed the quest for wealth, not as an exercise in utility maximization, but something far more primal.

The ownership of women begins in the lower barbarian stages of culture, apparently with the seizure of female captives. The original reason for the seizure and appropriation of women seems to have been their usefulness as trophies. The practice of seizing women from the enemy as trophies, gave rise to a form of ownership-marriage, resulting in a household with a male head....

Wherever the institution of private property is found, even in a slightly developed form, the economic process bears the character of a struggle between men for the possession of goods. It has been customary in economic theory, and especially among those economists who adhere with least faltering to the body of modernised classical doctrines, to construe this struggle for wealth as being substantially a struggle for subsistence (Veblen, 1899, p. 23-24).

There is some common ground between Veblen's primal man and "rational man" used in economic modeling; after all, both deal with the motivation of the individual. However, there are notable differences. For example, a rational utility-maximizing man would not pay 100 times more for a silver spoon than one made of steel, especially when the functionality of the steel spoon is superior (easier to clean). This is an example of conspicuous consumption that Veblen describes as follows:

The quasi-peaceable gentleman of leisure, then, not only consumes of the staff of life beyond the minimum required for subsistence and physical efficiency, but his consumption also undergoes a specialisation as regards the quality of the goods consumed. He consumes freely and of the best, in food, drink, narcotics, shelter, services, ornaments, apparel, weapons and accoutrements, amusements, amulets, and idols or divinities. In the process of gradual amelioration which takes place in the articles of his consumption, the motive principle and proximate aim of innovation is no doubt the higher efficiency of the improved and more elaborate products for personal comfort and well-being. But that does not remain the sole purpose of their consumption. The canon of reputability is at hand and seizes upon such innovations as are, according to its standard, fit to survive. Since the

consumption of these more excellent goods is an evidence of wealth, it becomes honorific; and conversely, the failure to consume in due quantity and quality becomes a mark of inferiority and demerit (Veblen, 1899, p. 73-74).

As valid as Veblen's observations appear to be, the appropriate question is: Are the differences between the "rational man" and Veblen's somewhat irrational man great enough to invalidate the existing paradigm?

While the observations of the critics may be valid, they are also incomplete. They find an error with the paradigm and describe it in a manner that resonates with people... "Chaplin makes a good point about the ill-effects of technology." As I have chronicled, it is clear that all paradigms have errors. But critics do not propose a new paradigm that is better than the old one... "Chaplin makes a good point, but I sure love my laptop with wireless internet."

Therefore, while I enjoy some critical viewpoints, I will not use critical viewpoints in my research as absolute evidence that the current paradigm needs to be destroyed. In fact, while it does no harm to teach critical viewpoints, it should be made clear to students that the critical observations may be accurate, but if they are incomplete then they do not offer an alternative to the current paradigm. The observations of critics can inform those working to improve the paradigm, but evidence of a paradigm error is not a reason to abandon it and teaching students otherwise would be a disservice.

Recently a political organization named FreedomWorks, founded by billionaire David Koch (Koch inherited his wealth) and funded by large corporations such as Philip Morris and AT&T, has been critical of several aspects of the existing economic paradigm. On its website, FreedomWorks proclaims its mission to be: "FreedomWorks recruits, educates, trains and mobilizes millions of volunteer activists to fight for less government, lower taxes, and more

freedom.” The organization funds the “Tea bag” party (t.e.a. is an acronym for taxed enough already) that portrays itself as a grass roots movement dedicated to returning America to its Constitutional roots. This group is critical of the current system and advocates its dismantling without offering a new paradigm that is better than the existing one. They point back to a time in American history that never existed. The difference between this critical group and popular culture icons like Carlin and Chaplin is they are not attempting to entertain. Government services that support the individual as he develops into rational, utility seeking productive citizen are part of our economic paradigm. Eliminating these services that are foundations of America’s “social contract” will not increase freedom and democracy, in fact, the opposite is true. A system that operates at the behest of Koch, AT&T and Philip Morris represents a return to feudalism, not a path to individual freedom. In the opinion of this author, Freedom Works and the Koch brothers are advocating an end to the social structure described by Adam Smith and a return to a top-down economic structure in which “gentlemen and Kings” direct the activities of the common man.

### *Summary*

The scientific observation that knowledge creates wealth was not discovered while writing this literature review. Jean Baptiste Say observed this phenomenon early in the 19<sup>th</sup> century.

Objects, however, cannot be created by human means; nor is the mass of matter, of which this globe consists, capable of increase or diminution. All that man can do is, to re-produce existing materials under another form, which may give them an utility they did not before possess, or merely enlarge one they may have before

presented. So that, in fact, there is a creation, not of matter, but of utility; and this

I call production of wealth (Say, 1821, Book I, Chapter I, Paragraph 7).

In fact, this is a common theme that was described in similar terms by many of the great philosophers that I studied. However, Adam Smith's work presented a revolutionary strategy to enable society to create the most wealth possible by empowering each individual to act in his own best interest. Individuals seeking to maximize their utility (enjoying the most wealth with the least effort) will strive to increase the relative value of their labor by expanding their knowledge to greater serve others. Individuals who affect a paradigm improvement that exponentially improves the life of their fellow citizens are rewarded with fame and riches. By supporting the individual worker, enabling him to reach his full potential, societal knowledge and wealth are maximized. Therefore, to create something grand, exponential economic growth and advances in health, welfare and social justice, society must think small and support each individual in a manner that recognizes that collective wealth is dependent upon the personal success of each individual citizen.

The current paradigm reflects a top-down approach of managing national accounts that measure GDP, a metric that reflects each nation's relative consumption of diminishing natural resources. The world financial market collapse of 2008 demonstrated that the paradigm is afflicted with a fatal flaw. While acknowledging that the world economic system is in crisis, the only solutions offered by the G20 and IMF (representing the central bankers for the most powerful economies) are for their members to cut government services that serve the individual and tweak national monetary policy. These solutions reflect a "normal science" approach as described by Kuhn. Central bankers who make up the membership of these powerful organizations are demonstrating that while they may be experts in the language of econometrics,

the solution to the current economic crisis will not be found in this scientific field. Neither organization addresses the potential of the world's seven billion people to create innovative technologies that would solve our current financial market problems, virtually overnight. At the same time the world needs each person achieving at his maximum potential, the IMF and G20 are advising governments to eliminate pensions and healthcare benefits for workers and decrease spending on public education.

The proposed solution of the U.S. government is even more curious. The strategy of teaching “financial literacy” as a way to cure the financial market and grow wealth is absurd. First, markets failed because American (and Irish and U.K.) citizens were duped into horrendous real estate transactions in order to meet a short-sighted government policy of GDP growth (Taibbi, 2010a; *The G20 Seoul Summit Leaders' Declaration November 11-12, 2010*, 2010). No credible evidence exists that proves that the market collapse of 2008 had anything to do with lack of financial literacy in the general population. First, citizens did exactly what their governments told them to do and now the political strategy is to blame the victim. Second, the only people who need specialized financial training are those workers who expect to earn their living in financial markets. Everyone else should be protected by laws that promote and enforce a level playing field. The policy goal of training all citizens to be financial experts is as preposterous as training everyone to be his own policeman, fireman, and medical doctor. The confusing prescription of financial literacy education for all citizens has been embraced by policy makers with almost no opposition. Therefore, understanding what is in the Jump\$tart financial literacy curriculum is extremely important for education policy makers. If it is not going to make workers more productive and increase societal wealth, what is it designed to accomplish?

What would be more valuable to students than financial terminology would be wealth and knowledge literacy as described by Adam Smith and other philosophers from the Age of Enlightenment? If all of the people of the world understood the power of rapidly advancing widespread knowledge, a new economic paradigm to replace the current framework that is hopelessly broken could be initiated. The next paradigm could be one that creates new Kondratieff Waves by democratic intention that will be even more powerful than the previous waves and will lead to greater health, social welfare, democracy and justice for all people. In order to accomplish this, the new paradigm must refocus the efforts of policy makers on all of the individuals on the planet equally, regardless of their home country. Furthermore, the rights of mother earth must be considered equally with the rights of mankind. Rather than a sentence for economic decline, this prescription is a recipe for exponential advancement. The future can be an exciting place to live, but only if we take deliberate steps to make it so.

### **Chapter 3: Research Design and Methodology**

#### *Introduction*

The purpose of this study is to add to a scholarly understanding of financial literacy education in the U.S. The research question's dependent variable is personal wealth creation while the independent variables are behaviors that create personal wealth and financial literacy curricula that teach students to adopt these behaviors. Financial literacy education is a recent phenomenon that has diffused rapidly throughout American society. The movement began in the late 1990s with the active promotion of Jump\$tart, the financial services industry's educational foundation and culminated with the President's Advisory Council on Financial Literacy ("Advisory Council") in 2010. The common rallying cry of financial literacy advocates is that financial literacy education is urgently needed to save the country from dire economic

consequences. In his report to President Bush, U.S. Treasury Secretary Henry Paulson and all members of the U.S. Congress, Charles R. Schwab the Advisory Council Chairman declared:

We believe the market turmoil and credit crisis of 2008 underscore the need for improved financial literacy in the United States. While there are many causes to the economic problems facing the country, it is undeniable that a lack of financial literacy is a contributing factor (Schwab, 2009, Preface).

In their final report, the Advisory Council proclaimed that a lack of financial literacy was more than a mere “contributing factor” to the collapse of financial markets in 2008, it was one of the “root causes” (Schwab, 2009, p. 1).

The Advisory Council made several recommendations to address the “problem” of financial illiteracy in American society:

1. The U.S. government should codify the Advisory Council’s definition of financial literacy. (recommendations 11 and 12)
2. The U.S. government should, by whatever means necessary, require the adoption of a financial literacy curriculum for all students from kindergarten through post-secondary. (recommendations 1-5)
3. The U.S. government should, by whatever means necessary, require the adoption of a financial literacy curriculum by employers who will be responsible for teaching their employees. (recommendations 6-8)
4. The U.S. government should provide federal funding for non-profit organizations working in the area of financial literacy. (recommendation 10)
5. The U.S. government should actively market and promote financial literacy concepts to the American Public. (recommendation 15)(Schwab, 2009)



These recommendations promote a radical change in both economic and education policy for the U.S. government and the foundation upon which they are based, that financial illiteracy is a root cause of national economic decline, is erroneous.

*The Relationship Between Education and Economic Prosperity*

In Chapter Two, I described the relationship between wealth and energy, more precisely that wealth (as defined in our current economic paradigm) = energy = knowledge. For most of human history, owning an animal or a human slave represented the only way to own an energy-creating device. In crude and offensive terms, a human slave was a means of storing energy (wealth) for future use. The Industrial Revolution exponentially expanded wealth and was made possible by machines that allowed for a more democratic method of storing energy for future use, internal combustion engines burning fossil fuels. However, since this fuel source was available to, but not used by man until 200 years ago, I posited that rather than equating fossil fuel to energy, it was more accurate to conclude that human knowledge enables man to create energy. For example, the knowledge of how to build and operate a gas turbine enables man to create electricity used to power homes and factories. Therefore, human knowledge creates wealth. This theory is rooted in Adam Smith's scientific studies where he observed that a common laborer in 1776 England was far wealthier than a tribal chief who commanded 10,000 hunter/gatherers (Smith, 1776). Personal wealth and national wealth are both a function of the level of knowledge in society. Man is more productive than ever before, owing to higher levels of knowledge and labor specialization and as a result, he is more reliant upon his neighbor's knowledge for his personal wealth. If a man's neighbors are uneducated hunter/gatherers, he too will be a hunter/gatherer, even if he has a Doctorate in Education.

In order to achieve economic expansion, an espoused goal of our current economic paradigm, the level of knowledge in society must increase. Teaching the current state of knowledge to a growing population will lead to overall growth that correlates to population increases but it will not contribute to increased per capita wealth. Scientific breakthroughs that advance man's knowledge and are quickly disseminated through society leading to substantial productivity gains are the only manner to exponentially increase per capita wealth. Scientific knowledge that advances man's understanding of his environment as well of that of himself enables him to create new technologies that solve problems, improving his health and welfare. In order to increase the level of knowledge in a society, citizens must be taught the structures of current scientific paradigms in order to understand the existing state of knowledge. Scientific paradigms enable their members to experiment and communicate with one another using the tools of the paradigm. However, students must be taught that all scientific paradigms are temporary and must be replaced with an improved paradigm or society will stagnate and in time, recede. Scientific breakthroughs that lead to paradigm improvements are made by scientists who have an expert level of specialized knowledge of the existing paradigm. Only by replacing an existing paradigm with a new and improved one can a society improve its knowledge and make its citizens more productive.

The U.S. government has proclaimed that financial literacy is an important (key) type of knowledge that will increase personal, and in turn, national wealth (Obama, 2002). Financial literacy refers to economic decisions that a person makes over his life, the most important of which are heavily influenced by government policy. In the previous chapters I have presented evidence that demonstrates that an individual's economic decisions are only as good as his level of knowledge of the various factors that affect a given transaction. A general understanding of

basic financial market theory will not provide an individual with specific knowledge related to important personal financial decisions that he may encounter during his life. If a man's knowledge is incomplete, he will be easily taken advantage of by a counter-party who possesses more complete knowledge. Furthermore, the single most important factor driving financial decisions of individual citizens is government policy; as described in Chapter Two in both the home mortgage and higher-education student loan markets. Therefore, even if their intentions are admirable, if government policy makers promote bad behavior, people will often follow their leaders even if it ultimately means personal financial destruction.

The urgent push for financial literacy education is not due to a change in American financial markets. The U.S. banking system is not new; in fact the practice of fractional reserves is thousands of years old. Teaching more people about banking, other than the experts who need to know (division of labor) does not seem to be an appropriate strategy for improving societal knowledge and increasing wealth. A few people in our society receive specialized training over decades in order to become an expert in the financial paradigm. Throughout its history, America has not attempted to train all of its citizens to be financial experts because our society does not need 300 million financial experts any more than it needs 300 million brain surgeons. Financial specialists are needed to operate financial markets and advise policy makers of laws and regulations that are needed to keep markets efficient and fair for all citizens. Adam Smith observed and documented the principle that individual specialization led to increased personal and national wealth. Training all citizens to be self-sufficient in financial matters as a strategy to increase personal and in turn, national wealth, runs counter to the foundational economic principle of division of labor.

*Problem and Purposes Overview*

The U. S. government is putting a great deal of resources and effort behind radically increasing required financial literacy education as a strategy to increase national wealth. However, there seems to be little evidence that this course of action will have its desired effect. Mandell made the two following observations in his report of the 2008 results of JumpStart's financial literacy testing:

Since standard of living is a multiplicative function of both financial resources (income and wealth) and the inability to use those resources efficiently (financial literacy), we find it increasingly disturbing that those with less income and education are saddled with the additional disadvantage of not possessing the ability to spend what they have efficiently. It is no great surprise to learn that the current financial crisis began with the subprime mortgages that were marketed primarily to those with less income, education, and presumably less financial literacy than those who were eligible for prime mortgages. Financial literacy clearly has ongoing macroeconomic ramifications (Mandell, 2008, p. 6).

