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The Shift Towards Non-Monetary Currency and the Rise of Crypto-Currencies:

Incorporating Non-monetary Measurements to Allow a Nation to Take Stock of Its Well-Being

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Abstract

This thesis posits that governments around the world have failed to account for a vast percentage of the economic output of their citizens in their recordkeeping and policy-making. Through ineffective measures such as the GDP, governments have long attached their nation's value to arbitrary measures of "growth," which reflect average wealth, or unsustainable industrial output, or other shortsighted and unreflective measures. The rise and popularity of Bitcoin and other digital age "crypto-currencies" reflect both the convenience and ease of use of these new systems, but also an impulse toward moving past government as an economic gatekeeper. The last decades, which have been tracked with the rise of GDP as a measurement of economic wellbeing, have seen the general failure of government to take into account measures aside from economic output – such as happiness, childcare, and housework – when it tallies up the nation's values and sets its economic policies and priorities.

In addition to Bitcoin and other "crypto-currencies," this work will examine the history and current ramifications of policies that are reflective extensions of the growth-at-all-costs model of governance seen in GDP, particularly through fiat currency, economic deregulation, as well as the social ramifications of heedless growth on often-spurious grounds, which has characterized the last decades. Through an unwise and irrational adherence to growth-oriented policies (reflected in GDP), the U.S. government has – perhaps unwittingly – ignored the *true* needs and welfare of the American people. Yet Bitcoin, which is unregulated and stateless, may represent by its now years-long

popularity a testament to millions of economic actors who feel that government has failed to focus its attentions and energies on proper measures of economic output and wellbeing. Bitcoin – by its *true* value, as opposed to the “fiat” nature of conventional currencies – may yet prove a means by which economics again reflects reality.

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Chapter I

The Rise of Crypto-Currencies

Crypto-currencies such as Bitcoin and Altcoin have been heralded as a new age in banking and in commerce. Through use of currencies that are not tied to brick-and-mortar banks or to the nations which print such currency, they are expected to facilitate a substantial reduction in cost to consumers, as well as to the activities of merchants, lenders, and borrowers in the coming years. Nonetheless, these currencies are not without inherent risk.

Bitcoin's rise can be traced to two factors in modern economic history: The first is the rise of the Internet as a means by which trade is facilitated, a process that has been ongoing since the 1990s and through which, by the time Bitcoin was rolled out, security in transactions had reached a point where an online currency might be facilitated.[1] The second, and far more important aspect of the drive toward this type of currency is in the rise of *fiat* currency, which is any currency produced and used for trade but which has been "detached…from any and all commodity backing," backed only by "government guarantees," and is thus not redeemable in commodities such as gold or silver.[2]

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[1] S. Murphy, "Cryptocurrency and Decentralized Computing," *Norton Rose Fulbright* (2015). Accessed March 3, 2015. http://www.nortonrosefulbright.com/knowledge/technical-resources/cryptocurrency-and-

[2] New Leaf, *Intro to Economics: Money, History, and Fiscal Faith* (Lithia Springs: New Leaf Publishing Group, 2014), 229.

How Bitcoin Works

A great deal of the existing controversy with regard to Bitcoin and the use of "crypto-currencies" lies in the complexity and difficulty held by many in understanding how these systems work. As opposed to conventional methods of currency and economic systems, there is a high level of perceived technical detail that is thought to be involved in the use of Bitcoin, a reputation that is not entirely unwarranted. As there is no centralized issuing authority for Bitcoin, this currency – and the services that use it – are instead relayed and used in a manner that is known as "peer to peer," similar to the way in which files are shared across the Internet using services such as BitTorrent, or how communication is facilitated by services such as Skype.

Bitcoins are "mathematically generated as the computers in this network execute difficult number-crunching tasks, a procedure known as Bitcoin mining," and herein lies the root of their value.[3] The complexity that is inherent to such mathematical tasks, and the high level of processing power that is necessary in order to perform these tasks, were established so that it would become "progressively more difficult" to generate, or "mine" Bitcoins over time, a factor that leads to the inability of individuals to independently gain far more Bitcoins than any other – except through exchange – and which, crucially, leads to the total number of Bitcoins in the world to be no more than about 21 million. As a

[3] "How Does Bitcoin Work?" *The Economist* (2013). Accessed October 12, 2014. http://www.economist.com/blogs/economist-explains/2013/04/economist-explains-how-does-bitcoin-work.

result, there is no means by which a central bank may choose to issue a "flood" of new Bitcoins to "devalue those already in circulation."[4]

The bitcoin *protocol* itself is considerably more complicated than end-users typically understand. The first unique tool that is used in these coins' production and throughout the stages of their application is a *signed letter of intent*. The purpose behind the use of letters of intent for use in Bitcoin use and money transfer is to prevent such money from being used repeatedly, or for purposes of forgery.

In its simplest possible form, this *letter of intent* is at the core of Bitcoin money transfer, and is little more than "the string of bits representing the digitally signed message," which represents that a certain User X intends to give a certain amount of Bitcoins (or other such currency) to some user Y.[5] While Bitcoin or its contemporary competitors may contain far greater levels of security, encryption, and validation baked in, by this consideration, and as with conventional currency, this I.O.U. is at the core of Bitcoin use.

A major problem related to the use of Bitcoin relates to the potential ability of users to send other users the same letters of intent more than one time, thereby increasing the ability of this system to result in fraud perpetrated by one user to another. It is suggested that the solution to this problem is to use a "label or serial number" as a means of making specific transactions in crypto-currency unique: This would be "folded in" to the existing system of letters of intent, and lead to a system by which users would

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[4] "How Does Bitcoin Work?"

[5] M. Nielsen, "How the Bitcoin Protocol Actually Works," *Michael Nielsen* (2013). Accessed December 3, 2014. http://www.michaelnielsen.org/ddi/how-the-bitcoin-protocol-actually-works/.

exchange not only such letters, but letters that include a specific serial number indicating which coin is being exchanged.[6] By introducing a *bank* – not to keep the Bitcoins themselves, but the serial numbers – this problem is mitigated: Even at this early stage in the development of crypto-currency, banks currently "keep track of who has [Bitcoins, or other similar currency]," as well as provide serial numbers for Bitcoins used in exchange, as well as provide a means by which the legitimacy of all transactions using these systems are maintained.[7]

The way that Bitcoins – in particular – are created in the first place is discussed by Cox, an author and write for consumerist.com, who explains that "the acts of generating new bitcoins and of tracking Bitcoin transactions" are actions that go "hand in hand," as both are accomplished through a process that is known as "mining." Mining is an activity that is performed on either a computer or a network of computers, which runs software that serves to create "new entries in Bitcoins public record of transactions," known as *block chains*.[8]

Cryptography and Verification

Economists Badev and Chen of the Federal Reserve state that Bitcoins are electronic tokens, which lack reference to any underlying commodities or sovereign currencies, and are not represented as liabilities on balance sheets. In essence, the

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[6] Nielson, "Bitcoin Protocol."

[7] Nielson, "Bitcoin Protocol."

[8] K. Cox, "Bitcoin: What the Heck Is It, and How Does It Work?" *The Consumerist* (2014). Accessed February 22, 2015. http://consumerist.com/2014/03/04/bitcoin-what-the-heck-is-it-and-how-does-it-work/

ownership of Bitcoins "amounts to nothing more than having the ability to move…Bitcoins in the Bitcoin ecosystem," and as such these "tokens" lack intrinsic value, and instead derive their value from their use in making payments within that ecosystem.[9] Individuals and entities that own Bitcoins transact in these coins *directly*, that is, in contrast to "traditional payment systems," which use intermediaries such as banks, processors, and networks, through transactions that are "chronologically recorded in a public ledger," known as the *blockchain*, and is publicly accessible by all network participants.[10] Through solving "computationally-intensive cryptographic problems," users are thus rewarded for engaging in such intensive computational work, thereby updating the blockchain with the new owners of Bitcoins, and maintaining identical and verified open recordkeeping.[11]

Bitcoin is known as a *cryptocurrency* because of its use of cryptography in order to "process payments…verify transactions," and in order to control the Bitcoin supply.[12] There are two primary cryptographic processes upon which Bitcoin production and use relies: The first, *digital signatures*, enables users to exchange accurate payment instructions between transaction parties, and *cryptographic hash functions* serve to "enforce discipline in writing transaction records in the public ledger."[13] As explained by

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[9] A. Badev, and M. Chen, "Bitcoin: Technical Background and Data Analysis," *Board of Governors of the Federal Reserve System* (2014). Accessed May 2, 2015. http://www.federalreserve.gov/econresdata/feds/2014/files/2014104pap.pdf.

[10] Badev, "Bitcoin: Technical Background," 5.

[11] Badev, "Bitcoin: Technical Background," 5.

[12] Badev, "Bitcoin: Technical Background," 7.

[13] Badev, "Bitcoin: Technical Background," 7.

Franco, author of *Understanding Bitcoin: Cryptography, Engineering and Economics*, a hash function is an algorithm which uses as an input "data of an arbitrary length" that produces a "bit-string of fixed length," a value that is known as the *hash value*.[14] Any given input data always result in the same hash value. Bitcoin, through its use of cryptographic hash functions, therefore, offers its users a strong system by which *proof of work* can be ensured, in order to prove that "miners" were actually able to complete the complex computation required to produce a given Bitcoin value. These hash values are also known as *secure hash functions.*

As defined by the National Institute of Standards and Technology, the hash functions that are used in Bitcoin mining are defined as U.S. Federal Information Processing Standards. SHA256 is the system that is used by Bitcoin because of its *collision resistance*, that is, its key value to ensuring proof of work lies in the inability of two separate users to find two different input values that result in the same hash output.[15] A *collision* occurs if two different messages (inputs) "result in the same hash value."[16] Given the geometrically massive amount of processing power required to falsify work performed in Bitcoin mining, it is therefore "computationally infeasible" to falsify such

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[14] P. Franco, *Understanding Bitcoin: Cryptography, Engineering and Economics* (Hoboken: John Wiley & Sons, 2014), 96.

[15] National Institute of Standards and Technology, "Secure Hash Standard (SHS)" *U.S. Department of Commerce: National Institute of Standards and Technology* (2012).

[16] M. Abdalla, D. Pointcheval, and P.A. Foque, *Applied Cryptography and Network Security: 7th International Conference, ACNS 2009, Paris-Rocquencourt, France, June 2-5, 2009, Proceedings* (Berlin: Springer Berlin Heidelberg, 2009), 369.

work, that is, there is “no known algorithm that can recover the message” – input – “within a time that is related polynomially to the size of the input.”[17]

Bitcoin production is also secured by use of a *digital time stamp*, which proves that certain information – in this instance, a digital document as proof-of-work – existed at a particular point in time. These time stamps in the context of Bitcoin can be used in order to document that “a group of transactions in a digital currency took place.”[18] The person or group of people who are credited for creating Bitcoin and go by the pseudonym Nakamoto state that time stamps are maintained by a central server, which “[takes] a hash of a block of items to be timestamped” and publishes the hash, thereby proving that the “data must have existed at the time” in order to be encrypted with that public hash.[19]

Decentralization

Bitcoin software is publicly available and can be run by anyone, anywhere in the world, and since both the generation of new Bitcoins as well as the processing of the transactions in Bitcoins are run by that same software, both payment processing and recordkeeping is performed in a highly distributed and decentralized manner. This decentralization is at the heart of what provides Bitcoin with some of its greatest *strength*. It is not localized to any one country, or to any one *user*, which is a factor that results in this service being as durable and impregnable as the Internet itself.