The first statement, which is the economic basis for financial literacy education, is profoundly wrong. In Chapter Two, I discovered the philosophical view that knowledge creates wealth and therefore, standard of living is not a function of financial efficiency; it is a function of the level of scientific knowledge that a society possesses, specifically the type of scientific knowledge that enables its citizens to be more productive. Correlating financial resources to standard of living has no basis in economic theory. Money is wealth only to the extent that it can be traded for goods and services. If there are no goods or services to purchase, money is worthless paper. If JumpStart's assertion was correct, poverty could be eliminated by passing out more money.

The second statement that blames the collapse of the world's financial system on financially illiterate citizens who bought houses with subprime mortgages, is not supported by the evidence. In fact, subprime mortgages were non-conforming and could not be purchased by the mortgage GSE's that were ground zero of the financial market failure. In addition, these types of mortgages were never more than 15% of all U.S. mortgages and while this class of mortgages contributed to the collapse, the fault lies with highly educated financial experts who made the loans possible, not the unfortunate people who were tricked into taking them. By using highly complex financial instruments called credit default swaps traded in specialized financial markets, banking specialists fraudulently procured money that was in turn aggressively loaned to subprime borrowers (Bernanke, 2007; Taibbi, 2010a). The bankers and financial experts who made the subprime market possible were well compensated for their efforts. However, when the U.S. housing market collapsed, making trillions of dollars of exotic financial instruments worthless, homeowners and private investors suffered harsh consequences while the financial experts who created the disastrous scheme were rewarded by the U.S. government. Financial literacy or lack thereof in the general population had *nothing* to do with the collapse of the world's financial market; the Group of Twenty Finance Ministers and Central Bank Governors, ("G20"), and Chairman of the Federal Reserve Board of Governors both concur with this conclusion (Bernanke, 2010; *The G20 Seoul Summit Leaders' Declaration November 11-12, 2010*, 2010). Blaming the collapse of the U.S. housing market on homeowners who were duped into unfair real estate deals is like blaming flood damage on fish that swam outside of the riverbed.

Since the normative policy goal of compulsory universal financial literacy education is based on a false premise, at best its curriculum is ineffective and is wasting resources that could

be more productively allocated teaching knowledge that increases wealth. However, it is possible that the JumpStart curriculum could actually be damaging the ability of America's students to create wealth over their working lives. If the financial literacy curriculum teaches students that economics is an absolute paradigm that cannot be changed, then it could well create a knowledge mindset where students are taught to replace critical thinking with rote memorization, in effect replacing knowledge with dogma, making students less likely to challenge paradigms. Furthermore, financial literacy instruction could replace instruction time that is currently allotted to foundational knowledge instruction. There is a relatively small amount of generalized standard curriculum that is designed to teach foundational knowledge to all people. For example, a brain surgeon and an auto mechanic both needed to learn to read when they were five years old. Literacy, numeracy and personal health are foundational building blocks that enable people to advance their knowledge and become specialists in another field. Most knowledge is specialized, which as Adam Smith observed, has been the basis for exponential growth in per capita wealth since the Industrial Revolution. However, without foundational knowledge, specialized knowledge cannot be attained. The radical proposal of the Advisory Council declares that financial literacy is a foundational knowledge as important to our society as basic numeracy, literacy and personal health. Therefore, it is supremely important and relevant for scholars to understand precisely what is being taught as financial literacy as defined by the Advisory Council.

#### *Research Questions*

This study will add to a scholarly understanding of financial literacy education in America. The research will focus on understanding the knowledge that financial literacy education is attempting to convey. The research questions are as follows:

*How does the Jump\$tart assessment questionnaire measure knowledge that reflects the adoption of wealth creating behavior?*

As documented in Chapter Two, personal wealth is a function of the knowledge of the society in which one lives. The types of knowledge that create wealth include the scientific understanding of man and his environment. Man's ability to increase his understanding of the phenomena that affect these two enables him to be more productive and results in a wealthier society. In order to address the research question of this dissertation, I will investigate what the Jump\$tart test is measuring to learn whether the underlying curriculum can have a positive impact on the level of scientific knowledge in society. The Jump\$tart test is the most popular assessment tool used in financial literacy education and represents the de facto national financial literacy standard. The answer to this dissertation research question will provide education policy makers with valuable information. Knowing the content of financial literacy curriculum will empower policy makers to make more informed decisions when deciding whether or not to adopt these programs. Without an unbiased scientific analysis of the assessment, education policy makers are placed in a position where they must make decisions based solely on the recommendations of undemocratic panel of 'experts' who were selected to serve on the Advisory Council.

*Research Hypotheses*

Financial knowledge will help a person receive a greater allocation of available wealth by enabling him to use his superior knowledge to "take unfair advantage" of his neighbors in financial transactions unless he is constrained from doing so by law (Bernanke as cited by (Cassidy, 2010)p.3). Finance is a zero-sum-game where one person wins and another loses. In and of itself, it does not directly lead to wealth creation; it merely enables society to move money around more efficiently. Therefore, teaching general financial literacy "facts" is not an effective

method to teach foundational knowledge that will help a student acquire specialized knowledge or critical thinking skills that will motivate a student to challenge and improve a scientific paradigm. Since the Jump\$start test was sponsored and heavily influenced by a few powerful financial services firms, it is likely that the assessment and the curriculum are designed to increase the wealth of these firms at the expense of financial consumers. Instead of teaching students to make rational decisions in their own best interest, the aim of financial literacy education would appear to reinforce the lessons from *Oeconomicus*, which described the benefits of teaching slaves that it is immoral to steal from their master or challenge the status quo. Understanding what is in the curriculum will enable education policy makers to judge for themselves what the likely result of universal compulsory financial literacy education will be.

#### *Population and Sample*

In this study, I will be analyzing the 31 multiple-choice question Jump\$start assessment tool that was used throughout the country from 1997 to 2008 to measure financial literacy. The test was developed for Jump\$start by Lewis Mandell and was underwritten (paid for) by the Merrill Lynch Foundation and it represents the de facto national standard for comprehensive financial literacy education. The Advisory Council adopted a definition of financial literacy, “the ability to use knowledge and skills to manage financial resources effectively for a lifetime of financial well-being”, that was nearly identical to the Jump\$start definition (Jump\$start’s definition uses “security” instead of “well-being”), (Schwab, 2009, p. 35). In addition, Dr. Mandell was one of four non-governmental economists who developed the U.S. Treasury’s National Financial Literacy Challenge, which contains 35 multiple-choice questions and is designed to measure the standards required to meet the definition of financial literacy. Jump\$start does not create and distribute curriculum and classroom materials. There are many textbook



publishers and not-for-profit organizations that provide these materials. The importance of the Jump\$start assessment is that it is the de facto national standard for determining if a student has achieved “financial literacy.” Therefore, this study is concentrating on what the assessment measures. Curriculum providers must consider how students will be assessed when preparing classroom materials.

Since the 1997-98 academic school year, the test has remained substantially the same in order to make the results comparable year to year. The test instrument professes to cover four key areas of the Jump\$start personal finance standards:

1. Income
2. Money Management
3. Saving and Investing
4. Spending and Credit

I will group the questions into these categories in my analysis. In 2008, the test included an additional 18 questions that were designed to yield demographic data and self-identified financial behavior data (Mandell, 2008) Since I am only interested in what Jump\$start is measuring as this informs my question about what is in their financial literacy curriculum, the demographic and behavioral data is irrelevant. Therefore, I will only analyze the first 31 questions. Furthermore, the actual test results from the last 10 years that reflect the achievement of U.S. high school and college students are irrelevant to my research. Since I am trying to understand what the test is assessing as a means to understand what is in the underlying curriculum, test validity is not relevant to the research question.

#### *Data Collection and Instrumentation*

I will be analyzing the Jump\$start test to determine what is being tested, which will in turn reveal what the underlying curriculum is teaching. I will then be able to determine if the curriculum is teaching scientific knowledge that increases wealth. I will be performing qualitative analysis to understand what each question purports to measure and determine how the underlying curriculum relates to scientific knowledge that increases wealth.

### *Data Analysis*

I will analyze each of the 31 questions using the following methodology:

1. Analyze each question to determine the economic science theory or “fact” that is being assessed. By reading the question and reviewing the “correct” and “incorrect” answers I will be able to determine what economic knowledge the test is assessing. I will draw on the economic philosophy of Adam Smith in his book *An Inquiry into the Nature and Causes of the Wealth of Nations* and Alfred Marshall in his book *Principles of Economics* to describe the question’s foundational economic principle. Next, I will describe the extent to which diffusing knowledge could increase societal wealth.
2. I will analyze each question to determine whether or not it assesses the underlying economic knowledge that could potentially increase societal wealth. I will also determine the extent to which the “correct” answer is in fact correct. The level of correctness will be classified into three groups: 1) correct according to accepted economic knowledge, 2) possibly correct, if prevailing real-world assumptions are applied (but unstated) and 3) incorrect or only correct if certain unstated assumptions are applied that are not prevalent in society.

3. If the question does not assess knowledge that could increase societal wealth, I will describe what it is assessing and how this could impact the qualities of health and welfare of people in society.

I will utilize a qualitative methodology that draws upon the resources described in Chapter Two of this dissertation, primarily the work of Alfred Marshall in *Principles of Economics* and Adam Smith in *The Wealth of Nations* since these works substantially shaped the foundational philosophy of our current economic paradigm.

*Example*

**Question 1. Inflation can cause difficulty in many ways. Which group would have the greatest problem during periods of high inflation that lasts several years?**

- a) Older, working couples saving for retirement.
- b) Older people living on fixed retirement income.
- c) Young couples with no children who both work.
- d) Young couples with children.

The correct answer is b) Older people living on fixed retirement income (p. 92).

*Analysis 1: Question 1*

The question is designed to test knowledge related to inflation, the devaluation of money over time. Therefore, the underlying economic principle is the value of money. Smith (1776) described money as follows:

Labour was the first price, the original purchase-money that was paid for all things. It was not by gold or by silver, but by labour, that all the wealth of the world was originally purchased; and its value, to those who possess it, and who want to exchange it for some new productions, is precisely equal to the quantity

of labour which it can enable them to purchase or command. (Book 1, Chapter V, Paragraph 2).

Marshall (1890) described how prices of goods were relative in society... “Thus the price of anything will be taken as representative of its exchange value relatively to things in general, or in other words as representative of its general purchasing power” (Book II, Chapter II, Paragraph 28). Promoting an understanding of the scientific concept of money and its value to all citizens could create greater societal wealth. Monetary policy is a function of government and in a democratic society; an informed citizenry could help shape monetary policy that could lead to a more equitable allocation of wealth.

*Analysis 2: Question 1*

This question does not assess the underlying foundational economic principle. The knowledge assessed is erroneous due to its gross oversimplification of complex subject matter. The “correct” answer, if an older person is living on a fixed income and the value of the currency decreases, his purchasing power will deteriorate over time is true in some instances. However, there are dozens of factors that must align to make this answer correct and in any case the question does not assess any knowledge of how money works.

*Analysis 3: Question 1*

The statement that “Inflation can cause difficulty in many ways” infers that inflation is a bad thing that causes problems, a gross oversimplification akin to declaring: “getting old is bad!” A student who was taught this dogma could infer that the opposite of inflation, deflation, was a good thing. Teaching all citizens that inflation is a bad, scary thing does not improve their ability to make rational decisions in their best interests. First of all, slight steady inflation is an important component of U.S. monetary policy, and trying to make inflation into a dirty word

does not help the Federal Reserve accomplish this goal and in the long run, could hurt the country. The curriculum that would support a correct answer seems to only teach the “fact” that inflation is a devaluation of money and that it is bad. The first concept is true; the second is not necessarily true. Steady and controlled inflation, like the U.S. has experienced over the last 96 years, can be a good thing. The underlying curriculum is likely teaching a complex economic concept as a simple-to-remember natural law. Inflation is a goal of our monetary policy and therefore, it contributes to steady prices and consumer confidence in the U.S. Dollar. Since inflation is predictable, there are several important actions that the U.S. government has taken to deal with its effects. For example, Social Security pension benefits, commonly referred to as “fixed income,” are indexed for inflation. Therefore, if the question had mentioned Social Security by name rather than inferring it, the designated correct answer would have been wrong. The knowledge assessed in this question reflects a one-sided curriculum that presents poor information to students. The one-sided conclusion measured here is damaging unless the curriculum is supplemented with an explanation of the Federal Reserve Bank’s policy on inflation, the U.S. history of inflation and government policy tools that can mitigate the effect of inflation on pensioners. The stated policy of the Federal Reserve Bank is for monetary policy to achieve stable prices and moderate long-term interest rates. This translates into consistent low inflation over time. Since 1913, when the Federal Reserve took control over monetary policy, U.S. Dollar inflation has averaged roughly 3.25% (“Consumer Price Index All Urban Consumers - U.S. City Average,” 2010). The purpose of consistent low inflation is an advanced economic topic that is suitable for a student of economic science to study and debate. This question is assessing knowledge of a rudimentary opinion rather than in-depth economic knowledge.

#### **Chapter 4: Analysis of Data**

*Introduction*

The purpose of this research is to determine how the Jump\$start financial literacy assessment tool measures knowledge that reflects the adoption of wealth creating behavior. As discussed in Chapter Two (p. 31) it is unlikely that the assessment is measuring knowledge that a specialized financial expert would possess. However, this does not mean that there is not financial knowledge that could increase societal wealth. As chronicled in Chapter 1, U.S. money and financial markets are a function of government policy, which in turn are a function of an informed citizenry making good decisions. Henry De Wolf Smyth (1945) declared of another grave duty of U.S. citizens, “The ultimate responsibility for our nation's policy rests on its citizens and they can discharge such responsibilities wisely only if they are informed” (Smyth, 1945, Preface). The subject of the Smyth report was the atomic bomb and even though the subject matter was the most highly guarded and valuable secret on the planet when his report was issued on July 1 1945, the U.S. government opted to promote the widespread dissemination of scientific information in hopes of creating better national policy. While the subject matter of the workings of an atomic bomb are highly complicated and only comprehensible to a few persons with specialized knowledge, the policy of pursuing nuclear weapons potentially affects the lives of every organism on the planet. Smyth (1945) stated, “The average citizen cannot be expected to understand clearly how an atomic bomb is constructed or how it works but there is in this country a substantial group of engineers and scientists (sic) who can understand such things and who can explain thei (sic) potentialities of atomic bombs to their fellow citizens” (Preface). This was an unselfish decision on the part of the U.S. government. Letting citizens guess about the nature of atomic weapons would have increased the power of those who had a scientific

understanding of their attributes, the U.S. government, and a handful of scientists working on the Manhattan Project.

The Smyth Report is an example of how our democratic government should work. Even though the intricacies of monetary and financial market mechanics only need to be understood by a few specialists, the effects of government financial policies affect all people. Therefore, disseminating scientific economic information under the banner of financial literacy could create a better-informed citizenry that could lead to more just and efficient markets and greater societal wealth. If American citizens can learn about atomic weapons then it is certainly an achievable goal to teach the simple-to-understand philosophies that define our economic paradigm.

By promoting widespread knowledge of the structure of an important paradigm, it is envisioned that rational individuals, acting in their own best interest, will make the best possible decisions. This is the essence of the economic theory of “rational man” that is one of the foundations of economic science. In the case of nuclear weapons, a democratic government that informs its citizens how devastatingly destructive atomic bombs can be produced at great expense and risk (somebody might drop one on us), will likely produce a more informed national policy than a government that informs its people that a sun god provided it with a magical weapon with which to defeat evil-doers. Likewise, knowledge of the structure of our economic paradigm could lead to a more informed national policy debate on economic policies and in turn, could lead to a more equitable and just society with greater wealth for all. In what can be described as the first formal argument for widespread financial literacy, Marshall (1890) made a plea to the University of Cambridge to establish a formal curriculum in Economics. The foremost reason for establishing such a school was to teach all people of their interdependence upon one another and to foster the development of “class sympathy” or empathy for all people

regardless of tribal or national boundaries (Book I, Chapter IV, Paragraph 25). Such a curriculum will enable people to think critically and make informed decisions. Furthermore, it represents what effective financial literacy education might strive to be.

### *Organization of Data Analysis*

I will use the methodology described in Chapter 3 to analyze the 31 question Jump\$Start financial literacy assessment. The analysis will be organized into the categories described by Mandell (2009) that are designed to cover four key areas of the Jump\$Start personal finance standards.

- 1) Income
- 2) Money Management
- 3) Saving and Investing
- 4) Spending and Credit

A complete analysis in matrix format will be provided in Appendix A.

### *Presentation and Analysis of Data*

#### *Income*

Questions 24, 18, 21, 14, 13, 7 and 2 of the Jump\$Start instrument are categorized by Mandell as relating to personal income. The foundational economic principles that relate to personal income are: wealth creation, the value of labor as a means of production and capital formation.

**Question 24. If you went to college and earned a four year degree, how much more money could you expect to earn than if you only had a high school diploma?**

- a) About 10 times as much.
- b) No more; I would make about the same either way.



- c) A little more; about 20% more.
- d) A lot more; about 70% more.

The correct answer is d) A lot more; about 70% more (p. 41).

*Analysis 1: Question 24*

The foundational economic principle of this question is labor and its relative value in society. Smith (1776) observed that highly specialized division of labor created societal wealth. The greatest improvement in the productive powers of labour, and the greater part of the skill, dexterity, and judgment with which it is any where directed, or applied, seem to have been the effects of the division of labour (Volume 1, Chapter 1, Paragraph 1).

Labor and capital are the two basic elements of production, the creation of wealth. The relationship between the two is an oft-debated and analyzed economic principle that lies at the core of our economic system. While both are important, Smith observed that labor was the first price paid for all wealth in the world. Marshall (1890) noted that the relative price of labor was a complicated matter.

But this simple method of treating the supply of work of any kind, and consequently the supply of goods made by that work, assumes that the number of those who are qualified for it is fixed; and that assumption can be made only for short periods of time. The total numbers of the people change under the action of many causes. Of these causes only some are economic; but among them the average earnings of labour take a prominent place; though their influence on the growth of numbers is fitful and irregular (Book IV, Chapter 1, Paragraph 12).

While choosing a career is a financial decision, it is extremely complicated and personal and includes individual factors of family, geography and technological advancements. Teaching

America's citizens about the value of labor and the natural and historic tension between capital and labor would create an informed citizenry who could perhaps shape public policy to maximize societal wealth.

*Analysis 2: Question 24*

This question does not assess the underlying foundational economic principle. The assessed knowledge is erroneous due to its gross oversimplification of a complex subject. The “correct” answer that a person who earns a college degree will on average earn substantially more over his worklife is true in some circumstances. However, there are dozens of factors, including family and geography that must be taken into consideration when considering the value of a given academic course of study.

*Analysis 3: Question 24*

Teaching students that a college degree has economic value regardless of its field of study and the institution that conferred it is dogma that is factually incorrect and harmful to society. This oversimplified message has led to a crisis in higher education student loans that was chronicled in Chapter 2 (p. 51-53).

**Question 18. Don and Bill work together in the finance department of the same company. Bill spends his free time taking work related classes to improve his computer skills while Don spends his free time socializing with friends and working out at a fitness center. After five years what is likely to be true?**

- a) Don will make more money because he is more social.
- b) Don will make more because Bill is likely to be laid off.
- c) Bill will make more money because he is more valuable to his company.
- d) Don and Bill will continue to make the same money.

The correct answer is c) Bill will make more money because he is more valuable to his company (p. 48).

*Analysis 1: Question 18*

The foundational economic principle of this question is labor and its relative value in society. However, it also assesses the economic principle of competition amongst workers for higher wages. Marshall (1890) remarked stated “The term ‘competition’ has gathered about it evil savour, and has come to imply a certain selfishness and indifference to the wellbeing of others” (Book I, Chapter I, Paragraph 15). Studying competition for wages could introduce students to the concept of workplace discrimination and outsourcing to low-wage countries. Smith (1776) observed that more workers would create more wealth in society, but that the numbers of workers in a given field were subject to natural market forces. Namely, if unemployment was high in a given field, fewer people would learn the necessary skills to enter the profession. Diffusing these philosophical topics amongst the citizenry could enhance the level of societal knowledge and lead to an increase in societal wealth.

*Analysis 2: Question 18*

This question does not assess any of the identified underlying foundational economic principles. The assessed knowledge is erroneous due to its gross oversimplification of a complex subject. The “correct” answer that a person who undertakes continuing education will receive a promotion over a coworker may prove to be true in some circumstances, but there is little evidence, other than anecdotal, to support a declaration that continuing professional education is the guarantee for career success.

*Analysis 3: Question 18*

Reinforcing the myth of meritocracy, that the deserving always receive available promotions, is a pleasant notion, however, it is not an example of economic knowledge. Furthermore, this curriculum could reinforce the opposite that people who did not advance in their careers failed to do so because of laziness or possibly stupidity. The complex fundamental issues at play here vitally important to society and instructing students that the righteous always win does them a disservice because it is not true in all circumstances.

**Question 21. Matt has a good job on the production line of a factory in his home town. During the past year or two, the state in which Matt lives has been raising taxes on its businesses to the point where they are much higher than in neighboring states. What effect is this likely to have on Matt's job?**

- a) Higher business taxes will cause more businesses to move into Matt's state, raising wages.
- b) Higher business taxes can't have any effect on Matt's job.
- c) Matt's company may consider moving to a lower-tax state, threatening Matt's job.
- d) He is likely to get a large raise to offset the effect of higher taxes.

The correct answer is c) Matt's company may consider moving to a lower-tax state, threatening Matt's job (p. 54).

*Analysis 1: Question 21*

The foundational economic principle of this question is the role of government and taxation. Democratic government does good things for the benefit of all people in society. Marshall (1890) reasoned that a well-governed community increased the wealth of its inhabitants.

These goods consist of the benefits which he derives from living in a certain place at a certain time, and being a member of a certain state or community; they include civil and military

security, and the right and opportunity to make use of public property and institutions of all kinds, such as roads, gaslight, etc., and rights to justice or to a free education. The townsman and the countryman have each of them for nothing many advantages which the other either cannot get at all, or can get only at great expense. Other things being equal, one person has more real wealth in its broadest sense than another, if the place in which the former lives has a better climate, better roads, better water, more wholesome drainage; and again better newspapers, books, and places of amusement and instruction (Book II, Chapter II, Paragraph 17).

Smith (1776) detailed the role of government as well as the method and necessity of providing for its funding.

The subjects of every state ought to contribute towards the support of the government, as nearly as possible, in proportion to their respective abilities; that is, in proportion to the revenue which they respectively enjoy under the protection of the state. The expence of government to the individuals of a great nation is like the expence of management to the joint tenants of a great estate, who are all obliged to contribute in proportion to their respective interests in the estate. In the observation or neglect of this maxim consists what is called the equality or inequality of taxation. Every tax, it must be observed once for all, which falls finally upon one only of the three sorts of revenue above mentioned, is necessarily unequal in so far as it does not affect the other two. In the following examination of different taxes I shall seldom take much further notice of this sort of inequality, but shall, in most cases, confine my observations to that inequality which is occasioned by a particular tax falling unequally even upon that particular sort of private revenue which is affected by it (Book V, Chapter II, Paragraph 25).

Teaching citizens the theories behind the role of government and the necessity and methods of providing for its funding are crucial to society and could lead to a more democratic and just society.

*Analysis 2: Question 21*

This question does not assess knowledge related to the identified underlying foundational economic principle. The assessed knowledge is misleading due to its oversimplification of a complex subject, the role of democratic government and how to fund its operations. The “correct” answer that production will always flee to jurisdictions with the lowest tax rate is oversimplified to the point of absurdity. Identifying business taxation as the single most important factor in determining where goods and services are produced is supported by little credible evidence.

*Analysis 3: Question 21*

If lowering business taxes were the key to increasing productivity and societal wealth, then in theory, governments would all compete against one another to lower their taxes. Eventually, taxes would be eliminated, leading to a libertarian dream of a perfect society. This logic ignores the role of democratic government and the benefits it has bestowed upon the world. This question is most likely supported with a curriculum that teaches students to view government as a detriment to society.

**Question 14. Which of the following best describes the primary sources of income for most people age 20-35?**

- a) Dividends and interest.
- b) Salaries, wages, tips.
- c) Profits from business.

d) Rents.

The correct answer is b) Salaries, wages, tips (p. 60).

*Analysis 1: Question 14*

The foundational economic principle of this question is the limited worklife of a person. A human will only produce more than he consumes for a portion of his life, when he is too young or too old to work, others must provide for him. A secondary economic concept touched on here is personal savings for retirement. Marshall (1890) observed that it was far easier for people with high wages to save for the future and the rich were the primary people to benefit from investment income. “The power to save depends on an excess of income over necessary expenditure; and this is greatest among the wealthy. In this country most of the larger incomes, but only a few of the smaller, are chiefly derived from capital” (Book IV, Chapter VII, Paragraph 22). This question fails to address the larger societal issue of caring for those too young or too old to work. In Chapter Two (p 54), I cited The Center on Budget Policies and Policy Priorities who found that nearly 20 million Americans, including over 1 million children, would be living in poverty if not for Social Security benefits.

*Analysis 2: Question 14*

This question does not assess any of the identified underlying foundational economic principles in a meaningful way. Rather than assess knowledge of the phenomenon of the concept of work life, a workers productive years, it instead tests memorization of certain trivial financial terms.

*Analysis 3: Question 14*

The curriculum that would be provided to teach the knowledge assessed in this question would be a memorization of financial terms, an especially pointless task for most citizens who

are not likely to ever receive a “rent” or “royalty” at any time in their life. This question would be supported by a curriculum that does not contribute any knowledge that will help society increase wealth.

**Question 13. Chelsea worked her way through college earning \$15,000 per year. After graduation her first job pays \$30,000. The total dollar amount Chelsea will have to pay in Federal Income taxes in her new job will:**

- a) Double, at least, from when she was in college.
- b) Go up a little from when she was in college.
- c) Stay the same as when she was in college.
- d) Be lower than when she was in college.

The correct answer is a) Double, at least, from when she was in college (p. 66).

*Analysis 1: Question 13*

The foundational economic principle of this question is the role of government and taxation. Adam Smith (1776) devoted a substantial portion of *Wealth of Nations* to investigating the role of government and the most advantageous way to fund it.

After the public institutions and public works necessary for the defence of the society, and for the administration of justice, both of which have already been mentioned, the other works and institutions of this kind are chiefly those for facilitating the commerce of the society, and those for promoting the instruction of the people. The institutions for instruction are of two kinds: those for the education of youth, and those for the instruction of people of all ages. The consideration of the manner in which the expence of those different sorts of public, works and institutions may be most properly defrayed will divide this third



part of the present chapter into three different articles (Book V, Chapter I, Paragraph 70).

Teaching citizens the role of government throughout human history as well as the theories behind the role of government and the necessity and methods of providing for its funding are crucial to society and will undoubtedly increase societal wealth.

*Analysis 2: Question 13*

This question fails to assess knowledge of the role of government. Nor does it entertain the possibility that Chelsea benefited from a government subsidized education. The assessed knowledge is a trivial assessment of progressive personal income taxes. However, this question does not provide enough detail to answer. For example, if Chelsea got married and had a baby after she graduated from college, it is possible that her income taxes could have gone down.

*Analysis 3: Question 13*

The curriculum needed to teach the “correct” answer to this question would be memorizing a “truth” that if “you make more money; you will pay more income tax.” This knowledge will not help grow societal wealth and seems to be another example of Mandell and Jump\$tart vilifying taxes collected to provide for a democratic government.

**Question 7. Your take-home pay from your job is less than the total amount you earn.**

**Which of the following best describes what is taken out of your total pay?**

- a) Social security and Medicare contributions.
- b) Federal income tax, property tax, and Medicare and social security contributions.
- c) Federal income tax, social security and Medicare contributions.
- d) Federal income tax, sales tax, and social security contributions.

The correct answer is c) Federal income tax, social security and Medicare contributions (p. 73).

*Analysis 1: Question 7*

The foundational economic principle of this question is the role of government and taxation. Teaching citizens the theories behind the role of government and the necessity and methods of providing for its funding are crucial to society and will hopefully lead to a more democratic and just society.

*Analysis 2: Question 7*

This question does not assess the underlying foundational economic principle, the role of democratic government in the lives of its citizens. In addition, the “correct” answer is incorrect in some circumstances. The Social Security payroll deduction of 6.2% is capped and not deducted from earnings over the annual limit. The assessed knowledge is erroneous due to its gross oversimplification of a complex subject.

*Analysis 3: Question 7*

The curriculum needed to teach the “correct” answer to this question would be a “rule of thumb” that Social Security contributions are collected from all wages earned, an incorrect statement. In addition, the question only assesses one side of the equation, contributions. It does not assess knowledge of the benefits of Social Security or any government benefit. Furthermore, teaching students to memorize the names of deductions on their paystub will not lead to a growth in societal wealth.

**Question 2. Which of the following is true about sales taxes?**

- a) The national sales tax percentage rate is 6%.
- b) The federal government will deduct it from your paycheck.
- c) You don't have to pay the tax if your income is very low.
- d) It makes things more expensive for you to buy.

The correct answer is d) It makes things more expensive for you to buy (p. 80).

*Analysis 1: Question 2*

The foundational economic principle of this question is the role of government and taxation. Teaching citizens the theories behind the role of government and the necessity and methods of providing for its funding are crucial to society.

*Analysis 2: Question 2*

Again, this question does not assess any of the identified underlying foundational economic principles. In addition, the “correct” answer is incorrect in many circumstances. In some jurisdictions, necessities like food and medicine are exempt from taxation. In addition, home purchases are not subject to sales tax.

*Analysis 3: Question 2*

In a free market, prices are a function of supply and demand, not sales taxes. The test does not assess what sales taxes are used for. Teaching students that sales taxes make them poorer will not lead to a growth in societal wealth.