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[17] Franco, *Understanding Bitcoin*, 96.

[18] Franco, *Understanding Bitcoin*, 99.

[19] S. Nakamoto, “Bitcoin: A Peer-to-Peer Electronic Cash System,” *Bitcoin* (2008). Accessed May 24, 2015. https://bitcoin.org/bitcoin.pdf.

With the creation of new block chains, new Bitcoins are also created, but as has been considered, there is a "hard limit to how many [Bitcoins] will ever exist."[20] At its inception, Bitcoin was created with the intent of creating many Bitcoins at first, but then "[dwindling] exponentially over time," so, back at its start the first set of block chains created 50 Bitcoins, then the next created 25 Bitcoins, and reducing in production from there.[21] While "new block chains are created roughly every 10 minutes" regardless of user input, users may increase the rate at which Bitcoins are mined by adding their own processing power to this operation.[22]

In order to prevent users from mining too many Bitcoins at once – through the "blunt-force" application of processing power, as many "server farms" have been used in this manner – the Bitcoin "mining" program is engineered to be more difficult to process, "and therefore slower," in order to compensate.[23] There are many active Bitcoin mining operations in the world today, a fact reflective of the high rate of exchange currently available for Bitcoin, which now trades for over $235.[24] Due to the exponentially dwindling rate at which Bitcoins are produced, while there are currently more than 12 million Bitcoins in circulation, the total number to be created (21 million) will be reached – if uninterrupted – around the year 2140.

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[20] Cox, "Bitcoin: What the Heck Is It?"

[21] Cox, "Bitcoin: What the Heck Is It?"

[22] Cox, "Bitcoin: What the Heck Is It?"

[23] Cox, "Bitcoin: What the Heck Is It?"

[24] Coin Desk, "Bitcoin Price Index," *Coin Desk* (2015). Accessed May 22, 2015. http://www.coindesk.com/price/.

As mentioned by the Swan, the founder of *The Institute for Blockchain Studies*, Bitcoins are incorporated into a larger global and publicly accessible "ledger" known as the transaction block chain, under which bitcoin "nodes" conduct activity known as "mining."[25] As a reward for the time and electricity-intensive computational heavy lifting that is conducted by these miners, a certain number of bitcoins is assigned by the miners to themselves by each successful transaction. While it may be considered that Bitcoins are thus created out of "thin air," and it may be argued that there are few constraints on this Bitcoin activity, there are significant constraints on this process. As Evans, the Founder of the *Global Economic Group* states, the upper limit on Bitcoin construction is approximately 21 million, and once this upper limit is reached, individual nodes – miners – will no longer be awarded for the computational effort that is required in order to produce Bitcoins. The public nature of Bitcoin construction is key to this factor, as each node is aware of the total number of Bitcoins that have been created, and this public awareness ensures that constraints on production of Bitcoins can be enforced.[26]

Once the limit has been reached, it is argued that Bitcoin miners will no longer gain the automatic reward of Bitcoins for their processing effort, leaving the only incentives for "miners" after this point, transaction fees will be the primary reward that will ensure that miners continue to expend the effort necessary to produce transaction

[25] M. Swan, *Blockchain: Blueprint for a New Economy* (Newton: O'Reilly Media, 2015).

[26] D.S. Evans, *Economic Aspects of Bitcoin and Other Decentralized Public-Ledger Currency Platforms* (Chicago: University of Chicago Law School, 2014).

blocks and block chains.[27] The expectation, then, is that even though there will be increases in technological progress, as well as fluctuations in the price of electricity, the key element that will serve to constrain Bitcoin production – through mining – will be offset once there is no longer an incentive toward such production through these fees.[28]

Bitcoin and the Gold Standard

Since the United States went off the gold standard in 1971, its money has lacked commodity backing and its value has been thus "derived strictly from government law."[29] By the time that the Internet achieved sufficient structural basis to be used to trade currency, the United States had been operating under fiat currency for over thirty-five years, a fact that can be argued has lent credence to the stability of forms of currency not backed by commodities. Notable criticism of Bitcoins lack of *original* value aside, Bitcoins value has been stable – growing or falling in value at about the same rate as the dollar – for more than five years.[30]

Bitcoins engineered scarcity is one major reason why this currency has been seen as preferable to central currencies. When the United States went off the gold standard in 1971, it heralded a new age in which the value of the dollar no longer tracked with the

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[27] J. Brito, and A. Castillo, *Bitcoin: A Primer for Policymakers* (Fairfax: Mercatus Center at George Mason University, 2013), 17.

[28] Brito, *Bitcoin: A Primer,* 17.

[29] New Leaf, *Economics*, 225.

[30] P.S. Onge, "Cryptocurrencies and a Wider Regression Theorem," *Mises Institute: Austrian Economics, Freedom, and Peace* (2014). Accessed December 12, 2014. http://mises.org/library/cryptocurrencies-and-wider-regression-theorem.

quantifiable – while essentially arbitrary – nature of currency backed by the value of that precious metal. This was an event that happened in two distinct phases.

The first phase occurred on June 5, 1933, when President Franklin Roosevelt signed into law the Gold Reserve Act. As the author and financial banker Munson makes clear, the effect of that law compounded his own Executive Order 6102, which "[forced] citizens to turn in their gold for $20.67 per ounce."[31] The Gold Reserve Act not only "reiterated the illegality of ownership of gold," but changed the price of gold to a level where it would remain unchanged until 1968.[32] While each of these actions were intended to stabilize the economy by promoting a reliance on the dollar standard, as well as to prevent hoarding, each had the perhaps-unintended effect of moving the United States toward to the system it knows today, known as *fiat currency*.

J. Robinson, an economist, argues that because most modern currency systems are not backed by any type of commodity –such as gold – these are inherently *faith-based currencies*. This author further explains that these currencies "do not derive their value from anything tangible and are not convertible to any other commodity on a fixed basis," meaning that the only real value that can be taken from a fiat currency is defined by their scarcity.[33] As a result, those who conduct business through use of a fiat currency are as a result "expressing great faith in their government to keep the fiat currency in scarce

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[31] L. Munson, *Rigged Money: Beating Wall Street at its Own Game* (Hoboken: John Wiley and Sons, 2011), 143.

[32] Munson, *Rigged*, 143.

[33] J. Robinson, *Bankruptcy of Our Nation: 12 Key Strategies for Protecting your Finances in These Uncertain Times* (Lithia Springs: New Leaf Publishing Group, 2009), 40.

supply."[34] One possible outcome to this system, if the government – in this case, the U.S. Treasury and Federal Reserve – were to choose to maintain the scarcity of the dollar in a responsible manner, the value of that dollar would be maintained the same as if it were still backed by a tangible and scarce resource, as it had been when it was initially backed by gold.

The years between 1968 and 1971 were crucial in causing not only the permanence of the American fiat currency in the dollar, but also the characteristics of U.S. federal government spending, which can be considered to have resulted in the currently low level of confidence in the dollar and excitement over Bitcoin. In 1968, "private gold markets outside the United States opened" for the first time, and the price of gold on those markets was higher than the rate at which it had been fixed – in dollars – under the Gold Reserve Act of 1933.[35] The price of gold in open trade was higher than the dollar for many reasons, including "inflation," as well as major American spending on "the Vietnam war" and other major upticks in U.S. government spending in general.[36]

By 1971, as a result, "the dollar started to devalue against European currencies," and the U.S. "was forced to close the dollar window," thereby removing the dollar from any sort of valuation in gold, as well as the ability to convert dollars into gold or to sell gold into dollars. While the next decades would see a major increase in the price of gold – as well as the 1974 lifting of the ban on gold ownership by U.S. citizens – these measures are seen as making "little difference" in the long-term effect that this divorce

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[34] Robinson, *Bankruptcy*, 40.

[35] Munson, *Rigged*, 145.

[36] Munson, *Rigged*, 145.

from a commodity standard had both on the value of the U.S. dollar, as well as government spending policy.

Beginning in the 1980s, there was a major increase in federal spending, particularly on the military and although it has gone through major swings depending on political administrations, it has hardly abated in the years since. Robinson, an economic consultant, explains that one of the major causes of this spending was the *fiat* nature of the currency, as fiat currencies "allow governments, businesses, and consumers to spend more than they actually have."[37] Put another way, modern fiat-based currencies (and the international economy whose standard is the fiat dollar) is all "debt-based money."[38] When the United States' government and peoples' money was based on the gold standard, it led to there being a measure of restraint in the use of that currency. After all, if there is a finite commodity that determines the value of a nation's currency – even one as wealthy as the United States – then that country has the responsibility to "demonstrate fiscal restraint by maintaining holistic economic balance."[39] In 1971, when the United States closed "the gold window" and fully embraced the use of fiat mechanisms for maintaining its economy, it caused the dollar to become a "floating" currency. These are currencies that are not fixed in value, and in effect have become commodities unto themselves, "affected by the market forces of supply and demand."[40]

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[37] Robinson, *Bankruptcy*, 49.

[38] Robinson, *Bankruptcy*, 50.

[39] Robinson, *Bankruptcy*, 122.

[40] Robinson, *Bankruptcy*, 122.

By "freeing" the American dollar from the "constraint" of the gold standard, there was effected a major change in the way that the United States performed its economic business. First, as most international commerce is conducted in dollars, all currencies with which the U.S. dollar interacted – all international currencies, in effect – became "floating" currencies as well. However, while the value of the U.S. dollar has maintained robust over the years, it was now a currency that, according to Robinson could "be printed at will, without the fear of having enough gold reserves to back up new currency production."[41]

While this had the initial effect of allowing the United States to "alleviate pressure" on its gold reserves, questions began to rise – which persist to this day – with regard to the demand for U.S. dollars that were no longer convertible to gold.[42] These questions have been compounded by a U.S. government that maintains a high level of debt against its own economy and in its own currency, but that continues to take out major loans against itself, while also freely pouring more U.S. dollars into the international economy in order to spur economic output, when such output shows sign of slowing.

One area in which the U.S. dollar is certainly "pegged" to a commodity has been in effect since roughly the same point at which the U.S. dollar adopted its current fiat model. While the rise of the "petrodollar" system, through which all purchases of oil must be made in dollars. The "petrodollar" system originated in the early 1970s as the product of highly secretive meetings between then-U.S. Secretary of State Henry

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[41] Robinson, *Bankruptcy*, 123.

[42] Robinson, *Bankruptcy*, 124.