Table 1					
<i>Analysis of JumpStart Questions Categorized as "Income"</i>					
Question Number	Question	Analysis 1: Foundational Economic Principle	Analysis 2: Does the question assess knowledge of the foundational principle?	Analysis 2: Is the "correct" answer to the question actually correct?	Analysis 3: What does the question assess?
24	If you went to college and earned a four year degree, how much more money could you expect to earn than if you only had a high school diploma?	The value of labor, division of labor, factors that increase national wealth	No	3. Incorrect, oversimplified, the correct answer requires too many assumptions	Rule of thumb - Any college degree results in higher earnings over a worklife
18	Don and Bill work together in the finance department of the same company. Bill spends his free time taking work related classes to improve his computer skills while Don spends his free time socializing with friends and working out at a fitness center. After five years what is likely to be true?	The value of labor, division of labor, factors that increase national wealth	No	3. Incorrect, oversimplified, the correct answer requires too many assumptions	Rule of thumb - Meritocracy, the righteous always win. A person who has studied more than his coworker will receive a promotion. A person succeeds by outcompeting his neighbor.
21	Matt has a good job on the production line of a factory in his home town. During the past year or two, the state in which Matt lives has been raising taxes on its businesses to the point where they are much higher than in neighboring states. What effect is this likely to have on Matt's job?	Role of government and taxation	No	3. Incorrect, oversimplified, the correct answer requires too many assumptions	Rule of thumb - Taxes make people poorer. Business taxes are the most important factor when considering where to locate a production facility.
14	Which of the following best describes the primary sources of income for most people age 20-35?	Worklife earnings, the social contract	No	1. Correct	Memorization of terms: dividends, interest, salaries, wages, tips, profits from business, rents
13	Chelsea worked her way through college earning \$15,000 per year. After graduation her first job pays \$30,000. The total dollar amount Chelsea will have to pay in Federal Income taxes in her new job will:	Role of government and taxation	No	3. Incorrect, oversimplified, the correct answer requires too many assumptions	Rule of thumb - Taxes make people poorer, income taxes are absolutely progressive
7	Your take-home pay from your job is less than the total amount you earn. Which of the following best describes what is taken out of your total pay?	Role of government and taxation, the social contract	No	3. Incorrect, oversimplified, the correct answer requires too many assumptions	Rule of thumb - Taxes make people poorer
2	Which of the following is true about sales taxes?	Role of government and taxation	No	3. Incorrect, oversimplified, the correct answer requires too many assumptions	Rule of thumb - Taxes make people poorer

*Summary of Analysis: Income*

The JumpStart assessment test did not assess knowledge of foundational economic principles; instead it focused on a few generalized “rules of thumb” that are intended to insure a happy productive life. Four of the seven questions in the Income category assessed the “fact” that taxes make a person poorer. The role of government in the standard of living of its citizens is an issue worthy of academic study and would be a valid component of financial literacy

curriculum. However, reducing this subject to a simple rule would not enable a student to make an informed decision about the role of government and the best method of funding its operations. Therefore, “correct” answers to these four questions would not indicate evidence of financial literacy. Two of the questions related to the value of labor, but instead of assessing scientific knowledge of this topic, the “correct” answers drew on a simple generalized rule that personal income is directly correlated to educational achievement, regardless of what was studied. The remaining question assessed memorization of a financial term, not the type of knowledge that increases wealth.

### *Money Management*

Questions 8, 1, 26, 22 and 17 are categorized by Mandell as relating to money management. The foundational economic principles that relate to money management are: money and financial markets. The value of the U.S. Dollar is a function of government policy and it affects the lives of all people living in the country. Understanding the philosophical framework of our currency is a primary component of financial literacy.

#### **Question 8. Retirement income paid by a company is called?**

- a) 401 (k).
- b) Pension.
- c) Rents and profits.
- d) Social Security.

The correct answer is b) Pension (p. 86).

#### *Analysis 1: Question 8*

The foundational economic principle of this question refers to the limited worklife of a person. A human will only produce more than he consumes for a portion of his life, when he is

too young or too old to work, others must provide for him. A secondary economic concept here is personal savings for retirement. Marshall (1890) observed that it was far easier for people with high wages to save for the future and the rich were the primary people to benefit from investment income “The power to save depends on an excess of income over necessary expenditure; and this is greatest among the wealthy. In this country most of the larger incomes, but only a few of the smaller, are chiefly derived from capital” (Book IV, Chapter VII, Paragraph 22). Teaching all members of society that some system must be created to care for those too young or too old to work could increase societal wealth if through their democratic government, citizens decide to create an old-age social insurance program.

*Analysis 2: Question 8*

This question does not assess any of the identified underlying foundational economic principles in a meaningful way. Rather than assess knowledge of a worker’s limited productive years, it instead tests memorization of certain financial terms. Additionally, the answer is erroneous. The IRS classifies both 401 (k) plans and defined benefit pension plans as retirement plans. Drawing a distinction between the two is confusing and unnecessary. Furthermore, what about retirement income from a state teachers’ pension fund? Is this paid by a company? Who funds retirement plans? Do workers earn benefits through labor or do companies just pay retirement out of charity and goodwill? The question fails to address the underlying principle of pensions, namely that they represent money that has been earned by workers over their worklife but deferred until the person is no longer able to work.

*Analysis 3: Question 8*

The curriculum that would support the “correct” answer assessed in this question would be a memorization of imprecisely defined financial terms. While this curriculum may not be

particularly harmful, it does not contribute any knowledge that will help society increase wealth. A curriculum that measures how much terminology has been memorized is not pedagogically appropriate for high school students. Another approach might be a curriculum that studied the costs and benefits of Aid to Dependent Children, free school lunch programs and Social Security. This curriculum would be a relevant and academically valid approach to investigating the issue of providing for people who cannot work. This topic could also be investigated by studying the decline in employee sponsored defined benefit pension plans and ERISA's role in regulating private pension plans.

**Question 1. Inflation can cause difficulty in many ways. Which group would have the greatest problem during periods of high inflation that lasts several years?**

- a) Older, working couples saving for retirement.
- b) Older people living on fixed retirement income.
- c) Young couples with no children who both work.
- d) Young couples with children.

The correct answer is b) Older people living on fixed retirement income (p. 92).

*Analysis 1: Question 1*

The question is designed to test knowledge related to inflation, the devaluation of money over time. Therefore, the underlying economic principle is the value of money. Smith (1776) described money as follows:

Labour was the first price, the original purchase-money that was paid for all things. It was not by gold or by silver, but by labour, that all the wealth of the world was originally purchased; and its value, to those who possess it, and who want to exchange it for some new productions, is precisely equal to the quantity

of labour which it can enable them to purchase or command. (Book 1, Chapter V, Paragraph 2).

Marshall (1890) described how the price of goods was relative in society... “Thus the price of anything will be taken as representative of its exchange value relatively to things in general, or in other words as representative of its general purchasing power” (Book II, Chapter II, Paragraph 28). Promoting an understanding of the scientific concept of money and its value to all citizens could create greater societal wealth. Monetary policy is a function of government and in a democratic society, an informed citizenry could help shape monetary policy that could in turn lead to a more equitable allocation of wealth.

*Analysis 2: Question 1*

This question does not assess the underlying foundational economic principle. The knowledge assessed represents an oversimplification of complex subject matter. The “correct” answer, if an old person is living on a fixed income and the value of the currency decreases, his purchasing power will deteriorate over time is true in some instances. However, there are dozens of factors that must align to make this answer correct and in any case the question does not assess the knowledge of how fiat currency functions in a democratic society.

*Analysis 3: Question 1*

The statement that “Inflation can cause difficulty in many ways” infers that inflation is always a bad thing, an oversimplification akin to declaring: “getting old is bad!” A student who was taught this rule of thumb might infer that the opposite of inflation, deflation, is a good thing. Teaching all citizens that inflation is a bad, scary thing does not improve their ability to make rational decisions in their best interests. Slight steady inflation is an important component of U.S. monetary policy, and turning inflation into a dirty word does not help the Federal Reserve



accomplish this goal and in the long run, it could hurt the economy. The curriculum that would support a correct answer seems to only teach the “fact” that inflation is a devaluation of money and that it is bad. The first concept is true, the second is not necessarily true. Steady and controlled inflation, like the U.S. has experienced over the last 96 years, can be a good thing. Inflation is a goal of our monetary policy and therefore, it contributes to steady prices and consumer confidence in the U.S. Dollar. Since inflation is predictable, there are several important actions that the U.S. government has taken to deal with its effects. For example, Social Security pension benefits, commonly referred to as “fixed income,” are indexed for inflation. Thus, if the question had mentioned Social Security by name rather than inferring it, the designated correct answer would have been wrong. The knowledge assessed in this question reflects a one-sided curriculum that presents poor information to students. The “financial literacy” measured here might well be damaging to society unless the curriculum is supplemented with an explanation of the Federal Reserve Bank’s policy on inflation, the U.S. history of inflation and government policy tools that can mitigate the effect of inflation on pensioners. The stated policy of the Federal Reserve Bank is for monetary policy to achieve stable prices and moderate long-term interest rates. This translates into consistent low inflation over time. Since 1913, when the Federal Reserve took control over monetary policy, annual U.S. Dollar inflation has averaged roughly 3.25% (“Consumer Price Index All Urban Consumers - U.S. City Average,” 2010). The purpose of consistent low inflation is an advanced economic topic that is suitable for a student of economic science to study and debate.

**Question 26. If each of the following persons had the same amount of take home pay, who would need the greatest amount of life insurance?**

- a) An elderly retired man, with a wife who is also retired.

- b) A young married man without children.
- c) A young single woman with two young children.
- d) A single woman without children.

The correct answer is c) A young single woman with two young children (p. 98).

*Analysis 1: Question 26*

The foundational economic principle of this question is the limited worklife of a person. A human will only produce more than he consumes for a portion of his life, when he is too young or too old to work, others must provide for him. If tragedy strikes a family wage earner, somehow the dependents must be provided for. A secondary economic topic raised here is insurance. Marshall (1890) observed that the concept of insurance was a specialized economic topic that was highly dependent upon individual facts and circumstances.

The second principle, the direct converse of the first, is that a theoretically fair insurance against risks is always an economic gain. But of course every insurance office, after calculating what is a theoretically fair premium, has to share in addition to it enough to pay profits on its own capital, and to cover its own expenses of working, among which are often to be reckoned very heavy items for advertising and for losses by fraud. The question whether it is advisable to pay the premium which insurance offices practically do charge, is one that must be decided for each case on its own merits (Book III, Chapter VI, Note 95).

Teaching students the worklife earnings cycle and the need to provide for those who cannot, coupled with a theoretical understanding of the specialized manner that the insurance business works could help increase societal wealth.

*Analysis 2: Question 26*

This question does not assess any of the identified underlying foundational economic principles in a meaningful way. While it does assess knowledge of the need for private insurance in some cases, it does not address how insurance works. Insurance is assumed to be a good thing, regardless of who is offering it or what the terms are. The “correct” answer is correct in many circumstances, but incorrect many others.

*Analysis 3: Question 26*

Teaching students that they need to purchase certain insurance financial products, without teaching them how the products work or about the regulatory framework that protects the general public creates an environment where the students will purchase whatever is offered to them under the name of “insurance.” Insurance can be a good and valuable product if it is a good deal for the individual purchasing the contract. Knowledge of the factors that make an insurance policy a good financial bet could be a valuable curriculum. However, this question does not assess knowledge but merely memorization of a rule of thumb.

**Question 22. If you have caused an accident, which type of automobile insurance would cover damage to your own car?**

- a) Comprehensive.
- b) Liability.
- c) Term.
- d) Collision.

The correct answer is d) Collision (p. 104).

*Analysis 1: Question 22*

This question does not assess knowledge of a foundational economic principle. It does touch on a secondary economic topic, insurance. Teaching students the highly specialized

manner that the insurance business works could help increase societal wealth if they understand the need for government oversight and regulation.

*Analysis 2: Question 22*

This question fails to assess the identified economic topic in a useful way. The important issues about insurance are not assessed and instead, the rote memorization of a few obscure financial terms represents proof of Jump\$tart's definition of "financial literacy." The "correct" answer is incorrect in many circumstances. Insurance policies specifically detail the liabilities that they cover. For example, if one had a nighttime driving restriction on his driver's license due to poor eyesight and caused an accident at dusk, would his collision policy cover damage to his car? I will classify this answer as mostly correct, but nevertheless, it is worded in manner that oversimplifies the issues related to insurance.

*Analysis 3: Question 22*

Teaching students that they need to purchase certain insurance financial products without teaching them how the products work or about the regulatory framework that protects the general public creates an environment where the students could purchase whatever is offered to them without question. Insurance can be a good and valuable product if it is a good deal for the individual purchasing the contract. If the "collision" policy does not provide meaningful coverage or the insurance company does not have sufficient capital to meet its claim obligations, then consumers will be taken advantage of and societal welfare will decline.

**Question 17. Many young people receive health insurance benefits through their parents.**

**Which of the following statements is true about health insurance coverage?**

- a) You are covered by your parents' insurance until you marry, regardless of your age.

- b) If your parents become unemployed, your insurance coverage may stop, regardless of your age.
- c) Young people don't need health insurance because they are so healthy.
- d) You continue to be covered by your parents' insurance as long as you live at home, regardless of your age (p. 111).

The correct answer is b) If your parents become unemployed, your insurance coverage may stop, regardless of your age.

*Analysis 1: Question 17*

The foundational economic principle of this question is healthcare. In the 18<sup>th</sup> century Adam Smith (1776) recognized the importance and costly nature of healthcare.

We trust our health to the physician; our fortune and sometimes our life and reputation to the lawyer and attorney. Such confidence could not safely be reposed in people of a very mean or low condition. Their reward must be such, therefore, as may give them that rank in the society which so important a trust requires. The long time and the great expence which must be laid out in their education, when combined with this circumstance, necessarily enhance still further the price of their labour (Book I, Chapter X, Paragraph 22).

In modern society, healthcare can be seen as a luxury or a necessary service that all citizens are entitled to receive regardless of their ability to pay. Marshal (1890) made this shocking statement on universal healthcare.

Thus then the progress of knowledge, and in particular of medical science, the ever-growing activity and wisdom of Government in all matters relating to health, and the increase of material wealth, all tend to lessen mortality and to increase

health and strength, and to lengthen life. On the other hand, vitality is lowered and the death-rate raised by the rapid increase of town life, and by the tendency of the higher strains of the population to marry later and to have fewer children than the lower. If the former set of causes were alone in action, but so regulated as to avoid the danger of over-population, it is probable that man would quickly rise to a physical and mental excellence superior to any that the world has yet known; while if the latter set acted unchecked, he would speedily degenerate (Book IV, Chapter V, Paragraph 27).

Teaching students the different philosophical underpinning of the provision of healthcare in society could enable them to make better informed choices and hopefully lead to a more democratic and just society. This in turn could lead to greater societal wealth.

*Analysis 2: Question 17*

This question does not assess the identified economic topic in a meaningful way. The important issues about healthcare are not assessed and in fact, the correct answer could be wrong in many circumstances. For example, if the student were on Medicaid, the assessed “correct” answer would be incorrect. Since this question did not specify “parent’s employer,” the “correct” answer requires unstated assumptions. The students had to assume the health insurance policy was provided by their parent’s employer and they also needed to assume that their parents would not be able to pay the COBRA in order to keep their health insurance active.

*Analysis 3: Question 17*

Teaching students general rules that cannot be applied to many specific situations is not likely to be the most productive use of instructional resources. Furthermore, the underlying curriculum seems to be insensitive and cruel. In a period of rising unemployment there is no

doubt that many students have unemployed parents or parents who express fears of being fired or laid off. The curriculum that supports the “correct” answer could unnecessarily add to the anxiety of students.

Table 2					
<i>Analysis of JumpStart Questions Categorized as "Money Management"</i>					
Question Number	Question	Analysis 1: Foundational Economic Principle	Analysis 2: Does the question assess knowledge of the foundational principle?	Analysis 2: Is the "correct" answer to the question actually correct?	Analysis 3: What does the question assess?
8	Retirement income paid by a company is called?	The value of labor, division of labor, worklife earnings and the social contract	No	3. Incorrect	Memorization of financial terminology and a rule of thumb that employers provide pensions
1	Inflation can cause difficulty in many ways. Which group would have the greatest problem during periods of high inflation that lasts several years?	Money as a medium of exchange	No	3. Incorrect, oversimplified	Rule of thumb - Inflation is bad
26	If each of the following persons had the same amount of take home pay, who would need the greatest amount of life insurance?	Worklife earnings, the social contract, how insurance works	No	2. Correct in some circumstances	Rule of thumb - Insurance is good and necessary
22	If you have caused an accident, which type of automobile insurance would cover damage to your own car?	None	N/A	2. Correct in some circumstances	Rule of thumb - Insurance is good and necessary
17	Many young people receive health insurance benefits through their parents. Which of the following statements is true about health insurance coverage?	Healthcare and worklife earnings	No	3. Incorrect, oversimplified, the correct answer requires too many assumptions	Rule of thumb, employers provide health insurance

*Summary of Analysis: Money Management*

None of the five questions assessed knowledge of how money is created or how financial markets work. One question assessed knowledge of a general rule that inflation is harmful. Three of the five questions in this category presented hypothetical life scenarios and assessed the student’s ability to choose an insurance product that would solve the identified problem. The remaining question in this section assessed memorization of financial terminology as opposed to the structure of our economic paradigm.

*Saving and Investing*

Questions 10, 16, 3, 11, 9, 25, 31 and 4 are categorized by Mandell as relating to personal saving and investing. Saving and investing are the storage of wealth for future use. Like money

management, the foundational economic principles that relate to saving and investing are money and financial markets.

**Question 10. David just found a job with a take home pay of \$2,000 per month. He must pay \$900 for rent and \$150 for groceries each month. He also spends \$250 per month on transportation. If he budgets \$100 each month for clothing, \$200 for restaurants and \$250 for everything else, how long will it take him to accumulate savings of \$600.**

- a) 3 months.
- b) 4 months.
- c) 1 month.
- d) 2 months.

The correct answer is b) 4 months (p. 117).

*Analysis 1: Question 10*

This question does not relate to a foundational economic principle. It is a mathematical word problem with a few financial terms surrounding some simple addition and subtraction.

*Analysis 2: Question 10*

Addition and subtraction are not academically valid topics for high school and college students. Knowledge required to answer this question will not increase societal wealth.

*Analysis 3: Question 10*

The curriculum designed to teach this knowledge to secondary and post-secondary students will accomplish little.

**Question 16. Rob and Mary are the same age. At age 25 Mary began saving \$2,000 a year while Rob saved nothing. At age 50, Rob realized that he needed money for retirement and**



**started saving \$4,000 per year while Mary kept saving her \$2,000. Now they are both 75 years old. Who has the most money in his or her retirement account?**

- a) They would each have the same amount because they put away exactly the same.
- b) Rob, because he saved more each year.
- c) Mary, because she has put away more money.
- d) Mary, because her money has grown for a longer time at compound interest.

The correct answer is d) Mary, because her money has grown for a longer time at compound interest (p. 123).

*Analysis 1: Question 10*

This question does not relate to a foundational economic principle. It is a mathematical word problem with a few financial terms surrounding some simple addition and multiplication that require the misleading assumption that investments increase in value every year.

*Analysis 2: Question 10*

Addition and multiplication are not academically valid topics for high school and college students. Furthermore, the “correct” answer is not correct in many circumstances. For example, if Mary invested her savings into Lehman Brothers stock her account statement would read ZERO. That money went somewhere but Mary no longer has a legal claim to it. Knowledge required to answer this question is memorization of a “truth” that is not correct in many circumstances and therefore, is unlikely to increase societal wealth.

*Analysis 3: Question 10*

The curriculum designed to teach the “correct” answer to this question is financial services industry marketing, not economic knowledge. The financial products sold by Wall

Street financial firms always increase in value on their marketing literature, and now the marketing literature has become curriculum in our public schools.

**Question 3 (p. 129). Rebecca has saved \$12,000 for her college expenses by working part-time. Her plan is to start college next year, and she needs all of the money she saved.**

**Which of the following is the safest place for her college money?**

- a) Locked in her closet at home.
- b) Stocks.
- c) Corporate bonds.
- d) A bank savings account.

The correct answer is d) A bank savings account (p. 129).

*Analysis 1: Question 3*

This question does not relate to a foundational economic principle. It does somewhat relate to the role of banking in society which is an important mechanism in capital formation and market efficiency. Smith (1776) described how a fractional reserve banking system works.

Let us suppose, for example, that the whole circulating money of some particular country amounted, at a particular time, to one million sterling, that sum being then sufficient for circulating the whole annual produce of their land and labour. Let us suppose, too, that some time thereafter, different banks and bankers issued promissory notes, payable to the bearer, to the extent of one million, reserving in their different coffers two hundred thousand pounds for answering occasional demands. There would remain, therefore, in circulation, eight hundred thousand pounds in gold and silver, and a million of bank notes, or eighteen hundred thousand pounds of paper and money together. But the annual produce of the land

and labour of the country had before required only one million to circulate and distribute it to its proper consumers, and that annual produce cannot be immediately augmented by those operations of banking. One million, therefore, will be sufficient to circulate it after them. The goods to be bought and sold being precisely the same as before, the same quantity of money will be sufficient for buying and selling them. The channel of circulation, if I may be allowed such an expression, will remain precisely the same as before. One million we have supposed sufficient to fill that channel. Whatever, therefore, is poured into it beyond this sum cannot run in it, but must overflow. One million eight hundred thousand pounds are poured into it. Eight hundred thousand pounds, therefore, must overflow, that sum being over and above what can be employed in the circulation of the country. But though this sum cannot be employed at home, it is too valuable to be allowed to lie idle. It will, therefore, be sent abroad, in order to seek that profitable employment which it cannot find at home. But the paper cannot go abroad; because at a distance from the banks which issue it, and from the country in which payment of it can be exacted by law, it will not be received in common payments. Gold and silver, therefore, to the amount of eight hundred thousand pounds will be sent abroad, and the channel of home circulation will remain filled with a million of paper, instead of the million of those metals which filled it before (Book II, Chapter II, Paragraph 30).

Teaching citizens the banking mechanism used in society is important because although it is an extremely simple concept, ignorance of how it functions puts those who lack knowledge in a subservient position to those who understand its function. If all members of a culture understood

this concept, democratic banking regulations could be enacted and access to capital would be more democratic, possibly resulting in greater wealth for society.

*Analysis 2: Question 3*

This question does not seem to relate to the role of banking in society or how banking works. It merely reinforces a “truth” that banks keep your money safe. Knowledge required to answer this question does not seem to enable people to become more productive and in turn, increase national wealth.

*Analysis 3: Question 3*

The only reason the “correct” answer to this question is indeed correct is that the Federal Deposit Insurance Company is backed by the U.S. government. If this were not the case, many depositors would have lost their savings over the last several years. Teaching students the unique relationship between banks and the government (their foolproof guarantor), would be beneficial to society and could lead to increased societal wealth. This knowledge however is not assessed in this question; instead the underlying curriculum would simply be a truism that banks are where you keep money safe, which historically, has not always been the case.

**Question 11. Sara and Joshua just had a baby. They received money as baby gifts and want to put it away for the baby’s education. Which of the following tends to have the highest growth rate over periods of time as long as 18 years?**

- a) A checking account.
- b) Stocks.
- c) A U.S. Govt savings bond.
- d) A savings account.

The correct answer is b) Stocks (p. 135).

*Analysis 1: Question 11*

This question does not relate to a foundational economic principle in a meaningful way.

*Analysis 2: Question 11*

Since there is no foundational economic principle, analysis 2 is not applicable. As discussed in Question 10, the “correct” answer will only be correct if Sara and Joshua are lucky enough to choose a “stock” that increases in value over the time period that they own it.

*Analysis 3: Question 11*

The curriculum designed to teach the “correct” answer to this question is Wall Street marketing, not economic knowledge. The financial products sold by Wall Street financial firms always increase in value on their marketing literature, and now the marketing literature has become curriculum in our public schools.

**Question 9. Many people put aside money to take care of unexpected expenses. If Juan and Elva have money put aside for emergencies, in which of the following forms would it be of LEAST benefit to them if they needed it right away?**

- a) Invested in down payment on the house.
- b) Checking account.
- c) Stocks.
- d) Savings account.

The correct answer is a) Invested in down payment on the house (p. 143).

*Analysis 1: Question 9*

This question does not relate to a foundational economic principle in any way. It does tangentially touch the concept of liquidity, but the question is another example of assessing awareness of the names of financial products.

*Analysis 2: Question 9*

Since there is no foundational economic principle, analysis 2 is not applicable.

*Analysis 3: Question 9*

The curriculum designed to teach the “correct” answer to this question is financial services industry marketing materials, not economic knowledge. The financial products sold by Wall Street financial firms always increase in value on their marketing literature and they never lose value, and now the marketing literature has become curriculum in our public schools.

**Question 25. Many savings programs are protected by the Federal government against loss. Which of the following is not?**

- a) A U.S. Savings Bond.
- b) A certificate of deposit at the bank.
- c) A bond issued by one of the 50 states.
- d) A U.S. Treasury Bond.

The correct answer is c) A bond issued by one of the 50 states (p. 149).

*Analysis 1: Question 25*

Again, this question does not relate to a foundational economic principle in any way. It does tangentially touch on the role of government in financial markets, but the question is another example of assessing awareness of the names of financial products.

*Analysis 2: Question 25*

Since there is no foundational economic principle, analysis 2 is not applicable.

*Analysis 3: Question 25*

The curriculum designed to teach the “correct” answer to this question is Wall Street marketing materials, not economic knowledge. Attributes of financial products change as new

products are introduced and others are discontinued. Memorizing the names and attributes of certain financial products that students may not encounter for many years may not be the most productive use of education resources.

**Question 31. If you had a savings account at a bank, which of the following would be correct concerning the interest that you would earn on this account?**

- a) Earnings from savings account interest may not be taxed.
- b) Income tax may be charged on the interest if your income is high enough.
- c) Sales tax may be charged on the interest that you earn.
- d) You cannot earn interest until you pass your 18<sup>th</sup> birthday.

The correct answer is b) A Income tax may be charged on the interest if your income is high enough (p. 155).

*Analysis 1: Question 31*

The foundational economic principle of this question is the role of government and taxation (the same as Question 21). Teaching citizens the history, philosophy and theories behind the role of government and the necessity and methods of providing for its funding are crucial to society and would perhaps lead to a more democratic and just society and possibly increase national wealth.

*Analysis 2: Question 31*

This question does not assess the identified underlying foundational economic principle. It is merely assessing if students have memorized the tax attributes of a certain Wall Street investment.

*Analysis 3: Question 31*

The curriculum needed to teach the “correct” answer to this question would be memorization of the general rule “taxes make you poorer.” This question seems to be another example of Mandell and Jump\$start vilifying taxes collected to provide for government operations.

**Question 4. Which of the following types of investment would best protect the purchasing power of a family’s savings in the event of a sudden increase in inflation?**

- a) A 10-year bond issued by a corporation.
- b) A certificate of deposit at a bank.
- c) A twenty-five year corporate bond.
- d) A house financed with a fixed-rate mortgage.

The correct answer is d) A house financed with a fixed-rate mortgage (p. 161).

*Analysis 1: Question 4*

The underlying economic principle is the value of money, the same as assessed in Question 1. Promoting an understanding of the scientific concept of money and its value to all citizens could create greater societal wealth. Monetary policy is a function of government and in a democratic society; an informed citizenry could help shape monetary policy that could perhaps lead to a more equitable allocation of wealth.

*Analysis 2: Question 4*

This question does not assess the underlying foundational economic principle.

*Analysis 3: Question 4*

The curriculum needed to teach the “correct” answer to this question would be more memorization of the names and favorable descriptions of Wall Street financial products.

Jump\$start is assessing that students know the truism that inflation is dangerous and Wall Street



financial products can protect their savings. Unfortunately, neither of these facts is true in all circumstances. The correct answer to this question relies on the unstated assumption that, housing prices always go up. This flawed logic contributed to a crash in world financial markets as described in Chapter One (p 10). This question is an example of the danger of teaching rules of thumb as absolute facts. If a student is taught that a home with a Wall Street provided fixed-rate mortgage will protect his savings from inflation, he may not understand the flipside, namely, how his wealth be affected in the event of deflation? The thinking that created this question, that housing prices always go up, is ground zero to the collapse of world financial markets.

Table 3					
<i>Analysis of JumpStart Questions Categorized as "Saving and Investing"</i>					
Question Number	Question	Analysis 1: Foundational Economic Principle	Analysis 2: Does the question assess knowledge of the foundational principle?	Analysis 2: Is the "correct" answer to the question actually correct?	Analysis 3: If Analysis 2 is negative, what does the question assess?
10	David just found a job with a take home pay of \$2,000 per month. He must pay \$900 for rent and \$150 for groceries each month. He also spends \$250 per month on transportation. If he budgets \$100 each month for clothing, \$200 for restaurants and \$250 for everything else, how long will it take him to accumulate savings of \$600.	None. This problem assesses rudimentary math skills	N/A	1. Correct	Addition and subtraction
16	Rob and Mary are the same age. At age 25 Mary began saving \$2,000 a year while Rob saved nothing. At age 50, Rob realized that he needed money for retirement and started saving \$4,000 per year while Mary kept saving her \$2,000. Now they are both 75 years old. Who has the most money in his or her retirement account?	None	N/A	3. Incorrect, oversimplified, the correct answer requires too many assumptions	Rule of thumb - Wall Street investment products always increase in value and never decrease
3	Rebecca has saved \$12,000 for her college expenses by working part-time. Her plan is to start college next year, and she needs all of the money she saved. Which of the following is the safest place for her college money?	None	N/A	1. Correct	Rule of thumb, banks keep money safe. The question does not address why money is safe in a bank.
11	Sara and Joshua just had a baby. They received money as baby gifts and want to put it away for the baby's education. Which of the following tends to have the highest growth rate over periods of time as long as 18 years?	None	N/A	3. Incorrect, oversimplified, the correct answer requires too many assumptions	Rule of thumb - Wall Street investment products always increase in value and never decrease
9	Many people put aside money to take care of unexpected expenses. If Juan and Elva have money put aside for emergencies, in which of the following forms would it be of LEAST benefit to them if they needed it right away?	None	N/A	1. Correct	Rule of thumb - Wall Street investment products always increase in value and never decrease
25	Many savings programs are protected by the Federal government against loss. Which of the following is not?	None	N/A	1. Correct, however oversimplifies what "loss" is. Government bonds are subject to loss related to interest rate risk.	Rule of thumb - Wall Street investment products always increase in value and never decrease
31	If you had a savings account at a bank, which of the following would be correct concerning the interest that you would earn on this account?	Role of government and taxation	No	1. Correct	Rule of thumb - Taxes make people poorer
4	Which of the following types of investment would best protect the purchasing power of a family's savings in the event of a sudden increase in inflation?	Money as a medium of exchange	No	1. Correct	Rule of thumb - Inflation is bad and Wall Street investments can protect the purchasing power of my money

*Summary of Analysis: Saving and Investing*

None of the questions assessed knowledge of the underlying economic philosophies of these subjects. Six of the eight questions assessed if the student could select a “correct” financial product from a provided list to meet a given hypothetical circumstance. One question assessed if the student could properly identify that inflation was bad and the remaining question was a simple math problem that required the student to add and subtract a few numbers to arrive at the correct answer.