Kissinger and the Saudi Royal Family, out of which there was derived an agreement whereby Saudi Arabia agreed to price all of their oil sales in U.S. dollars, as well as to invest the surplus proceeds from oil sales into U.S. Treasury Bills (T-bills), In short order, all of the OPEC nations agreed to this arrangement, and at present, in Robinson's words, "virtually all oil transactions are made in U.S. dollars."[43]

This arrangement has resulted in a system in which "America receives a double loan out of every oil transaction," as first oil consumers are forced to buy oil in U.S. dollars, then the excess profits from oil-producing nations are transferred into U.S. government debt securities.[44] The effect of this arrangement has been that, for the last forty-five years demand for both U.S. dollars, as well as for U.S. debt securities, has remained high. The major problem with this system – though it has remained lucrative for the United States and Saudi Arabia, as well as other oil producing countries, for decades – is that of *peak oil*. As oil is a finite resource and the most lucrative estimates place the time that oil production will irreversibly decline at roughly the midpoint of the 21st century, a "dollar crisis" appears inevitable.

Essentially, any fiat currency depends on the faith of nations in the continued value and repayment ability of the issuer. While the United States is a huge economic, cultural, and military force in the world today, the value of its currency is increasingly tenuous. While the ability of the United States to pay down its debts is not in *open doubt* – as such doubt would cause a crisis in confidence – the U.S. federal government was downgraded by the rating agency Standard and Poors from its highest rating AAA, to

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[43] Robinson, *Bankruptcy*, 124.

[44] Robinson, *Bankruptcy*, 124.

AA+, in August of 2011.[45] While Standard and Poor's was certainly not advocating for a return to the gold standard, particularly since they benefit so strongly from economic speculation that tends to follow fiat currency, their devaluation of the U.S. credit rating might have served as a "wake up call" which might have caused the U.S. to mend economic spending, which was out of control, and especially notable in 2003, when the federal government lowered rates of taxation amid two ongoing wars.[46]

Instead, it appears likely that the United States will not learn this lesson until it reaches a "crisis" point with regard to its use and abuse of the fiat dollar. Whether this comes as a result of a drop in oil use, or sooner, as a result of a drop in confidence, it is clear by this analysis that the U.S. would be wise to return to the fiscal prudence that comes with non-fiat currency.

Wood, a Professor of Economics, explains the benefit of use of a currency that is either pegged in value to a particular commodity or that is determined by a fixed exchange rate. Currencies with basis in actual commodity value or that are linked to other nations' currencies at a fixed rate historically have shown "lower inflation and lower inflation variability," and have shown the lowest rates of "money growth" – inflation, but also currency growth engineered by central banking.[47] By contrast, Robinson points out that fiat currency in the United States takes advantage of the historic role of the Federal Reserve as the "lender of last resort" which will purchase U.S. debt even when interest in

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[45] C. Riley, "S&P Downgrades U.S. Credit Rating," *CNN Money* (2011). Accessed October 25, 2014. http://money.cnn.com/2011/08/05/news/economy/downgrade_rumors/=.

[46] Riley, "S&P."

[47] G. Wood, *Money, Prices and the Real Economy* (Cheltenham: Edward Elgar Publishing, 1998), 45.

that debt wanes. The Fed can afford to do this because it issues the money it uses to buy that debt. This has created a system that is unsustainable, exacerbated particularly in the years since the U.S. economy has gone off the gold standard and market forces, especially downturns in the economy, have been countered by the Fed printing more money to stimulate growth. Centralized banking at the Federal Reserve, as well as the lack of a strong means by which the *actual* value of the dollar can be tracked and monitored, and policies of financial deregulation to spur economic growth, have caused the last four decades' worth of economic stability. This has been a time of major expansions in the economy – often based in consumer debt or other commodities of spurious use – as well as attendant "busts" the most notable of which occurred in 2008, and the ramifications of which continue to be felt today.

Chapter II

Bitcoin as the Solution?

While the primacy of the dollar in systems of international exchange – particularly in oil – remains uncontested, there have been severe reservations raised with regard to its continued value in the years to come. Particularly in evidence since the 2008 financial crisis and the recession to follow, it seems clear that the U.S. dollar, while strong, has been put to particularly deleterious use both by the U.S. government, other nations that use it, and the companies that do business in U.S. dollars, especially those that provide little major benefit to the economy at large, such as hedge funds. It can be extrapolated that the major leap that the United States took in 1971 opened the "floodgates" to a period of increasing financial irresponsibility at all levels: Freed from having to maintain fiscal responsibility by use of a currency tied to a commodity, the U.S. government immediately began its recent period of debt spending, trusting that the confidence of international markets doing business in dollars as well as the long-term stability of its arrangement with OPEC would maintain the effectiveness of, and confidence in, the dollar over time.

Similarly, companies – especially financial institutions – which trade in dollars have been affected by the "irrational exuberance" that direct government intervention to stimulate the economy has caused. Whether by deregulation or greed, financial services companies all "play" by the same financial rules, which since the declaration of the U.S. as adhering to a fiat currency, have dictated that the Federal Reserve will inevitably

underwrite financial impropriety which results in major losses, in the same manner that it continues to purchase U.S. government debt despite its now-decades of only adding to that debt with no end in sight. Perhaps as an inevitable extension of this policy, the last decades have also seen a major expansion in *consumer* debt, largely spurred by the cheap debt provided by the Federal Reserve, but also the increasingly-lax rules applied to consumer banking over these years. At each level, confidence in the dollar has decreased even as volume of debts which are incurred in that currency – at all levels – have only increased.

It now is increasingly clear to "consumers" of the dollar that confidence alone is something that has perhaps been misplaced. The ability of the dollar to weather the next century is in doubt for the first time in American history, but this increasing lack of confidence could not come at a stronger time for the ability of alternative currencies to fill a similar role.

This section has considered why Bitcoin and other currencies provide a strong alternative to traditional currency, but it bears repeating: Unlike the dollar, which since 1971 has been a purely fiat currency and subject to all of the difficulties and inflationary and devaluation potential that that causes, Bitcoin and other newfound Internet-based crypto-currencies are *fixed* in number. Thus their scarcity comes not from any particular *policy*, but is instead a scarcity that is built into these currencies by design.

Bitcoin may fluctuate in value, but it is not subject to the intervention of the Federal Reserve, nor its built-in interest rates, nor speculation by markets and financial forces that deal directly in dollars. As a result, for the time being, Bitcoin appears to be an effective means by which consumers might invest in a currency that has a relatively *fixed*

value: There will never be more than 21 million Bitcoins in the entire economy. While the *value* of each coin may increase or decrease, this does not mean that the *number* of Bitcoins can increase.

The current economic order the world over appears to be at a place of reckoning: Peoples' interest in trading in currencies backed by governments and by militaries decreases by the understanding that the value of their money – as is often true in the case of the dollar – is backed only by faith and by force of arms. If the world continues down the path of sovereign fiat currency, there will be – perhaps inevitably – a crisis in the future that will be caused by that currency. Perhaps this crisis will come as a result of a devaluation of the Euro, or the Dollar, or the Yen, but no matter which particular country is at the root of this crisis, whichever central bank's or government's decision, or inaction, led to this crisis, it will affect the entire world's economy as a whole.

Not only are no sovereign currencies backed by commodities, but they are all inextricably linked to one another. Major inflation in the value of the dollar (perhaps caused by a steep drop-off in oil production) will lead to a crisis that will affect everyone on earth. It is perhaps with an understanding of the potential of such a crisis – and the potential of the Internet – that the popularity of Bitcoin is based. Not only is this currency not linked to any one government, central bank, or economic policy, but it is also free from the wiles of policy based on the extravagant – and dangerous – freedoms which fiat currency provides. If devastating international economic crisis is to be averted, perhaps a change to economics increasingly dominated by Bitcoin, which, while essentially arbitrary in value, is no more arbitrary than the valuation of gold, but far more stable.

Legislation against Bitcoin?

While Bitcoin remains the largest and most popular of the "cryptocurrencies" it is not yet large enough, sufficiently stable, or powerful enough in its scope in order to catch major attention from government regulatory bodies. That said, there has been some minor opposition to its use: In November of 2013, the U.S. Senate held a series of hearings on Bitcoin at the behest of Charles Schumer, the Senator from New York, who argued that the site could be used as an "online form of money laundering."[48]

Interestingly, while these hearings may have been strongly contested and antagonistic, instead they were described as "lovefests," and featured testimony from Obama Administration officials who argued that "Bitcoin has legitimate uses" and that "no new regulations were needed to police illicit uses of the network," a sentiment that was echoed by most other witnesses called before this hearing.[49] Bitcoins representatives expressed a strong willingness to work with federal regulators to "ensure that Bitcoin-based businesses complied with applicable laws," and that the network – and currency – was not being used in a manner that would facilitate illegal sales or behavior.[50]

The chairman of the Federal Reserve, Janet Yellen, testified in general support to the use of Bitcoin, explaining that there was "no intersection at all, in any way, between Bitcoin and banks that the Federal Reserve has the ability to supervise and regulate," and as a result, argued that the U.S. Federal Reserve, under her leadership, currently has no authority to supervise or regulate Bitcoin. Despite this argument, Yellen expressed

[48] T.B. Lee, "Here's How Bitcoin Charmed Washington," *Washington Post* (November 21, 2013).

[49] Lee, "Here's How Bitcoin."

[50] Lee, "Here's How Bitcoin."

misgivings about the difficulty that would be faced by *any* government body in regulating Bitcoin, because that decentralized and global entity has "no central issuer or network provider."[51]

Despite Bitcoins relatively warm reception in Washington, opponents to its use have ample evidence of unscrupulous traders' potential to act as a threat to users' Bitcoins. One of the largest exchanges of Bitcoins, called Mt. Gox, was a site where people purchased and sold Bitcoins to one another. Cox argues that Mt. Gox was one of the largest Bitcoin exchanges, but it was apparently a "poorly run, mismanaged venture," from which hackers once gained access in order to "siphon off…about $460 million worth of Bitcoins," leading to its collapse.[52] As pointed out by authors of *The Age of Cryptocurrency*, Sidel et al., at the time that Mt. Gox shut down in February of 2014, it also had $27 million worth of Bitcoins "missing" from its servers.[53]

In the wake of that collapse, Senator Joseph Manchin of West Virginia called for a ban on Bitcoin, calling it "dangerous…disruptive," and "highly unstable," and expressing concern that it would be used for "transacting in illegal goods or speculative

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[51] Cox, "Bitcoin: What the Heck Is It?"

[52] Cox, "Bitcoin: What the Heck Is It?"

[53] R. Sidel, M.J. Casey, and E. Warnock, "Shutdown of Mt. Gox Rattles Bitcoin Market," *Wall Street Journal* (2014). Accessed January 18, 2015. http://www.wsj.com/news/articles/SB10001424052702304834704579404101502619422.

[54] D. Coldewey, "Senator Calls for Total Ban of 'Dangerous' Bitcoin," *NBC News* (2014). Accessed January 6, 2015. http://www.nbcnews.com/tech/innovation/senator-calls-total-ban-dangerous-bitcoin-n39541.

gambling."[54] He urged regulators to pass laws that would ban the service outright, before it would come to "[harm] hard-working Americans."[55]

Though little separates the *idea* of Bitcoin from the *idea* of the dollar – as neither can be exchanged for gold or silver – many risks inherent to Bitcoin and other "crypto-currencies" still point to the dollar as the safer bet. Virtual currencies and virtual payment systems carry a wide range of risks not faced by users of the dollar or other nation-backed currencies. The biggest problem associated with use of Bitcoin comes in the form of "credit risks," by which users are exposed to risk "in relation to any funds held on the virtual accounts," as these funds cannot be guaranteed, nor can the financial 'institutions' which carry them be fully expected to "meet [their] financial obligations" when funds are requested.[56] Bitcoin users are also exposed to "liquidity risk," through which they may be exposed to "significant material loss in value" of their currency, due to the low volumes of Bitcoins being traded, and "operational risks," through which both users and recipients of such currency are dependent upon Internet-based "settlement institutions…to facilitate all transactions."[57] In addition, Murphy, a lawyer and partner at international law firm Norton Rose Fulbright, states that these currencies are not legal tender, not insured by the FDIC, and are highly volatile in nature.

That said, there is a strong drive to move from the traditional economy to one in which transactions take place over the Internet in alternative currency. The primary motivator appears to be one of anonymity, where trust between peers, and trust for the

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[55] Coldewey, "Senator."

[56] European Central Bank, "Virtual Currency Schemes," *Frankfurt: European Central Bank* (2012), 40.

[57] European Central Bank, "Currency," 41.

largely unregulated network, is this service's chief selling point. Quentson, founder of *Cryptocoin News*, points out, "anonymity or pseudo-anonymity is a core feature of Bitcoin," and has been its operating mission since it launched in 2009.[58] Freedom is another factor which has closely tracked with Bitcoins popularity: individuals who use Bitcoin are free to "transfer any amount of money anytime, anywhere in the world, instantly, securely and without permission."[59] The payment system Bitcoin provides has also proven enormously popular in "poor countries without vast banking infrastructures."[60]

While the anonymous nature of these transaction has led its most vocal detractors to presume that the service is being used for illegal purposes, this is not necessarily so. In fact, the trust in Bitcoin has been attributed to many users' apparent dissatisfaction with central banking and state currencies, as much as its convenience and privacy. Bitcoin is the first form of currency which is truly stateless, and owing to its cloud-backed nature, it is ultimately free of the political ramifications which come from any nation holding the reserve currency. While the United States has long held the world's reserve currency, the political ramifications of this solitary ownership have led many to call for crypto-currency, such as Bitcoin, to now serve in that capacity. The freedom that Bitcoin

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[58] A. Quentson, "The Great Cryptocurrency Anonymity Debate Intensifies and Vertcoin Tests Stealth Addresses," *Cryptocoins News* (2014). Accessed January 19, 2015. https://www.cryptocoinsnews.com/great-cryptocurrency-anonymity-debate-intensifies-vertcoin-tests-stealth-addresses/.

[59] N. Hayase, "Bitcoin: Crypto Key Unlocking the Autonomy of Trust," *Falkvinge & CO.* (2015). Accessed March 23, 2015. http://falkvinge.net/2015/02/03/bitcoin-cryptokey-unlocking-the-autonomy-of-trust-2/.

[60] J.A. Tucker, "What Gave Bitcoin its Value?" *Foundation for Economic Education* (2014). Accessed January 14, 2015. http://fee.org/freeman/detail/what-gave-bitcoin-its-value.

provides extends to both individuals and nations who may not wish to deal with the nation who currently holds the world's reserve status.

Another factor that may account for the vast popularity of Bitcoin is the increasing separation between the American people and their government, and the longing that this appears to have produced in the people to embrace a currency that reflects greater freedom in transactions and from regulation than is found in conventional currency. It is made clear from this consideration that while there is not yet a direct confrontation between those who would advocate for the use of crypto-currencies and the nations and economies that would advocate for the use of traditional currency, it is only because Bitcoin has not yet reached a level of maturity where it could be considered a threat.

As has been considered throughout this section, while the U.S. dollar remains the world's preeminent currency, backed by sixty years of global dominance and by policies which have secured its place in transactions around the world, it is by no means immune to the whims and wiles of a globalized market, especially one that has produced a currency as apparently versatile, robust, yet lacking central authority and leadership as Bitcoin. The inability of regulators to "touch" Bitcoin is similar to copyright-holders enforcement and BitTorrent sites: While copyright-holders may take down one site that provides this peer-to-peer service, the decentralized nature of the network means that absent major new Internet restrictions – and perhaps not even then – will they succeed in eliminating copyright infringement outright.

In a similar manner, while Bitcoin is free of overt regulation and its representatives and leaders seek to cooperate with the law, the decentralized nature of this

service means that it is largely “untouchable” by governments: This is an interesting state of affairs, as while the increased popularity of Bitcoin and other crypto-currencies can be seen as riding a speculative bubble that tracks against its value when exchanged for dollars, but also, its popularity can also be seen as reflecting a mood of rejection, rejection of Washington financial policy which no longer reflects the wants and needs of the American people, and one that is increasingly tenuous in its grasp on fiscal responsibility.

Despite these grounds for Bitcoins popularity in a political sense, there are nonetheless strong grounds for which the regulation of Bitcoin has been advocated under Federal and private banking regulations. As stated by Cohen, a writer for *Bitcoin Magazine*, the Federal Reserve – under the leadership of Janet Yellen – would seek to regulate use of Bitcoin in order to “[protect] consumers,” as well as to “[address] illicit use” of Bitcoin, and to prevent the “Balkanization” of Bitcoin.[61] This would be achieved through the Federal Reserve marshalling efforts by which the more “secure storage of Bitcoin wallets” would be achieved through more robust regulation, in order to forestall the “systemic contagion of instability” which has been cited as one of the key financial threats that has been posed by Bitcoin.[62]

To this end, Federal Reserve regulation of Bitcoin (which would accelerate under the increasing popularity and use of this crypto-currency system) would be achieved through the establishment of a Federal Advisory Council related to Bitcoin, and

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[61] B. Cohen, “Federal Reserve’s Bitcoin Policy Begins to Take Shape,” *Bitcoin Magazine* (2014). Accessed May 17, 2015. https://bitcoinmagazine.com/13165/federal-reserves-bitcoin-policy-begins-take-shape/.

[62] Cohen, “Federal Reserve’s Bitcoin.”

ultimately through amendments to 12 U.S. Code § 262. As explained by the Federal Reserve Act, 12 U.S. Code § 262 pertains to the regulation of issues “discount rates, rediscount business, note issues, reserve conditions in the various districts,” as well as “the purchase and sale of gold or securities by reserve banks, open-market operations by said banks,” and all other issues considered germane to the general affairs of the reserve banking system.[63] While there is no existing regulation of Bitcoin at present, there are powers and laws in place that would serve to allow the Federal Reserve to regulate Bitcoin – as part of the general money supply – in the event that Bitcoins popularity and use grows to a point that its continued lack of regulation poses a risk to the wider banking and currency systems.

This is a complex idea, which rests on concepts many years in the making, but the idea is that Bitcoins popularity reflects the priorities of a people whose government has long failed to consider their actual economic needs. As a means of supporting this theory, the following discussions will consider many aspects of the economy that have long been neglected in the official record.

[63] Federal Reserve, “Federal Reserve Act, 12 U.S. Code § 262 – Powers,” *Board of Governors of the Federal Reserve System* (2008).

Chapter III

The Non-Monetary Economy

One example of economic output that is not considered part of the economy is household labor, which accounts for $1.9 trillion in estimated U.S. economic output, but is not considered as a part of gross domestic product (GDP). Mantell, an economic reporter for Dow Jones, points out that the primary reason why this output – which has expanded in the down economic years since 2008 since many Americans have lost their jobs and elected to stay home to take care of children – is not considered alongside ordinary measures of economic output is that "it is…difficult to measure," and that government agencies that monitor such output lack "the instruments" to perform such measurement.[64]

There is also cultural bias at work against the inclusion of such labor in official measure. Nelson, a Professor of Economics, in her work on feminism and economics, states that many scholars and pundits "[trivialize] the value of household labor," and ignore the often-gendered bias that accounts for how "breadwinner and homemaker roles come to be assigned."[65] Also, Gerencher, a reporter for Market Watch, states that the GDP does not account for work performed in the home, including "unpaid

[64] R. Mantell, "Valuing Household Work, the GDP Question," *Wall Street Journal* (2010). Accessed March 24, 2015. http://blogs.wsj.com/juggle/2010/04/01/valuing-household-work-the-gdp-question/.

[65] J. Nelson, *Feminism, Objectivity and Economics* (London: Routledge, 2002), 114.

cleaning…cooking, child or elder care," or other "frequently female" tasks.[66] These authors argue that despite the difficulty inherent in tracking and documentation, their lack of inclusion in common metrics serves to ignore and devalue those who perform that labor.

The modern conceptualization of domestic work can be traced to the writing of John Stewart Mill, in that the work that is currently known as "homemaking" as consisting of "keeping the family regularly supplied with what its wants require, and securing, with any given amount of means, the greatest possible quantity of physical comfort and enjoyment."[67] This is the definition of this type of work, which has held forth to the present, relatively unabated by trends in gender politics and wider economic considerations: The job of a domestic worker is *in the home*, but as a result of this place, it is often work which has gone ignored, or which has been undervalued because of the historic difficulty faced in enumerating the work that goes on there. As mentioned by Kinnear, poll-takers and official recorders of labor productivity have historically had a great deal of difficulty in producing accurate measure of this so-called "women's work," and the women they surveyed similarly had difficulty in producing records of the work that they performed in a systematic matter that would allow for their easy analysis.

One of the strongest means by which domestic work being unreported by official measure has led to the GDP being an ineffective means of measuring total economic

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[66] K. Gerencher, "The Economic Value of Housework: New Survey to Track Women-Dominated Labor," *Center for Partnership Studies* (2001). Accessed December 27, 2014. http://www.partnershipway.org/learn-more/articles-by-riane-eisler/economics-business-organizational-development/the-economic-value-of-housework.