*Spending and Credit*

Questions 5, 27, 20, 28, 23, 30, 12, 29, 6, 19 and 15 are categorized by Mandell as relating to personal spending and credit. The foundational economic principle that relates to spending and credit is the motivation of man, the base building block of economic science. Financial literacy must include an understanding of this concept, which is the driving force for a large percentage of mankind's social interaction.

**Question 5 (p. 167). Under which of the following circumstances would it be financially beneficial to you to borrow money to buy something now and repay it with future income?**

- a) When you need to buy a car to get a much better paying job.
- b) When you really need a week vacation.
- c) When some clothes you like go on sale.
- d) When the interest on the loan is greater than the interest you get on your savings.

The correct answer is a) When you need to buy a car to get a much better paying job (p. 167).

*Analysis 1: Question 5*

The underlying economic principle is motivation of an individual, the primary principle in the study of economic science. Smith (1776) described this in the opening paragraph in *Wealth of Nations*.

Political Economy or Economics is a study of mankind in the ordinary business of life; it examines that part of individual and social action which is most closely connected with the attainment and with the use of the material requisites of wellbeing (Book I, Chapter I, Paragraph 1).

When and what to consume lies at the heart of a free market economy, creating the “invisible hand” that moves the economy. Marshall (1890) described the effect of technology on this important matter.

The growth of a money-economy and of modern habits of business does indeed hinder the accumulation of wealth by putting new temptations in the way of those who are inclined to live extravagantly. In old times if a man wanted a good house to live in he must build it himself; now he finds plenty of good houses to be hired at a rent. Formerly, if he wanted good beer he must have a good brewhouse, now he can buy it more cheaply and better than he could brew it. Now he can borrow books from a library instead of buying them; and he can even furnish his house before he is ready to pay for his furniture. Thus in many ways the modern systems of buying and selling, and lending and borrowing, together with the growth of new wants, lead to new extravagances, and to a subordination of the interests of the future to those of the present (Book IV, Chapter VII, Paragraph 16).

Promoting an understanding of the underlying philosophy of our economic culture that recognizes the importance of each individual would be an appropriate topic for high school students.

*Analysis 2: Question 5*

This question does not assess knowledge of the underlying foundational economic principle.

*Analysis 3: Question 5*

Instructing citizens what they should consume and when they should consume it goes against free-market principles. The curriculum that would support this question is more akin to

top-down, master/slave culture described in Oeconomicus, where slaves are told what to do and how to act responsibly by their wise masters.

**Question 27. Which of the following instruments is NOT typically associated with spending?**

- a) Debit card.
- b) Certificate of deposit.
- c) Cash.
- d) Credit card.

The correct answer is b) Certificate of deposit (p. 172).

*Analysis 1: Question 27*

The underlying economic principle here is the motivation of the individual, the primary principle in the study of economic science. Promoting an understanding of the underlying philosophy of our culture could lead to an informed citizenry who could help shape government policy that could lead to greater and more equitable allocation of wealth.

*Analysis 2: Question 27*

This question does not assess knowledge of the underlying foundational economic principle.

*Analysis 3: Question 27*

The curriculum needed to teach the “correct” answer to this question would be more memorization of the names and one-sided descriptions of Wall Street financial products.

**Question 20. Which of the following statements is NOT correct about most ATM (Automated Teller Machine) cards?**

- a) You can generally get cash 24 hours-a-day.

- b) You can generally obtain information concerning your bank balance at an ATM machine.
- c) You can get cash anywhere in the world with no fee.
- d) You must have a bank account to have an ATM card.

The correct answer is c) It is not correct that You can get cash anywhere in the world with no fee (p. 178).

*Analysis 1: Question 20*

This question does not relate to any economic principle.

*Analysis 2: Question 20*

This question does not assess knowledge of a foundational economic principle. It is merely assessing if students have memorized the fee structures of a certain Wall Street product.

*Analysis 3: Question 20*

The curriculum needed to teach the “correct” answer to this question would be more memorization of the names and descriptions of Wall Street financial products. Teaching students to memorize the names and fee structures of financial products will not lead to a growth in societal wealth. However, teaching students that they have the power in a democratic society to regulate the ability of the government-backed financial services industry to charge outrageous and exorbitant fees could increase societal wealth.

**Question 28. Which of the following credit card users is likely to pay the GREATEST dollar amount in finance charges per year if they all charge the same amount per year on their cards?**

- a) Jessica, who pays at least the minimum amount each month and more, when she has the money.

- b) Vera, who generally pays off her credit card in full but, occasionally, will pay the minimum when she is short of cash.
- c) Megan, who always pays off her credit card bill in full shortly after she receives it.
- d) Erin, who only pays the minimum amount each month.

The correct answer is d) Erin, who only pays the minimum amount each month (p. 184).

*Analysis 1: Question 28*

This question does not relate to a foundational economic principle. It does however touch on the important concept of the mechanism of interest. Marshall (1890) warned his students that they should understand the historical significance of usury and interest.

But on the other hand we must keep constantly in mind the history of the terms which we use. For, to begin with, this history is important for its own sake; and because it throws side lights on the history of the economic development of society. And further, even if the sole purpose of our study of economics were to obtain knowledge that would guide us in the attainment of immediate practical ends, we should yet be bound to keep our use of terms as much as possible in harmony with the traditions of the past; in order that we might be quick to perceive the indirect hints and the subtle and subdued warnings, which the experiences of our ancestors offer for our instruction (Book II, Chapter I, Paragraph 7).

Teaching students the mechanism of banking and interest rates within a historical context could lead to a more informed society and more democratic banking regulation policy. In turn, this could well lead to greater societal wealth.

*Analysis 2: Question 28*

This question does not assess the identified underlying historical economic concept. It is merely assessing if students have memorized the fee structures of a certain Wall Street product.

*Analysis 3: Question 28*

The curriculum needed to teach the “correct” answer to this question would be more memorization of the names and descriptions of Wall Street financial products. Teaching students to memorize the names and fee structures of financial products will not lead to a growth in societal wealth. However, teaching students that they have the power in a democratic society to regulate the ability of the government-backed financial services industry to charge outrageous and unfair fees could increase societal wealth.

**Question 23. Scott and Eric are young men. Each has a good credit history. They work at the same company and make approximately the same salary. Scott has borrowed \$6,000 to take a foreign vacation. Eric has borrowed \$6,000 to buy a car. Who is likely to pay the lowest finance charge?**

- a) Eric will pay less because the car is collateral for the loan.
- b) They will both pay the same because the rate is set by law.
- c) Scott will pay less because people who travel overseas are better risks.
- d) They will both pay the same because they have almost identical financial backgrounds.

The correct answer is a) Eric will pay less because the car is collateral for the loan (p. 190).

*Analysis 1: Question 23*

This question does not relate to a foundational economic principle. It does however touch on the important financial mechanism of granting credit. Teaching students the importance of money markets and how they function could create more astute savers and borrowers.



*Analysis 2: Question 23*

This question assesses the identified underlying economic mechanism in a very rudimentary manner. Collateral is one factor in determining credit worthiness.

*Analysis 3: Question 23*

The curriculum needed to teach the “correct” answer to this question would be the recognized factors in a free market that determine an individual’s credit worthiness (the four c’s of credit, character, collateral, capacity and conditions). In addition, students should be instructed in the theories of banking regulations related to credit. What if Eric is Black, speaks with an accent or is transgender? Should the answer to the question change? Would it change? The question does not assess knowledge any deeper than the memorization of a financial term.

**Question 30. Dan must borrow \$12,000 to complete his college education. Which of the following would NOT be likely to reduce the finance charge rate?**

- a) If he went to a state college rather than a private college.
- b) If his parents cosigned the loan.
- c) If his parents took out an additional mortgage on their house for the loan.
- d) If the loan was insured by the Federal Government.

The correct answer is a) If he went to a state college rather than a private college (p. 196).

*Analysis 1: Question 30*

This question does not relate to a foundational economic principle. It does however touch on the important concept of the mechanism of granting credit, as in Question 23. It also tangentially touches on the philosophy of higher education spending by society.

Marshall (1890) directly coupled societal wealth with higher education.

We may then conclude that the wisdom of expending public and private funds on education is not to be measured by its direct fruits alone. It will be profitable as a mere investment, to give the masses of the people much greater opportunities than they can generally avail themselves of. For by this means many, who would have died unknown, are enabled to get the start needed for bringing out their latent abilities. And the economic value of one great industrial genius is sufficient to cover the expenses of the education of a whole town; for one new idea, such as Bessemer's chief invention, adds as much to England's productive power as the labour of a hundred thousand men. Less direct, but not less in importance, is the aid given to production by medical discoveries such as those of Jenner or Pasteur, which increase our health and working power; and again by scientific work such as that of mathematics or biology, even though many generations may pass away before it bears visible fruit in greater material wellbeing. All that is spent during many years in opening the means of higher education to the masses would be well paid for if it called out one more Newton or Darwin, Shakespeare or Beethoven (Book IV, Chapter VI, Paragraph 26).

Teaching students the mechanism of banking and granting credit and the social value of higher education spending could lead to a more informed society and more democratic education and banking regulation policies. Increasing the level of knowledge on how financial markets work could lead to better informed policies related to regulations. Furthermore, teaching citizens that knowledge is directly related to the standard of living in society, will make citizens less likely to think of taxes collected to fund education as something that decreases their wealth.

*Analysis 2: Question 30*

This question does not assess the identified underlying economic mechanism or philosophy in a meaningful manner.

*Analysis 3: Question 30*

The curriculum needed to teach the “correct” answer to this question would be more memorization of the terms and conditions of a Wall Street financial product, in this question, student loans. If members of society are not taught the link between public funding for higher education (or all education for that matter) and wealth, public funding might decrease or go away all together.

**Question 12. Barbara has just applied for a credit card. She is an 18 year old high school graduate with few valuable possessions and no credit history. If Barbara is granted a credit card, which of the following is the most likely way that the credit card company will reduce ITS risk?**

- a) It will make Barbara’s parents pledge their home to repay Barbara’s credit card debt.
- b) It will require Barbara to have both parents co-sign for the card.
- c) It will charge Barbara twice the finance charge rate it charges older cardholders.
- d) It will start Barbara out with a small line of credit to see how she handles the account.

The correct answer is d) It will start Barbara out with a small line of credit to see how she handles the account (p. 203).

*Analysis 1: Question 12*

This question does not relate to a foundational economic principle. It does however touch the important concept of the mechanism of interest like in Question 28. Teaching students the mechanism of banking and interest rates within a historical context could lead to a more

informed society and more democratic banking regulation policy. In turn, this could lead to greater societal wealth.

*Analysis 2: Question 12*

This question does not assess the identified underlying historical economic concept. It is merely assessing if students have memorized the fee structures of a certain Wall Street product.

*Analysis 3: Question 12*

The curriculum needed to teach the “correct” answer to this question would be more memorization of the names and descriptions of Wall Street financial products. Teaching students to memorize the names and fee structures of financial products will not lead to a growth in societal wealth. However, teaching students that they have the power in a democratic society to regulate the ability of the government-backed financial services industry to charge unfair fees could increase societal wealth. This question does quite the opposite. It provides a justification for Wall Street firms to charge outrageous fees to the poorest in society for exceeding tiny credit lines by even one penny.

**Question 29. Which of the following statements is true?**

- a) Banks and other lenders share the credit history of their borrowers with each other and are likely to know of any loan payments that you have missed.
- b) People have so many loans it is very unlikely that one bank will know your history with another bank.
- c) Your bad loan payment record with one bank will not be considered if you apply to another bank for a loan.
- d) If you missed a payment more than two years ago, it cannot be considered in a loan decision.

The correct answer is a) Banks and other lenders share the credit history of their borrowers with each other and are likely to know of any loan payments that you have missed (p. 209).

*Analysis 1: Question 29*

This question does not relate to a foundational economic principle. It does however touch the important concept of the mechanism of granting credit, as in Question 23. Teaching students the mechanism of banking and granting credit could lead to a more informed society and more democratic banking regulation policies. In turn, this could lead to greater societal wealth.

*Analysis 2: Question 29*

This question does not assess the identified underlying economic mechanism or philosophy in a meaningful manner.

*Analysis 3: Question 29*

The curriculum needed to teach the “correct” answer to this question would be a warning to students that whatever they do, whenever they do it, the financial services industry will record it and report it forever.

**Question 6. Which of the following statements best describes your right to check your credit history for accuracy:**

- a) Your credit history can be checked once a year for free.
- b) You cannot see your credit report.
- c) All credit records are the property of the U.S. Government and access is only available to the FBI and lenders.
- d) You can only check your record for free if you are turned down for credit based on a credit report.

The correct answer is a) Your credit history can be checked once a year for free (p. 215).

*Analysis 1: Question 6*

This question does not relate to a foundational economic principle. It does not relate to knowledge that creates wealth.

*Analysis 2: Question 6*

Since there is no economic principle, Analysis 2 is not applicable.

*Analysis 3: Question 6*

The curriculum needed to teach the “correct” answer to this question would be a memorization of a federal law.

**Question 19. If your credit card is stolen and the thief runs up a total of \$1,000, but you notify the issuer of the card as soon as you discover it is missing, what is the maximum amount that you can be forced to pay according to Federal law?**

- a) \$500.
- b) \$1,000.
- c) Nothing.
- d) \$50.

The correct answer is d) \$50 (p. 221).

*Analysis 1: Question 19*

This question does not relate to a foundational economic principle. It does not relate to knowledge that creates wealth.

*Analysis 2: Question 19*

Since there is no economic principle, Analysis 2 is not applicable.

*Analysis 3: Question 19*

The curriculum needed to teach the “correct” answer to this question would be a memorization of a federal law, one that Wall Street lobbied and fought against.

**Question 15. If you are behind on your debt payments and go to a responsible credit counseling service such as the Consumer Credit Counseling Services, what help can they give you?**

- a) They can cancel and cut up all of your credit cards without your permission.
- b) They can get the federal government to apply your income taxes to pay off your debts.
- c) They can work with those who loaned you money to set up a payment schedule that you can meet.
- d) They can force those who loaned you money to forgive your debts.

The correct answer is c) They can work with those who loaned you money to set up a payment schedule that you can meet (p. 227).

*Analysis 1: Question 15*

This question does not relate to a foundational economic principle. It does not relate to knowledge that creates wealth.