[67] M. Kinnear, *A Female Economy: Women's Work in a Prairie Province*, 1870-1970 (Montreal: McGill-Queen's Press, 1998), 62.

output lies in the transition of women from domestic work and into the larger economy from the 1970s to the present. In his consideration, he argues that because the market value of these women's "unpaid labor services" as homemakers was not included as part of GDP, the "long-term shift of women working as homemakers for no pay to working at paying jobs in the market economy" has served to "overstate" the growth in GDP over the last decades.[68] Effectively, when women began to join the work force in large numbers, they were performing work and adding value to the economy *in addition* to that which they had long provided in the home. In addition, when they were unable to perform such work – because they were now working the same number of hours as their husbands – the work they had once performed for free, but which nonetheless added unrecorded value to the economy, "such as housekeeping, food preparation, child care, and care of the elderly" were increasingly "done and paid for in the marketplace."[69] Essentially, this author suggests that the major increases in GDP that were recorded as domestic work was increasingly given to specific workers – such as day cares, housekeepers, and home health aides – were not reflective of any major economic *gain*, but rather reflect a *lateral* and neutral economic change that reflects merely "the change in the societal way [that] work is done."[70]

Caregiving performed in the home, and not by hospital-associated care agencies accounts for another aspect of the economy not reflected in official studies or by official metrics. A study published by Los Angeles County defines informal caregiving as the

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[68] N. Frumkin, *Tracking America's Economy* (New York: M.E. Sharpe, 2004), 79.

[69] Frumkin, *Tracking*, 79.

[70] Frumkin, *Tracking*, 80.

help and support provided by "family members and friends" to those who are "temporarily or permanently" unable to function in an independent manner.[71] The report estimates that in 2004, nearly 45 million Americans provided unpaid care to another adult, a figure that constitutes a great majority of the home healthcare that is provided in the United States, at "80% of all…long-term care services in the country" and reflects a shift in the care burden from long-term hospital stays to brief hospital stays and outpatient care augmented by a great deal of care performed in the home by family and friends.[72]

If all the care that is currently being performed by family and friends in this informal capacity were fully paid for, it would cost $375 billion each year, a figure greater than "all federal and state Medicaid spending [in 2007]," even before accounting for the estimated $17.1 billion annual cost of such informal caregiving in terms of "lost productivity…due to workplace disruptions, scheduled and unscheduled absences," as well as leaves of absence or reduction from full-time to part-time work.[73] Though these caregivers most often live with the people from whom they provide care, they often face the same "caregiver burden" as formal, paid caregivers, including a toll that can extend to emotional and physical difficulties.[74] As with informal home-based work, not only does this work form a major part of the economy – especially as hospitals now rely upon it for

[71] Los Angeles County Department of Public Health. "Informal Caregiving: Implications for Public Health," *Los Angeles County: Department of Public Health* (2010).

[72] Los Angeles County, "Caregiving."

[73] Los Angeles County, "Caregiving."

[74] Los Angeles County, "Caregiving."

their own profitable efficiencies – but by being ignored by primary economic models, the likelihood of it continuing to be unpaid increases as it is being simultaneously devalued by government and industry.

Parenting is another aspect of the economy not present in the official record, except insomuch as it is reflected in consumer spending on formal childcare and other products and services purchased for children.[75] While the labor inherent to parenting, both by parents who raise children in the home and those who juggle parenting and other paid work, is not considered by official economic measures, it combines many of the same aspects of informal home labor and informal caregiving. The result is a task that consumes a great deal of parents' time and energy as home labor, while presenting the same emotional and physical strain of caring for an ailing relative.

The labor *value* of parenting is clear: Bridgman et al., at the U.S. Department of Ecommerce: Bureau of Economic Analysis, research estimates that parents spend 25.9 hours per week in childcare, as well as in tasks related to childcare (such as housework, transportation, cooking and shopping), tasks which would constitute 30% of an average American household budget if it they were given to a domestic worker to do instead.[76] The result of this unpaid labor is not only that parents are investing their time and resources into their children, but that parents who do so – though they are given tax exemptions for these dependencies – end up contributing more than $200,000 more in net

[75] S.J. Dubner, "The Economist's Guide to Parenting," *Freakonomics* (2011). Accessed January 13, 2015. http://freakonomics.com/2011/08/17/new-freakonomics-radio-podcast-the-economists-guide-to-parenting/.

[76] B. Bridgman, A. Dugan, M. Lal, M. Osborne, and S. Villones, "Accounting for Household Production in the National Accounts, 1965-2010," *U.S. Department of Ecommerce: Bureau of Economic Analysis* (2012).

taxes, once their *children's* tax payments are taken into account. This is another example of a form of labor with a vast impact on the economy which is not considered by official measure, which results in the overall *importance* of that work being devalued across the economy and culture as well.

Essentially, if children are considered "public goods," then parenting itself might be considered a *public service*, and accounted for in economic terms as well as given social and cultural legitimacy greater than it currently enjoys. While few would argue that parents are not *respected*, it is appropriate to consider their economic contribution greater than it is currently: For instance, Oppenheimer believes that labor traditionally performed by women – particularly parenting – has long been deemed "unproductive" and is thus not included in GDP because such work is of "little or no importance:" These unpaid laborers are "primary producers" of their labor, while also serving as the primary consumers, along with dependent children serving as "non-primary" consumers of the same, so in an economic sense, are of no consequence. As GDP and other measures consider parenting to be a "closed" system, parenting itself, though it is a major time, labor, and emotional burden on practitioners, is of essentially no importance to those who determine economic metrics.[77]

Civic activity, especially volunteering, is also not considered by primary economic measurements like the GDP. While Cha reveals that volunteer work accounts for $239 billion in annual contributions to the economy, it does not "rate" as something that can, or should, be counted alongside official measures of economic activity, due to

[77] M. Oppenheimer, *Volunteering: Why We Can't Survive without It* (Sydney: UNSW Press, 2012), 7.

the lack of competition and financial reward which constitute its practice. Oppenheimer, a Professor of History, states that the altruistic nature of this work – which often contributes to the social capital and wellbeing of communities – is the primary reason it is not considered alongside traditional economic output measures. While Americans spend hundreds of millions of hours each year volunteering, these tasks remain "outside the mainstream" of economic policies and consideration, and their true value and importance remains neglected.[78]

Absent official recognition of the economic value of this work, volunteering is alongside housework, parenting, and unofficial elder home care: Unpaid jobs, the value of which is often presented by government, but absent official measure and recognition, any such arguments by government amount to little more than "lip service."[79]

This section has considered the aspects of the economy that are not generally considered to contribute to the official consideration of economic matters. The next section will consider the history and formation of the leading indicator of economic record, GDP, and explore the aspects of the American economy which it *does* consider, and why, and show why this indicator is woefully ineffective in its limited consideration.

The Deficiencies of GDP as Economic Measure

One of the most significant measures of economic activity, and one of the most influential, is the *Gross Domestic Product*, or GDP. This system was invented by the economist Simon Kuznets in 1934 – at the height of the Great Depression – but would

[78] Oppenheimer, *Volunteering,* 8.

[79] Oppenheimer, *Volunteering,* 8.

not be adopted by the United States as a primary means of American economic assessment until twelve years later. The system was spurred by then-President Franklin Roosevelt seeking a means by which the economic crash that had wrecked the American economy might be prevented in the future. This crisis mentality produced a metric that was reflective of a limited understanding of *gross* economic output that was thought to have been a direct precursor to the crash of 1929. The GNP was, and remains, a relatively simple system by which national accounts, as well as statistical measure of industrial output, are maintained, and a key metric by which government economic and industrial decisions – such as reform to employment policy and interest rates – are made. The Bureau of Economic Analysis believes that the GDP has had a vast and useful impact on American economic management over the years, and call GDP "one of the greatest inventions of the 20th century."[80]

GDP continued to present a strong force and metric for the analysis of economic activity throughout the 20th century. Notable events shaping the growth of this tool include how in the 1960s, economic growth was stimulated through the development and addition of "official input-output tables [and] capital stock estimates," as well as "more timely" state and local income estimates.[81] Inflation-adjusted output was improved in the 1970s, and moving into the computer age, by the 1980s, GDP measure was enhanced by the "expansion in the estimates of international trade in services" and by the development

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[80] Bureau of Economic Analysis, "GDP: One of the Great Inventions of the 20th Century," *U.S. Department of Ecommerce: Bureau of Economic Analysis* (2000): 2.

[81] Bureau of Economic Analysis, "GDP," 3.

of “quality-adjusted price and output measures.”[82] Champions of the continued use of GDP for regulation and economic monitoring argue that the GDP presents “an overall picture of the state of the economy…much like a satellite in space can survey the weather across an entire continent.”[83] Constant maintenance of the national accounts, when combined with better-informed policies and regulatory institutions, have served to contribute to a “reduction in the severity of business cycles and a post-war effort of sustained economic growth.”[84]

Since its inception in the 1930s and first use in the 1940s, the GDP has not been without its critics. One of the earliest critics of this means of measuring economic output was the economist Moses Abramowitz, who in 1959 famously cautioned against making any correlation between the measurement of the GDP and “long-term changes of the growth of welfare,” as industrial output measure was too constrained a figure by which any true understanding of social welfare and happiness might be measured.[85]

Nevertheless, in 1962, GDP received its strongest endorsement, by the Kennedy White House, and particularly from Kennedy’s Council of Economic Advisors. These officials found – and argued to the President – that “for every 3-point rise in GDP, unemployment will fall 1 percentage point.”[86] This finding, and the rapid rate at which it

[82] Bureau of Economic Analysis, “GDP,” 3.

[83] Bureau of Economic Analysis, “GDP,” 4.

[84] Bureau of Economic Analysis, “GDP,” 4.

[85] E. Dickinson, “GDP: A Brief History,” *Foreign Policy* (2011): 3. Accessed December 9, 2014. http://foreignpolicy.com/2011/01/03/gdp-a-brief-history/.

[86] Dickinson, “GDP,” 3.

was endorsed and began to influence economic policy, would come to inform a wide variety of economic policies in the United States through to the present.

At core of modern government economic policies dictated by the GDP is this same concept of GDP growth leading the way to economic growth by consequent reduction in unemployment. While this has been the case, it is often divorced from the reality, particularly of the value of heedless economic growth. Nonetheless, the lesson of an economy centered upon GDP measure is clear: As long as there is economic growth, there will be a consequent reduction in unemployment, with all of the economic benefits that entails.

Modern critics take Abramowitz and advance his thinking to the modern day. The New Economy Working group suggests the GDP has "many deficiencies" as a measure of economic well-being, mostly that this measure makes no meaningful distinction between economic activity that is "beneficial and harmful."[87] For instance, because the GDP "can only add," it counts all elements of economic activity as beneficial to the overall economy, including "gun sales to children, divorce, and oil spills," all events measured as a net benefit to GDP.[88]

Growth-focused GDP is also castigated as a force which endorses "the depletion of precious nonrenewable resources," measuring growth as beneficial even as such destructive economic activity "destroys the essential essence upon which that growth

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[87] New Economy Working Group, "GDP: A Flawed Measure of Progress," *New Economy Working Group* (2015). Accessed March 26, 2015. http://www.neweconomyworkinggroup.org/visions/living-wealth-indicators/gdp-flawed-measure-progress.

[88] New Economy Working Group, "Flawed."

depends."[89] GDP fails to measure "externalities" associated with economic activity, and as such remains a *gross* estimate of economic activity that fails to take into account economic output that has had a gross negative effect on the economy.

Gordon, a research fellow at U.C. Berkley, hypothesizes that the *cultural* power attributed to GDP, which has held sway for the last fifty years, has led to a situation where the global market has come to, perhaps inadvertently, emphasize growth and profit "as the most important variable in international and temporal relationships."[90] This author acknowledges that the free market and its mechanisms are useful as a means of describing relationships in society, but these only provide a *beginning*, not an end, to such understanding. Gordon suggests that market efficiency must not be allowed to represent any "community's moral paragon," through implication that "workers who make the most profit contribute the most to society."[91]

Adding to this problem, because GDP represents an *aggregate* account of a given country's internal economic activity, it fails in its accounting of any sense of *overall* wellbeing by effectively masking nations' internal economic disparities: Even though the gap between rich and poor may be greater than it has ever been, the GDP does not reflect this fact. Gordon also agrees that GDP is dangerous from a standpoint of civilization itself, because it fails to capture "externalities" – such as greenhouse gas emissions – that

[89] New Economy Working Group, "Flawed."

[90] P. Gordon, "Gross Domestic Problems: Issues with GDP and Possible Improvements," *Berkeley University: Berkeley Energy and Resources Collaborative* (2013): 2.

[91] Gordon, "Gross Domestic," 2.

are ignored by the market as a whole.[92] In essence, the GDP fails to account for any economic activity that might have a net or social *negative* effect, both on the economy and on the welfare of people in a nation.

Worse, when GDP blindly champions any economic output that may have a plainly negative effect on people's lives – such as global warming effectuated by greenhouse gas emissions – its proponents betray their lack of social responsibility or accountability, and a failure of this system to take human systems and priorities into account, in favor of emphasizing whichever forces maintain strong and growing economic output.

In addition, and crucially, as suggested by Kozy, a Professor of Philosophy, one of the most perverse difficulties posed by GDP is that violent crime contributes to domestic product that it measures: "The murder of a person creates domestic product" in the form of "services of the undertaker…a coffin to be purchased, then a cemetery plot and flowers for viewing."[93] Even the terrorist attacks of 9/11 are described by this author as "[creating] domestic product, a lot of it," by the land deals and the extensive clean-up and decade-long reconstruction of New York's World Trade Center.[94]

The GDP also ignores broad swaths of the labor performed by people in a nation, including – "non-monetary" activity such as that work that is performed in the home (child-rearing and development, as has been explored), as well as volunteer and non-

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[92] Gordon, "Gross Domestic," 3.

[93] J. Kozy, "How the Economy Works: The Necessity of Crime," *Global Research: Center for Research on Globalization* (2012). Accessed October 21, 2014. http://www.globalresearch.ca/how-the-economy-works-the-necessity-of-crime/32125.

[94] Kozy, "How the Economy Works."

profit activity.[95] As these efforts do not make a profit or contribute to overall economic growth, the lack of a means by which volunteering and child-rearing can be *translated* into terms economists can understand is interpreted as an appropriate reason by which their value is to be denigrated or set aside. Indeed, as all economic factors seem to be more complex than GDP gives them credit, it is to the immense credit of millions of parents, volunteers, and caregivers that they continue to do such work in order to achieve only the appreciation of their families and loved ones, but this work will consider non-monetary compensation with regard to such motivation.

In addition to caregiving and other services, The GDP will ignores so-called “ecosystem services,” including government and private efforts to maintain the biological and ecological space, through such services as flood control, water filtration, soil care and maintenance, the maintenance of genetic diversity, and carbon sequestration. Because the GDP is a purely growth-and-profit minded measure of economic activity, its vast influence means it tends to *devalue* services and work that do not act in the direct service of profit-minded industry. Thus not only does the GDP do a poor job of measuring economic well-being (to say nothing of happiness), but through its lasting presence in the world economy, it has tended to place negative emphasis on environmental stewardship, community service, and family growth and development.

Additional criticism against GDP is levied by economist Frumkin. In his criticism of GDP for its failure to take into account the overall wellbeing of the country, he argues that the *distance* that GDP features in its calculations allows it to serve as an overall means by which economic outlook can be understood, but hardly as a means of *relative*

[95] Kozy, “How the Economy Works.”

good: The GDP – as has been considered – gives "equal weight…to purchases of goods and services for everyday living," as it does to "investment for future production, and public services" such as food, housing machinery, education, and defense.[96] Under the GDP's consideration, all of these elements are considered in terms of the dollar value that they add to the American economy, and under no other considerations. While this may result in a somewhat accurate view of profits and losses as they are accrued across the nation as a whole, they do not provide a means for understanding the *relative* value of any of these elements toward social well-being, a term that he calls the national *welfare*, and argues for its inclusion in economic consideration.

Frumkin argues that the objective measure of the nation's output might be modified to allow GDP to properly reflect a sense of the national welfare through introducing policy under which there would be assigned "a positive or negative value to activities" that would be based not only on their marketplace value, but on their "intrinsic worth" as well.[97] Such a GDP – accounting for this "welfare" – would have the potential to "measure the nonmaterial effects of activities" through a formula that would serve to "deduct from production" for items and processes that are characterized as "bad," and by adding to the measure of production such activities that are characterized as "good."

For instance, such a mathematical arrangement might allow for the assignation of greater value toward GDP for industrial activities that serve to mitigate their impact on the environment, as compared to an "equal amount of production" that serves to harm the

[96]Frumkin, *Tracking*, 78.

[97] Frumkin, *Tracking*, 79.

environment.[98] In addition, this author proposes that defense spending that serves to "[deter] war" would thus be valued far more highly than similar spending that serves to result in "war-provoking actions."[99] This author does acknowledge that any distinction between different types of defense spending – and the ultimate *result* of such spending – would be difficult to calculate or determine. Nonetheless, this particular vein of GDP reform is wholly necessary, as it has been made clear, since the end of the Second World War and even earlier, that the United States' intense spending and vast economy devoted to weapons and warfare has only served to increase the GDP independent of the purpose and use to which those weapons are put.

In addition, this author argues that a GDP that took into account the social value of economic output might also be used to assign value to many "products" that are not currently included in consideration. This may include "increased leisure time resulting from a shorter work week, greater security resulting from improved police protection," and from a consumer standpoint, "the value of [consumer goods] over the years of their useful life."[100] Crucially, consumer goods are only currently valued by GDP in two ways: The cost of their production, and their cost when purchased, which then factors in to the profit and loss to the industries that produce the product in the first place. By neglecting to measure outright the overall *value* taken from these products over the course of their use, GDP tends to value products that can be produced at the lowest cost and then sold at the highest profit. While this does not *directly* incentivize goods producers to produce

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[98] Frumkin, *Tracking*, 79.

[99] Frumkin, *Tracking*, 79.

[100] Frumkin, *Tracking*, 79

and sell shoddy goods, GDP does reflect more strongly on manufacturers who are able to do so.

Finally, Talberth et al., economists and founders of the Center for Sustainable Economy, point out that a major complaint that must be presented against the value of GDP is its woeful inefficacy as a predictive instrument. These authors remind that in 2004, the GDP, the nation's "leading economic indicator," GDP was "soaring at a robust rate of over four percent per year."[101] During those heady times of economic expansion – in retrospect, progress facilitated by "subprime loans" and the mounting "housing bubble" facilitated by ever-more complex and poorly regulated Wall Street derivatives – GDP indicated that the United States had major prospects for continued growth and "comfortably high" prospects for prosperity that would continue for many years to come.[102]

Yet, this prosperity would hardly last, and a mere four years after GDP indicated that the economy was robust and that prosperity was being felt, or would soon be felt, by all Americans, the nation would "collapse into the Great Recession," and the period to follow, which these authors deem the "Great Stagnation."[103] In this instance, GDP revealed itself for the utterly flawed instrument that it represents: Even as it increased to

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[101] J. Talberth, D. Wysham, and Dolan, "Closing the Inequality Divide: A Strategy for Fostering Genuine Progress in Maryland," *Center for Sustainable Economy* (2013): 4. Accessed April 11, 2015. http://genuineprogress.net/wp-content/uploads/2013/03/gpi-closing-the-inequality-divide.pdf.

[102] Talberth, "Closing," 4.

[103] Talberth, "Closing," 4.

ever-greater heights, it could not warn of "coming economic crisis" that would be better-served by a more robust and comprehensive instrument.[104]

Indeed, GDP must be seen for the *limited* nature of the information that it presents, and that it continues to represent: GDP, by its unceasing focus on factors that lead to growth – and by powerful people and institutions that use it alone to gauge whether their activities are effective or beneficial to national wellbeing – *denies* leadership the ability to see the nation as *it is*. Instead, it presents a rosy portrait of a nation that, in this instance, was running headlong toward economic ruin, but provides no means by which that warning can be relayed. Just as the stock market was riding high precisely until the point at which it crashed, GDP reflects positive factors and strong indications for future growth and prosperity, precisely until the point that it *does not.* GDP's limited focus not only serves to limit the ability of lawmakers, regulators, power-brokers, and ordinary Americans to see crisis coming until it is too late, but in the case of government and the powerful, it will often cause them to *exacerbate* policies and postures that only add fuel to the fire to come.

This section has shown that GDP is fundamentally flawed in the picture that it paints of American society, and of the forces at play in American life. The following section will describe the *fallout* from the decisions that are informed by GDP alone, which will be shown to be far greater in scope than the financial crisis that GDP prognosticators failed to foresee.

[104] Talberth, "Closing," 4.

Modern Economics and Economic Externalities

In addition to GDP, there are other elements of capitalism and the market-driven society opposed to pure economics as a significant and relevant measure of the forces that shape America and the world. First, as presented by Johannson et al., *environmental economics* takes into consideration measures of *ecological* understanding that presents a significant effort to consider factors of economics as they apply to issues of sustainability, as well as resource allocation and environmental resources. These measures are highly useful, as it is now more important than ever to "evaluate major environmental policies within the frame of a computable general equilibrium…model of the economy," a measure that ably takes into account both production and consumption of natural resources.[105] These necessary and often-neglected measures also account for the effect that consumption has on global environmental characteristics, and can be used to produce policy solutions that take into account "insights often neglected when partial methods [such as GDP] are used."[106]

The environmental effects of the globalized economy are described – and remain largely unchanged – since the 1987 publication of a United Nations report from their Commission on Environment and Development. The United Nations, ostensibly an impartial body, paints a muddied picture of the impact of humanity on its environment, particularly that of industry on development. It argues that industry and its products have effected "the natural resource base of civilization" manifest through the entirety of the

[105] P. Johannson, B. Kristron, and K.G. Maler, *Current Issues in Environmental Economics* (Manchester: Manchester University Press, 1995), 153.