*Analysis 2: Question 15*

The FTC warns that many credit counseling schemes are fraudulent; therefore, this premise of this question is materially flawed. The curriculum is creating a justification for predatory financial practices... should a student gets ripped-off in one of these credit counseling schemes, it is his own fault because he chose an “irresponsible” firm.

*Analysis 3: Question 15*

The curriculum needed to teach the “correct” answer to this question would be a memorization of a Wall Street financial product. What is a “responsible” credit counseling firm?

How would one tell the difference between a responsible firm and an irresponsible firm, assuming it is not against the law to offer “irresponsible” credit counseling services? This question identifies a Jump\$tart member organization as a “responsible” service provider. The member is a not-for-profit company that is materially funded by the financial services industry.



Table 4					
<i>Analysis of JumpStart Questions Categorized as "Spending and Credit"</i>					
Question Number	Question	Analysis 1: Foundational Economic Principle	Analysis 2: Does the question assess knowledge of the foundational principle?	Analysis 2: Is the "correct" answer to the question actually correct?	Analysis 3: What does the question assess?
5	Under which of the following circumstances would it be financially beneficial to you to borrow money to buy something now and repay it with future income?	Motivation of man	No	1. Correct	Rule of thumb - Spend money in a manner that JumpStart considers "responsible"
27	Which of the following instruments is NOT typically associated with spending?	Motivation of man, mechanism of insurance	No	1. Correct	Memorization of the names of insurance financial products: Comprehensive, Liability, Term, Collision
20	Which of the following statements is NOT correct about most ATM (Automated Teller Machine) cards?	None	N/A	1. Correct	Memorization of the names of financial products and their fees
28	Which of the following credit card users is likely to pay the GREATEST dollar amount in finance charges per year if they all charge the same amount per year on their cards?	None	N/A	1. Correct	Memorization of the names of financial products and their fees
23	Scott and Eric are young men. Each has a good credit history. They work at the same company and make approximately the same salary. Scott has borrowed \$6,000 to take a foreign vacation. Eric has borrowed \$6,000 to buy a car. Who is likely to pay the lowest finance charge?	None	N/A	2. Correct in some circumstances, oversimplified and the correct answer required unstated assumptions	Knowledge of the "Four C's of Credit," a minor rule of thumb related to money markets and the principles of finance
30	Dan must borrow \$12,000 to complete his college education. Which of the following would NOT be likely to reduce the finance charge rate?	None	N/A	1. Correct, assumes that borrowing money for college is always a valid choice	Memorization of the names of financial products and their fees
12	Barbara has just applied for a credit card. She is an 18 year old high school graduate with few valuable possessions and no credit history. If Barbara is granted a credit card, which of the following is the most likely way that the credit card company will reduce ITS risk?	None	N/A	3. Incorrect, oversimplified, the correct answer requires too many assumptions	Memorization of the names of financial products and their fees. JumpStart is justifying a predatory lending practice of charging outrageous fees to young, vulnerable customers
29	Which of the following statements is true? (regarding your personal credit history)	None	N/A	1. Correct	Rule of thumb- Wall Street knows everything about you
6	Which of the following statements best describes your right to check your credit history for accuracy:	None	N/A	1. Correct	Memorization of the names of financial products and their features
19	If your credit card is stolen and the thief runs up a total of \$1,000, but you notify the issuer of the card as soon as you discover it is missing, what is the maximum amount that you can be forced to pay according to Federal law?	None	N/A	1. Correct	Memorization of the names of financial products and their features
15	If you are behind on your debt payments and go to a responsible credit counseling service such as the Consumer Credit Counseling Services, what help can they give you?	None	N/A	3. Incorrect, oversimplified, the correct answer requires too many assumptions	Rule of thumb - there are responsible and irresponsible financial firms to choose from. America's largest credit counseling organization is a member of JumpStart

*Summary of Analysis: Spending and Credit*

None of the eleven questions in this section assess knowledge of a foundational economic philosophy. Instead of assessing knowledge of culture and social interaction, the test largely

measured how well students had memorized names of financial products. One of the questions assessed if a student could accurately identify what the JumpStart test deemed to be a good way to spend money. Seemingly this type of question seems to ignore the concept of a rational man acting in his own best interest and instead seeks to assess if the student has memorized the “best” way to spend money. Of the remaining questions, eight assessed memorization of the names and attributes of financial products, and one assessed if students were aware that their financial history would be available to every financial firm in the country. The remaining question in this section assessed, albeit in a very rudimentary manner, knowledge of one factor in the mechanism of granting credit.

#### *Overall Summary of Analysis of Data*

##### *Socrates versus Adam Smith*

As discussed in Chapter Two (p. 62-63), advances in scientific knowledge that are widely diffused throughout society result in an “invisible hand” creating Kondratieff Waves of exponential wealth growth. However, rational people acting in their own best interest can advance scientific knowledge only if they are equipped with critical thinking skills that enable them to destroy existing paradigms and create new and improved ones. Instead of assessing critical thinking skills and the philosophical framework of the current economic paradigm, the JumpStart tests a student’s ability to follow a set of memorized rules, for example, which financial service product to buy or accepting as a “fact” that democratic government makes people poorer. The JumpStart approach is similar to Socrates’ approach to financial literacy, namely, that slaves should be trained to make decisions that please their master. As discussed in my review of *Oeconomicus* in Chapter Two (p. 55), Socrates postulated that society prospered through a rigid class structure in which people obediently followed orders without question.

Unfortunately, history tells us that while this structure is better than anarchy, it will not lead to an exponential growth in societal wealth.

### *Wrong Answers*

Student performance on the Jump\$start assessment test was cited by the President's Advisory Council on Financial Literacy as evidence that America's students were not financially literate. The Advisory Council concluded that this lack of "financial literacy" led to the collapse of world financial markets and was undermining the economy of the United States. To remedy this problem, the Advisory Council recommended mandating the Jump\$start curriculum to every man, woman and child in the country. The analysis shows that the Jump\$start test which is the basis for these recommendations is materially flawed. Of the 31 questions, only 15 of the "correct" answers were deemed valid in this study, earning Jump\$start a 48% on their own test. The types of errors on the Jump\$start assessment tool fall into two categories. Type 1 errors required the student to arrive at the "correct" answer by assuming many factors that are not present in all situations. This is a critical flaw in the assessment tool that defies one of the principles of economic science as described by Marshall (1890).

Economic laws are statements with regard to the tendencies of man's action under certain conditions. They are hypothetical only in the same sense as are the laws of the physical sciences: for those laws also contain or imply conditions. But there is more difficulty in making the conditions clear, and more danger in any failure to do so, in economics than in physics (Marshall, 1890, Book I, Chapter IV, Paragraph 2).

Treating assumptions as if they were common knowledge requires students to draw upon memorized "rules of thumb" instead of economic scientific knowledge and critical thinking

skills. For example, Question 13 presented a scenario in which the personal income of an individual doubled and the “correct” answer was that this person’s Federal Income taxes would more than double. This would be the correct answer if:

1. The income tax rates did not change from one year to the next AND
2. The individual did not change his marital status AND
3. The individual did not have a change in filing status AND
4. The individual did not have any dependents in the base year AND
5. The individual did not add a dependent in the subsequent year AND
6. The individual did not have deductions that exceeded the standard deduction in the base year AND
7. The individual did not have deductions that exceeded the standard deduction in the subsequent year.

If any of these unstated assumptions are not met, then the “correct” answer is wrong; therefore, I classified this question as incorrect. What this question is designed to assess is that student’s have memorized a “general rule,” that income tax rates are progressive, therefore, if a person earns more money his tax rate will continually climb. Of the 16 incorrect “correct” answers on the Jump\$start assessment, 7 were due to unstated assumptions.

Type II of errors occurred when Mandell and Jump\$start specified an incorrect answer that supported memorization of ideological “truths.” For example, Question 21 asked the effect that business taxes in a particular state would have on an employer that ran a factory production line. The “correct” answer was that the employer would consider firing its employees and moving to a lower-tax jurisdiction. The premise that business taxes are the prime factors that determine the location where goods are produced is an ideological theory that is supported by

little scientific evidence. What about skilled labor? What about proximity to markets? What about infrastructure, including both communications and transportation? What about civil and national security? If low taxes were the determining factor in where goods were produced, then Somalia or another failed state that did not assess business taxes would find itself overflowing with manufacturing facilities. While taxation can be a factor in determining where a factory is constructed, assessing it as a prime factor is misleading.

*Substituting Ideological “truths” for Scientific Knowledge*

Other than one question that assessed scientific knowledge, even if only marginally, the Jump\$Start assessment measures memorization of generalized “rules of thumb” as well as some of the proper names and related fees of products offered by members of the Jump\$Start organization. Seven of the 31 questions (16, 3, 11, 9, 25, 4 and 29) assessed memorization of the “truth” that Wall Street investments always make the people who buy them wealthier. Five of the 31 questions (21, 13, 7, 2 and 31) assessed memorization of the “truth” that taxes make people poorer (less wealthy). Other “truths” assessed were; inflation is bad (1 and 4), insurance is good (26 and 22), a college degree guarantees higher earnings over a worklife (24), the workplace is a perfect meritocracy (18), employers provide their employees with pensions and health insurance (8 and 17), you should spend “responsibly” (5), you can keep no secrets from Wall Street (29) and there are responsible and irresponsible firms that you can choose from (15).

*Memorizing Wall Street Financial Products and the remaining questions*

Most of the remaining questions (8, 27, 20, 28, 30, 12, 6 and 19) assess memorization of the proper names and attributes of certain financial products offered by members of the Jump\$Start organization. The curriculum that supports these questions directly benefits the members of the Jump\$Start organization who offer these products. Finally, Question 10 is a math

question that assesses the ability of students to add and subtract a handful of numbers. While JumpStart assessed the correct answer to this question, it is not evidence of a student’s “financial literacy.”

## **Chapter 5: Findings, Conclusions and Implications**

### *Introduction*

Compulsory financial literacy education as conceived by the JumpStart organization and sustained and adopted by the President’s Advisory Council and the U.S. Department of Treasury’s Office of Financial Education is not an abstract concept. It is a national program that is being promoted with the full power of the federal government and will touch the lives of every person in the country. The stated goals of the program are admirable. Its mission of “Sustained financial well-being for U.S. individuals and families” is innocuous and agreeable and because the program has been lauded by authoritative sources, including both Presidents Bush and Obama and the Chairman of the Federal Reserve Bank, it has gained nearly universal acceptance by policy makers who are unaware of its genesis and content (Commission, 2011) . But stated goals, even pleasant sounding ones, have no effect on economic conditions. It is enacted policies that touch the lives of people. Tragically, the findings of this study cast doubt on whether the normative policy goals of those promoting compulsory national financial literacy mirror the pleasant sounding rhetoric in their mission statements and marketing materials.

Arguably the most the most destructive group of people in the history of mankind is the financial services industry, referred to as “Wall Street” in this study. In 1995, when this group appeared infallible in the eyes of the world, they undertook a mission under the guise of JumpStart to co-opt the public education system in order to promote a largely self-serving agenda. Since the financial system collapse in September 2008, it has become clear that the

industry is run by shrewd people who will take all of the wealth that they can, as quickly as they can, largely without fear of criminal or civil penalties. A change in American presidential administrations did not change the course of the financial literacy movement, if anything it has gained momentum. President Obama embraced the financial literacy movement and its backers, even going as far as to blame the collapse of the world financial markets on a lack of "financial literacy" of victims of the crisis, even though no credible body, including the International Monetary Fund ("IMF"), G20 and the Financial Crisis Inquiry Commission has ever supported this assertion. Financial literacy education is being hailed as the cure to systemic market failure, the solution to America's economic recession and the pathway to economic prosperity for all American citizens.

The U.S. government has adopted the financial service industry's vision of financial literacy which, according to the results of the analysis of the Jump\$tart assessment, is split equally between anti-government rhetoric and pro-Wall Street marketing materials that seem to be designed to help sell dodgy IOUs to an indoctrinated public. Even though the organization that funded the Jump\$tart assessment test, Merrill Lynch, collapsed in massive failure leaving many of its investors, counterparties and accountholders holding worthless IOUs that the U.S. Treasury was coerced into covering, somehow the instrument was not challenged. As recently as 2009, the President's Advisory Council on Financial Literacy, staffed mainly by representatives of the financial services industry, cited student scores on the assessment test as evidence of a lack of financial literacy amongst American high school and college students (Schwab, 2009). The damage caused by Merrill Lynch is therefore not limited to bailout funds that could have been spent on social programs that benefit all people, but instead went into the pockets of Wall Street traders. The curriculum funded by Merrill Lynch lives on through Jump\$tart and has

become the foundation for a national financial literacy curriculum that could well become compulsory for all students.

It is not the student achievement on this broken instrument but the adoption of Jump\$tart’s definition of financial literacy that is the real evidence of a lack of competency, not of students, but of education policy makers who are unable or unwilling to discern the difference between scientific economic knowledge and generalized self-serving “truths” perpetuated in the Jump\$tart curriculum. There is a knowledge literacy crisis in the education administration profession and as a result, the Jump\$tart curriculum has been adopted with little dissent. The Jump\$tart version of financial literacy has reduced the hopeful, progressive science that Smith, Ricardo, Weber and Marshall (among others) professed could unlock man’s unlimited potential, exponentially increase the standard of living of all people and eliminate war and disease, to a few simple “rules of thumb” that inform students which financial services products to purchase to ensure lifetime economic success.

### *Findings*

#### *Jump\$tart Fails Their Own Test*

A perfect score on the Jump\$tart instrument is not evidence of mastery of economic principles, nor is it a demonstration of logical or critical thinking. Instead, a perfect score would demonstrate the ability of a student to select answers that Jump\$tart deemed “correct” even if the answer were actually incorrect. The majority of the instrument’s questions are so imprecise in their design that there is not one correct answer, and in some cases none of the possible answers are correct under any unstated assumption. One would assume that if it was discovered an examination was so incompetently constructed that more than half of its questions were invalid or wrong, the red-faced test author would quickly suspend the test until it could be corrected.



That will not happen in this instance because the financial services industry will likely argue that the errors are insignificant. This mindset is an example of a social class (the financial services industry and its employees) that is accustomed to dictating one-sided terms and conditions in all of its commercial transactions. Consumers of financial products do not have the luxury of negotiating the terms with a financial services company. If a consumer needs a bank account or credit card, the terms are available to review but are not changeable and if even the most insignificant of contractual terms is violated in the most immaterial way, suddenly the rule of law is cited as reason for stark and unreasoned enforcement of the most draconian penalties. For example, if a person underpays his mortgage by one penny or it is one second late, the bank can take his house. However, the reverse is not true. Financial institutions routinely make material errors that are ignored by judges (Taibbi, 2010b). The rules are “heads I win and tails you lose” and the industry operates as if its errors do not count because the work they do is so important to society. If a regular citizen cheats on his taxes, he will face criminal and civil prosecution and possibly jail. On the other hand, if an important employee of the International Monetary Fund cheats on his taxes (for the 2001 through 2004 tax years), he is not impeded from becoming Treasury Secretary, responsible for running the Internal Revenue Service.

However, even if the JumpStart exam were mechanically corrected, a relatively simple task, it would still be evidence of a damaging curriculum because beyond the flawed test construction lies a much more serious problem.