[106] Johannson, *Current*, 153.

cycle of “raw materials exploration and extraction,” the translation of these materials into products, as well as by the consumption of energy, the generation of waste, and the “use and disposal” of products by consumers at the end of the supply chain.[107]

Negative products of rampant industrial activity include “problems of air, water, and land pollution,” including the rise of visible air pollution known as “smog,” and the “death” of many bodies of fresh- and seawater due to waste dumping.[108] The report lauds industry for responding to these problems through “developing new technologies and industrial processes designed to reduce pollution” as well as mitigating other adverse effects of their output, but argues that while these processes are now largely enforced law in the West, the environmental health of the world as a whole has dropped since the advent of industry.[109]

While environmental protection legislation has mandated that industry in the West and wealthy nations of the world “clean up” their act, there are few such protections in place in poorer nations of the “global south.” As a result, one key effect of the globalized economy has been rampant expansion at home (celebrated by GDP) as globalized industries have moved their dirtiest operations to countries often unable or unwilling to put measures in place to protect their local environment.[110] The United Nations report is free to champion local industry in wealthy nations for putting into place innovative

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[107] United Nations Conference for Sustainable Development, “Institutional Framework for Sustainable Development,” *United Nations: United Nations Conference for Sustainable Development* (2014): 3.

[108] United Nations Conference for Sustainable Development, “Institutional,” 3.

[109] United Nations Conference for Sustainable Development, “Institutional,” 3.

[110] Johannson, *Current*, 154.

systems (which cause a benefit to GDP) that reduce their environmental impact, but shortsightedly criticizes nations of the global south for failing to prevent those same industries (whose scope is global and power immense) from taking the cheaper and dirtier – yet more profitable – path when setting up factories and production lines in these poorer countries.

This issue is explored in detail by Buch-Hansen with regard to the small and relatively poor nation of Bhutan, where modern economic development began in the 1960s, and which quickly found itself under siege by wealthy multinational companies seeking to promote its economic development through processes of resource extraction and development that now pose a direct threat to its "pristine environment."[111]

One of the most significant challenges – perhaps the most significant – environmental challenge of modern times is presented by global warming. In this instance, there is proliferated a particularly damaging sentiment that the free market – which has long ignored this eventual "externality" of its perpetually sustained growth – can also, in time, provide a solution to what is essentially an existential threat to humanity. Friedman believes, the same "gospel" thinking, which argues that the perpetual growth of GDP is necessary and always beneficial, also argues that the free market will eventually present a profitable means by which the world will extricate itself from disaster.

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[111] M. Buch-Hansen, "Environment—A Liability and an Asset for Economic Development: Some Views on Environmental Protection with Economic Development in Bhutan," *International Journal of Sustainable Development & World Ecology* 4, no. 1 (1997): 17.

This is the same type of market-as-stewardship thinking that considers the environment itself as an extension of the larger economy, with all the resources it provides serving as an untapped benefit for industry. As explained by Buch-Hansen, in all nations there is a need for "institutional reforms and policies," as well as legislation to counteract the forces and appetites of industry, as these actors have thus far yet to prove that they are capable of the stewardship – or ability to counteract the problems – that they have created by their lack of foresight in systemic thinking.[112]

Indeed, global warming and other major environmental factors have been exacerbated in recent years through an extensive and all-encompassing sense of *mythmaking* on the part of organized industry and supporters. Not only has industry served to spread the myth that the GDP is the solitary measure by which nations are to be held to account, but it has served to foster the continued myth that the free market and perpetual growth are forever a means by which all major environmental problems – created by profit-driven industry – are to be solved.

Mahall and Borman, Professors of Ecology, argue that one of the most disastrous economic and ecological myths that coincides with the rise of industry has been the dual understanding of nature from an *anthropocentric* perspective – that is, humanity is *separate* from its ecological environment – and the myth of *progress*. Unlike models that currently prevail in economics, "the earth has its own set of rules, solidly grounded in laws of physics and chemistry and emergent principles of geology and biology," and

[112] Buch, "Enviroment," 27.

unlike economics, these are not "artificial constructs."[113] While it may serve the needs of industry to promote a vision of the world that fits industry's conception of its own utility, the world has already begun to suffer the effects of industry – particularly through the already-disastrous warming trend – leading to the anthropocentric economic model being on "a direct collision course" with the intractable and very real rules by which the world operates.[114] The idea of progress goes hand-in-hand with this concept.

Progress, a concept at core the same as the eternal-growth model emphasized by GDP, is a concept roughly as old as industry itself: The growth of organized capital in the modern world has always been supported by a myth of eternal progress and advancement, by the myth of a world in which one's descendants inevitably have a higher standard of life than any individual or their forebears. While industry seems to seek a means by which human happiness can be attained through economic measure, it cannot come at the expense of the ecosystem itself.[115] To this end, this author presents a new and primary economic goal of a sustainability-minded "progress without growth."

The Invisible Elbow, Hogs, and Wal-Mart

As these sections have shown, the economy – as expressed, largely, by GDP alone – is often seen as an extension of Adam Smith's principle of the "Invisible Hand" of the free market, a long-canonized tenet that argues that unfettered growth guided by such a

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[113] B.E. Mahall, and F.H. Bormann, "The Earth Has Its Own Set of Rules," *Los Angeles Times* (March 2, 2010), 3.

[114] Mahall, "Earth," 3.

[115] P.A. Victor, *Managing without Growth: Slower by Design, Not Disaster* (Cheltenham: Edward Elgar Publishing, 2008).

hand will lead to increasing production, efficiency, and prosperity. Proponents of this type of thinking will thus emphasize the role and value of market forces toward profitability, and argue that these alone will lead to progress by profit-driven industry and growth, as well as low unemployment. By contrast, Bell, a Professor of Environmental Sociology, argues that any proper measure of economic strength, especially those that reflect the negative outcomes that so often result from unfettered and unexamined measures of economic output must be modified to consider the so-called "Invisible Elbow."

As this author explains, the "elbow" is the force that serves to cause unintended consequences of economic action, even when GDP would reflect growth and profitability. These elbows "knock things over inadvertently," serving, for instance, to cause "environmental degradation," often by "deliberate and intended destruction" but also as the "unforeseen cost of ruthless consumption."[116] These forces are more commonly described as *externalities*, a phrase which means the "economic effects not taken into account in the decision-making in a market."[117] The inability of GDP to take into account "elbows" or "externalities" is cited as a major liability with regard to the current means by which decisions are made in an economic environment, as the GDP – and thus government economic policy – fails to take into account the negative impact of elements that are essentially good for domestic production.

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[116] M.M. Bell, *An Invitation to Environmental Sociology* (Thousand Oaks: SAGE, 2011), 73.

[117] Bell, *Environmental*, 73.

One example of such an "externality" or of damage wrought by the "Invisible Elbow" is described by this author with regard to factory farming in the United States, which have expanded in recent years under the consolidation of major farming companies such as Smithfield Farms. Pork production in the United States depends on these facilities now, which have made major profits while also keeping the price of pork low for consumers. While GDP would argue that each of these elements – high profit and low prices – serve as net *positive* factors, Bell argues that there are often just as many externalities to these actions as are measured by GDP alone, and if they were taken into account, they may *negate* the economic value that is reflected in GDP.

Such externalities, economic and otherwise, which are presented by factory farming in the United States are many. These reflect the fact that "hogs are large animals, and they do little but eat and excrete in these facilities," leading to these facilities having to build vast "lagoons" in order to retain the waste that they cause.[118] While these vast manure pits are bad enough on their own, the free-market forces that push factory farms to be as efficient as possible often cause them to leak, leading to major environmental disasters such as the "hog effluent…spill that killed 5.7 million fish in 152 incidents in Iowa alone between 1996 and 2002."[119] The direct environmental effect of these efficient operations is not the only cause for concern. This author also cites animal welfare groups, who have voiced their grave concern regarding the welfare of the animals who are kept in these facilities, who are often heavily "packed in…and never see the light of day," as well as the concerns that are presented by workers' lobbies concerned about the "pay and

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[118] Bell, *Environmental*, 73.

[119] Bell, *Environmental*, 74.

conditions for the mostly migrant workers" at these facilities.[120] In addition, another economic externality that is not considered by GDP yet that is clearly on display at these factory farms is the farms themselves, which now maintain more than half of the production of pork in the United States, which was once the responsibility of smaller "family" farms, most of whom were run out of business by factory farms in a spate of buyouts in the 1980s and 1990s.

In this regard, the trend toward monopolization is also an economic externality that uniformly bodes well for GDP. A key example of this "invisible elbow" can be seen in the rise of Wal-Mart to national prominence in retail sales. Though a preconception among many economic thinkers – and proponents of GDP – has been that the more wealth is created, the more apt people are to pursue greater success, thereby promoting increased economic growth. This system has led to the rise of corporations that provide goods and services to the American public in an ever-more efficient manner, thereby increasing the standard of living. Wal-Mart is the strongest example of consolidation and monopolization of retail services in American history.

As explained by Bianco, author of *Wal-Mart: The Bully of Bentonville: How the High Cost of Everyday Low Prices Is Hurting America*, Wal-Mart maintain enormous distribution centers, allowing them to cut costs where their smaller competitors cannot, and to continue to adhere to a vicious business model where they sell anything imaginable at fire sale prices. While Wal-Mart's model offers cheaper prices for the customer – thereby allowing them to spend more, thereby contributing more to GDP

[120] Bell, *Environmental*, 74.

while they line the retailer's coffers – it has also resulted in the shuttering of many local "mom and pop" businesses.

There are more than eleven thousand Wal-Mart stores in the U.S, all centrally located, and they have grown in prominence to the last decades to replace outright a given town's local economy with one all-encompassing "superstore." In one trip to Wal-Mart a customer can get enough household supplies to last a year at half the price those goods might have cost if purchased at other retail locations. While such convenience may be considered a "positive" externality of Wal-Mart's prominence, it is only counted in terms of its profit and the price that consumers pay for goods there. In both instances, while Wal-Mart's rapid rise to national prominence and its current role as "staple" retail outlet for so much of America are foregone conclusions, there are major externalities and "invisible elbows" – ignored by GDP – that must be considered.

The first major externality of Wal-Mart comes in the form of the labor practices it encourages by its buying policies. Most of the products that Wal-Mart sells are imported, and produced in their country of origin by the use of unfair labor and inhumane employment and labor practices. While defenders of Wal-Mart argue that the company is doing all it can to produce the goods people want to buy at lower prices than their competitors, this country's unceasing cooperation with countries with terrible human rights records – such as China – insure that negative labor practices, albeit those that ensure that products that Wal-Mart sells for such low prices may continue to be sold profitably, only continue.[121]

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[121] A. Bianco, *Wal-Mart: The Bully of Bentonville: How the High Cost of Everyday Low Prices Is Hurting America* (New York: Crown Publishing Group, 2009), 182-198.

As a result, while Wal-Mart employs the largest workforce in America, the impact of their political and economic pressure has been the dismantling of domestic factories and production, as such production is undercut by far cheaper labor abroad. This has the effect of depriving families of their domestic employees of much needed income. Wal-Mart's labor policy has the effect of hurting the American public, as well as Wal-Mart employees, in two ways. Not only does this company's policy take jobs away from the American economy and perpetuate the mistreatment of workers outside United States, but their well-documented abuses against their own workers continue unabated, as the company's profit-driven goals and cost-cutting objectives ensure that workers are pushed to their very limits. The working environment there is compounded by the fact that workers are offered no healthcare packages or benefits.