#### *JumpStart Attempts to Return to the Socrates' Vision of Financial Literacy*

Since the stated normative policy aim of compulsory financial literacy education is to increase wealth, the curriculum must increase the scientific knowledge of those who study it. Mankind's wealth and social justice gains since the dawn of the Industrial Revolution are not the

result of “innovative” new products from the financial services industry, magnificent technological inventions or as Kondratiev postulated, the “capitalistic process.” Instead, it has been the philosophy from the Age of Enlightenment that transformed the world. Rejection of dogma and the “divine right of kings” and applying reason, rationality and egalitarian logic to all matters is the foundation of man’s health, wealth and social justice. The American and French Revolutions took place because men were not afraid to challenge the existing paradigm in order to achieve democracy and social justice for all people. Exponential economic growth in wealth for all people was a beneficial byproduct of these revolutions. Ideas from the Age of Enlightenment included free markets, each person acting in his or her own best interest, not having government pick economic winners, all men and women are created equal and the social contract. Tragically these ideas have been usurped by actors who instead of seeking to increase the welfare of all mankind, have reduced economic knowledge to buzzwords and “rules of thumb” that largely serve those who perpetuate them. Dogma is the mortal enemy of knowledge creation. None of the JumpStart test questions assess knowledge of foundational economic principles as described by Adam Smith or Alfred Marshall in their books *Wealth of Nations* and *Principles of Economics*, respectively.

### *Conclusions*

#### *Knowledge is Wealth*

If all of the man-made material wealth of the world... all of the factories, houses, roads, ports, power plants, farms, skyscrapers were destroyed, down to the last piece of paper and clothing, I predict that mankind would quickly rebuild. In a relatively short period of time, mankind would replace all of the old “stuff” with new things. This hypothesis is based on observing postwar Germany and Japan. Both countries quickly rebuilt cities after nearly

complete destruction in World War II. On the other hand, if all of humankind's scientific knowledge was lost, it might take centuries or perhaps longer for humankind to regain our present level of technological advancement.

### *JumpStart is Winning*

Simon Johnson, the former chief economist for the International Monetary Fund, described Timothy Geithner's master plan to have the financial services industry facilitate world economic growth as a "gamble" (Johnson, 2011). Mr. Johnson was being charitable and diplomatic in his selection of words. A scheme that relies on the financial services industry to increase the standard of living for mankind is not a gamble; it is a course of action that is certain to fail. Money and financial services are not the source of wealth creation; instead it is the motivation of man as chronicled by Adam Smith that is the foundation of our economic paradigm and culture. The curriculum that supports the JumpStart assessment reflects a mindset that overemphasizes the importance of the financial services industry to society. It does not enable those who study it to make informed economic decisions in their best interest.

### *Balkanization of Knowledge*

Balkanized scientific knowledge describes a mindset where people, even highly educated professionals, are unwilling to challenge the structure of a paradigm they belong to, let alone a paradigm of which they are not a member. This environment allowed the financial services industry to unilaterally dictate the economic terms of its services, which in turn gave them the power to decide how wealth is allocated. As a result, wealth has become more concentrated than ever before in the history of the country (DeNavas-Walt, Proctor, & Smith, 2010). Banking and financial services affect all people; therefore its role in society and economic terms should be determined in a democratic manner. Only widely disseminated economic scientific

knowledge will enable Americans to challenge the status quo and make rational policy decisions in their best interest. To marginalize the self-serving financial services propaganda embodied in the Jump\$start assessment, all people must be taught the philosophical foundation of our economic system. Therefore, it is incumbent upon educators to refocus curriculum to teach students what economic science has identified as the source of mankind's wealth.

### *Recommendations*

#### *Education is a Public Good*

Knowledge is the foundation of wealth and improved health, welfare and social justice for all mankind. Man only progresses in these areas by improving scientific knowledge of his environment, and of himself (the human experience). However, as with the 2,000 year old Antikythera device, if scientific advancements are not widely disseminated to all people, they do not create Kondratieff Waves of exponential economic growth. Therefore, educating *all* people of the current level of scientific knowledge as well as teaching them of the need to improve this knowledge, must be the highest priority of a democratic society. It is more important to individual liberty and security than a powerful military that controls enough nuclear weapons to destroy the world.

Specialized knowledge, as described by Adam Smith, contributes to wealth creation. However, if knowledge becomes balkanized, citizens are not able to make informed policy decisions in their best interest. Therefore, Kuhn's paradigm science must be a part of the foundational curriculum for all students so they understand that all paradigms have philosophical underpinnings, structures, limits and flaws. All curriculums should be framed in relation to the paradigm structure they support so students do not need to ask the age-old-question... why are we learning this? Furthermore, students must learn to understand and appreciate the patchwork

of paradigms that make up our shared culture. All students throughout the world must learn that our economic culture is not ordained by god, but instead it is an invention of men who desired to create the most wealth that benefited the most people. Financial literacy should be eliminated and replaced with interdisciplinary knowledge literacy. Finally, since man's wealth, health and welfare is a function of the level of scientific knowledge that his neighbors' possess, eliminate the premise of selfish competition as a means of improving personal wealth. Adam Smith observed that a man does not become wealthier by crushing his neighbor; in fact, his wealth depends on the economic success of his neighbor. Therefore, students must be taught the importance of establishing global civil rights for all people, regardless of their nationality. These rights must include universal access to education and minimum compensation for labor.

#### *Identify and Solve Problems*

Through democratic institutions, man must work to identify, prioritize, and solve global problems. The most pressing issue for mankind is the global energy crisis as described in Chapter Two. This problem can be solved with new energy generation technology... a new energy paradigm. Man needs more energy to increase the standard of living for all. This energy must be clean, plentiful and free as the air that we breathe. Mankind has not "run out of time," he has the capacity to solve this problem with advancements in scientific knowledge that will allow him to create technology that will infinitely increase the standard of living of all people on the planet.

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**Appendix A**

*Matrix of Analysis of Data*

Table 1					
<i>Analysis of JumpStart Questions Categorized as "Income"</i>					
Question Number	Question	Analysis 1: Foundational Economic Principle	Analysis 2: Does the question assess knowledge of the foundational principle?	Analysis 2: Is the "correct" answer to the question actually correct?	Analysis 3: What does the question assess?
24	If you went to college and earned a four year degree, how much more money could you expect to earn than if you only had a high school diploma?	The value of labor, division of labor, factors that increase national wealth	No	3. Incorrect, oversimplified, the correct answer requires too many assumptions	Rule of thumb - Any college degree results in higher earnings over a worklife
18	Don and Bill work together in the finance department of the same company. Bill spends his free time taking work related classes to improve his computer skills while Don spends his free time socializing with friends and working out at a fitness center. After five years what is likely to be true?	The value of labor, division of labor, factors that increase national wealth	No	3. Incorrect, oversimplified, the correct answer requires too many assumptions	Rule of thumb - Meritocracy, the righteous always win. A person who has studied more than his coworker will receive a promotion. A person succeeds by outcompeting his neighbor.
21	Matt has a good job on the production line of a factory in his home town. During the past year or two, the state in which Matt lives has been raising taxes on its businesses to the point where they are much higher than in neighboring states. What effect is this likely to have on Matt's job?	Role of government and taxation	No	3. Incorrect, oversimplified, the correct answer requires too many assumptions	Rule of thumb - Taxes make people poorer. Business taxes are the most important factor when considering where to locate a production facility.
14	Which of the following best describes the primary sources of income for most people age 20-35?	Worklife earnings, the social contract	No	1. Correct	Memorization of terms: dividends, interest, salaries, wages, tips, profits from business, rents
13	Chelsea worked her way through college earning \$15,000 per year. After graduation her first job pays \$30,000. The total dollar amount Chelsea will have to pay in Federal Income taxes in her new job will:	Role of government and taxation	No	3. Incorrect, oversimplified, the correct answer requires too many assumptions	Rule of thumb - Taxes make people poorer, income taxes are absolutely progressive
7	Your take-home pay from your job is less than the total amount you earn. Which of the following best describes what is taken out of your total pay?	Role of government and taxation, the social contract	No	3. Incorrect, oversimplified, the correct answer requires too many assumptions	Rule of thumb - Taxes make people poorer
2	Which of the following is true about sales taxes?	Role of government and taxation	No	3. Incorrect, oversimplified, the correct answer requires too many assumptions	Rule of thumb - Taxes make people poorer

Table 2					
<i>Analysis of JumpStart Questions Categorized as "Money Management"</i>					
Question Number	Question	Analysis 1: Foundational Economic Principle	Analysis 2: Does the question assess knowledge of the foundational principle?	Analysis 2: Is the "correct" answer to the question actually correct?	Analysis 3: What does the question assess?
8	Retirement income paid by a company is called?	The value of labor, division of labor, worklife earnings and the social contract	No	3. Incorrect	Memorization of financial terminology and a rule of thumb that employers provide pensions
1	Inflation can cause difficulty in many ways. Which group would have the greatest problem during periods of high inflation that lasts several years?	Money as a medium of exchange	No	3. Incorrect, oversimplified	Rule of thumb - Inflation is bad
26	If each of the following persons had the same amount of take home pay, who would need the greatest amount of life insurance?	Worklife earnings, the social contract, how insurance works	No	2. Correct in some circumstances	Rule of thumb - Insurance is good and necessary
22	If you have caused an accident, which type of automobile insurance would cover damage to your own car?	None	N/A	2. Correct in some circumstances	Rule of thumb - Insurance is good and necessary
17	Many young people receive health insurance benefits through their parents. Which of the following statements is true about health insurance coverage?	Healthcare and worklife earnings	No	3. Incorrect, oversimplified, the correct answer requires too many assumptions	Rule of thumb, employers provide health insurance

Table 3					
Analysis of JumpStart Questions Categorized as "Saving and Investing"					
Question Number	Question	Analysis 1: Foundational Economic Principle	Analysis 2: Does the question assess knowledge of the foundational principle?	Analysis 2: Is the "correct" answer to the question actually correct?	Analysis 3: If Analysis 2 is negative, what does the question assess?
10	David just found a job with a take home pay of \$2,000 per month. He must pay \$900 for rent and \$150 for groceries each month. He also spends \$250 per month on transportation. If he budgets \$100 each month for clothing, \$200 for restaurants and \$250 for everything else, how long will it take him to accumulate savings of \$600.	None. This problem assesses rudimentary math skills	N/A	1. Correct	Addition and subtraction
16	Rob and Mary are the same age. At age 25 Mary began saving \$2,000 a year while Rob saved nothing. At age 50, Rob realized that he needed money for retirement and started saving \$4,000 per year while Mary kept saving her \$2,000. Now they are both 75 years old. Who has the most money in his or her retirement account?	None	N/A	3. Incorrect, oversimplified, the correct answer requires too many assumptions	Rule of thumb - Wall Street investment products always increase in value and never decrease
3	Rebecca has saved \$12,000 for her college expenses by working part-time. Her plan is to start college next year, and she needs all of the money she saved. Which of the following is the safest place for her college money?	None	N/A	1. Correct	Rule of thumb, banks keep money safe. The question does not address why money is safe in a bank.
11	Sara and Joshua just had a baby. They received money as baby gifts and want to put it away for the baby's education. Which of the following tends to have the highest growth rate over periods of time as long as 18 years?	None	N/A	3. Incorrect, oversimplified, the correct answer requires too many assumptions	Rule of thumb - Wall Street investment products always increase in value and never decrease
9	Many people put aside money to take care of unexpected expenses. If Juan and Elva have money put aside for emergencies, in which of the following forms would it be of LEAST benefit to them if they needed it right away?	None	N/A	1. Correct	Rule of thumb - Wall Street investment products always increase in value and never decrease
25	Many savings programs are protected by the Federal government against loss. Which of the following is not?	None	N/A	1. Correct, however oversimplifies what "loss" is. Government bonds are subject to loss related to interest rate risk.	Rule of thumb - Wall Street investment products always increase in value and never decrease
31	If you had a savings account at a bank, which of the following would be correct concerning the interest that you would earn on this account?	Role of government and taxation	No	1. Correct	Rule of thumb - Taxes make people poorer
4	Which of the following types of investment would best protect the purchasing power of a family's savings in the event of a sudden increase in inflation?	Money as a medium of exchange	No	1. Correct	Rule of thumb - Inflation is bad and Wall Street investments can protect the purchasing power of my money

Table 4					
Analysis of JumpStart Questions Categorized as "Spending and Credit"					
Question Number	Question	Analysis 1: Foundational Economic Principle	Analysis 2: Does the question assess knowledge of the foundational principle?	Analysis 2: Is the "correct" answer to the question actually correct?	Analysis 3: What does the question assess?
5	Under which of the following circumstances would it be financially beneficial to you to borrow money to buy something now and repay it with future income?	Motivation of man	No	1. Correct	Rule of thumb - Spend money in a manner that JumpStart considers "responsible"
27	Which of the following instruments is NOT typically associated with spending?	Motivation of man, mechanism of insurance	No	1. Correct	Memorization of the names of insurance financial products: Comprehensive, Liability, Term, Collision
20	Which of the following statements is NOT correct about most ATM (Automated Teller Machine) cards?	None	N/A	1. Correct	Memorization of the names of financial products and their fees
28	Which of the following credit card users is likely to pay the GREATEST dollar amount in finance charges per year if they all charge the same amount per year on their cards?	None	N/A	1. Correct	Memorization of the names of financial products and their fees
23	Scott and Eric are young men. Each has a good credit history. They work at the same company and make approximately the same salary. Scott has borrowed \$6,000 to take a foreign vacation. Eric has borrowed \$6,000 to buy a car. Who is likely to pay the lowest finance charge?	None	N/A	2. Correct in some circumstances, oversimplified and the correct answer required unstated assumptions	Knowledge of the "Four C's of Credit," a minor rule of thumb related to money markets and the principles of finance
30	Dan must borrow \$12,000 to complete his college education. Which of the following would NOT be likely to reduce the finance charge rate?	None	N/A	1. Correct, assumes that borrowing money for college is always a valid choice	Memorization of the names of financial products and their fees
12	Barbara has just applied for a credit card. She is an 18 year old high school graduate with few valuable possessions and no credit history. If Barbara is granted a credit card, which of the following is the most likely way that the credit card company will reduce ITS risk?	None	N/A	3. Incorrect, oversimplified, the correct answer requires too many assumptions	Memorization of the names of financial products and their fees. JumpStart is justifying a predatory lending practice of charging outrageous fees to young, vulnerable customers
29	Which of the following statements is true? (regarding your personal credit history)	None	N/A	1. Correct	Rule of thumb- Wall Street knows everything about you
6	Which of the following statements best describes your right to check your credit history for accuracy:	None	N/A	1. Correct	Memorization of the names of financial products and their features
19	If your credit card is stolen and the thief runs up a total of \$1,000, but you notify the issuer of the card as soon as you discover it is missing, what is the maximum amount that you can be forced to pay according to Federal law?	None	N/A	1. Correct	Memorization of the names of financial products and their features
15	If you are behind on your debt payments and go to a responsible credit counseling service such as the Consumer Credit Counseling Services, what help can they give you?	None	N/A	3. Incorrect, oversimplified, the correct answer requires too many assumptions	Rule of thumb - there are responsible and irresponsible financial firms to choose from. America's largest credit counseling organization is a member of JumpStart