In addition, Wal-Mart workers are frequently rewarded for informing on one another. Workers who tell the press about bad work conditions are fired, while those who inform management regarding poor work, or whispers of unionization, are promoted. Wal-Mart is a large and wealthy corporation, and it is well within their means to instigate increased labor standards. Instead, they have driven down retail wages by nearly $3 billion, freezing as many of their employees' wages as possible at the minimum wage, and offering virtually no security. Wal-Mart has aggressively fought rising labor, material, and distribution costs, while often placing spies within stores to report any lack of productivity and "suspicious activities," and is a place where management will alter work hours to avoid paying employees overtime.[122]

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[122] Bianco, *Wal-Mart*, 22.

Despite these well-documented allegations, Wal-Mart remains a boon to GDP, but this success must be seen as reflective of the severe inability of GDP to appreciate the economic ramifications of elements that are core to Wal-Mart's business model. These are detrimental to factors that are "outside" of market considerations of production and profitability. The following sections will consider two major ramifications of the existing and seeming-permanent focus of the American economy on such growth, at the expense of all other indicators: The first is *income inequality*, and the second is an erosion in American *character*.

Income Inequality

Given this consideration, it is necessary to point out another economic externality that is necessarily and perhaps inextricably linked to the problem of considering growth-minded GDP above all other economic indicators: Economic inequality.

As has been touched upon through the consideration of factory farming and Wal-Mart, this is a major problem in the United States, and in the world today. Over the last decades the United States has seen a growing rift between the rich and poor, an economic trend that has grown through good times and bad and regardless of which political party holds the reins of government. DeSilver, a writer at the Pew Research Center, believes that the best way to consider the problem of modern American income inequality is to consider how much income "flows to groups at different steps on the economic ladder."[123] According to tax information made public by the Internal Revenue Service,

[123] D. Desilver, "U.S. Income Inequality, on Rise for Decades, Is Now Highest Since 1928*," Pew Research Center* (2013), 1.

the rate of income inequality in the United States has been increasing steadily since the 1970s, and now has reached levels not seen since 1928, when the top 1% of families in the United States took home 23.9% of all pre-tax income, where the bottom 90% took home 50.7%.

These rates would remain relatively unchanged through the 1970s. Beginning in the 1980, the income share of the "uppermost tier...began rising dramatically," while that of the bottom 90% began to fall.[124] While the income of the top 1% was dramatically affected by economic turmoil, which followed the economic crashes at the end of the 1980s (after the Savings and Loan scandal), the 1990s (the dot-com crash), and particularly in 2008, the top ranks of American earners have always been able to recover relatively quickly. In 2012, the top 1% received 22.5% of all pre-tax income, where the share of the bottom 90% is below 50% for the first time in American history.[125]

As described by Fletcher, a writer of economics, credit was a major factor in instigating this more widespread economic disaster. During the 1960s and 1970s, the real income of the top 5% increased each year at a rough parity with that of the remaining 95%, at a rough rate of 4% per year.[126] Between 1980 and the present, the income at the top increased by 5 percent per year, where real income for the rest of the U.S dropped to about 2.6%. During the years between 1980 and 2008, an increasing drop in income among the bottom 95% was compensated for with credit, but following the 2008 crash, a

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[124] Desilver, "Income," 1.

[125] Desilver, "Income," 2.

[126] M.A. Fletcher, "Income Inequality Hurts Economic Growth, Researchers Say," *Washington Post,* January 24, 2014.

vast number of Americans stopped using credit altogether. The result has been, "nearly five years into the recovery, the top 5 percent are back to normal, consuming as they did before the downturn," but everyone else is "still hurting," exhibiting levels of consumption far below normal levels.[127] The current long-lasting period of recession and high unemployment (which this author explains was partly, perhaps largely, caused by thirty years' increase in economic inequality) appears to have affected Americans' spending habits in an extreme manner that has only begun to have an impact on the U.S. economy.

There are many who will argue income inequality in the United States is not a problem. For instance, DeSilver explains that those who compare the current rate of income inequality to that that was experienced during the "Gilded Age" of the 1880s and 1890s are doing a disservice to the reality of current economic conditions. During that past era, there were few labor regulations, rampant child labor and exploitation, and the phenomenon of the highly exploitative "company town," as factors to pile tension atop the rampant inequality. In this era long before modern inheritance tax, the wealthy were largely idle, having done little to earn their riches, unlike now, when "top income earners" are more likely to be the "working rich...highly paid employees" or entrepreneurs.[128] Roth explains that just as individuals are not equal in their "love and relationships," or in "intelligence or physical appearance," so too can there be no expectation of equality with regard to income.[129] In addition, when compared to the rest

[127] Fletcher, "Income Inequality."

[128] Desilver, "Income," 2.

[129] Desilver, "Income," 2.

of the world, each person in the United States has won the "lottery," when compared to individuals born in other countries.[130]

While this is a strong argument for the primacy of the United States in the world by income, it misses the larger point at work here: The growth that is so clearly calculated in terms of the GDP – and that it has reflected so proudly – has clearly failed to benefit all Americans equally. Though the United States has never been a nation that has been focused too closely on financial equality, by ignoring this unprecedented level of inequality – especially since it is not reflected in the GDP – the nation does itself a major disservice in the long term.

Potential solutions to such inequality received a popular voice with the publication of Thomas Piketty's *Capital in the 21st Century*, a ponderous economics tome, which has nonetheless become, in the words of Arcega, an "unlikely best-seller."[131] Piketty's work, provides a "compelling case for something many have long suspected – that the rich are getting richer."[132] The work uses data going back two centuries to show that the current inequality is a symptom of a larger disorder on the part of society in general: Picketty argues that "over time, capital or wealth grows faster than economic output," leading to an ever-increasing level of wealth and income inequality.[133]

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[130] M. Arcega, "Income Inequality Drives Economic Book into U.S. Best-Seller List," *Voice of America* (2014). Accessed March 18, 2014. http://www.voanews.com/content/income-inequality-drives-economic-book-into-us-best-seller-list/1916494.html.

[131] Arcega, "Income."

[132] Arcega, "Income."

[133] Arcega, "Income."

Porter, an economics writer, believes that Picketty's clearest argument is his repudiation of the theory that "inequality will eventually stabilize and subside on its own," an idea that is described as a "long-held tenet of free market capitalism."[134] Instead, this economist argues that the economic forces that are currently concentrating "more and more wealth into the hands of the fortunate few...are almost sure to prevail for a very long time."[135] The author's recommendations, which he argues may yet stop this trend, include a "global tax on wealth."[136]

An interesting externality that extends from both the apparent American government and business preoccupation with GDP and the heedless growth-oriented policies that have resulted in its increase through the years, Stimson and Boiten, Professors of Economics, argue that the move toward the globalization of industrial production and of wealth can be considered highly indebted to the GDP focus of the American economy over the last decades. "Neo-liberal" economics, which is characterized by low taxation and low regulation of industry, as well as low borders to trade, has characterized the posture of American economic policy, and of industry, in the years since the 1970s.

These policies have led to what is described as an "increasing disparity of wealth and income both within and between nations."[137] In short, not only has the unwavering

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[134] E. Porter, "A Relentless Widening of Disparity in Wealth," *New York Times*, March 11, 2014.

[135] Porter, "Relentless."

[136] Porter, "Relentless."

[137] R.A. Stimson and A. Boiten, *Global Solutions: An Internet Community Takes on Globalization* (Bloomington: iUniverse Press, 2003), 9.

and heedless approach to growth that has characterized the American government's economic policy over the last decades had the effect of compounding existing gaps in income in the United States, but its focus on rapid growth *through globalization* has had the effect of compounding these disparities across the world.

While Picketty's suggestion for a major increase in the taxation of the wealthy may appear to be a strong solution to this problem, it misses the general point that has been made throughout this piece. Through both economic policy as well as by the incessant focus on growth, as well as general ignorance of all other economic and quality-of-life indicators, the United States – and the countries and economies it influences so strongly– have embraced what may rightfully be deemed a cult of profit-driven and efficient consumer capitalism, which has wrought unfortunate and negative results both home and abroad.

Chapter IV

Motivation beyond an Economic Construct

As this work has considered the infeasibility of GDP in measuring a wide range of economic work, a primary question is raised: If GDP is inadequate, and people perform a wide range of tasks without financial compensation, then in what way can such motivation be assessed, if not by purely financial means?[138] This concept hinges on what authors of *The End of Work as You Know It*, Sindell and Sindell, cite as the modern disconnect between the work people perform and the perceived value of that work. These authors explain that workers may contribute a great deal to the economy with their work, but if they make such a contribution in jobs that provide them with no personal satisfaction or sense of accomplishment, then their individual contribution to the gross domestic product is not indicative of their personal satisfaction or wellbeing.

For this reason it becomes necessary to distinguish between *extrinsic* and *intrinsic* motivators. Benabou, a Professor of Economics at Princeton, and Tirole, a Professor of Economics and Nobel Prize winner, argue that *extrinsic* motivation is impressed upon a worker, and can take the form of a "carrot and stick" arrangement of punishment or financial reward. *Intrinsic* motivation, by contrast, is work that the worker performs for their own satisfaction and benefit, and for which they are motivated by a sense of

[138] I.F. Sorauren,"New Lights on the Robbinsian Theory of Work Supply," *Scottish Journal of Political Economy* 57, no. 4 (2010): 389.

accomplishment or desire to complete a given task.[139] While work performed for intrinsic benefit and to satisfy an intrinsic motivation may contribute less to the GDP than work that produces far more profit or that puts far more money into the economy, the worker who truly *enjoys* their work is far more productive and more likely to continue working toward their full potential than a worker who works only to be financially compensated.

As has been considered in greater detail, a strong example of work motivated intrinsically is that which is not compensated at all, especially *volunteer* work, though unpaid volunteers often report some of the highest rates of self-satisfaction.[140] Conversely, workplaces in which employees are solely motivated through extrinsic factors, and especially those that provide workers with explicit performance incentives, have been shown to *inhibit* worker motivation to complete a given task.

Motivation not engaged by financial remuneration is often informed by the following theories: (1) *Self-Perception* theory dictates that individuals tend to use their own behavior to assess their feelings regarding motivation to complete a certain task;[141] (2) The *Cognitive Evaluation* theory distinguishes between intrinsic and extrinsic motivation;[142] (3) *Overjustification* theory argues that extrinsic motivation diminishes an

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[139] R. Benabou, and J. Tirole, "Intrinsic and Extrinsic Motivation," *Review of Economic Studies* 70 (2003): 496.

[140] M. Cha, "What's Missing from GDP?" *Demos* (2013). Accessed February 16, 2015. http://www.demos.org/publication/whats-missing-gdp.

[141] Benabou, "Intrinsic," 489-520.

[142] A. Lehtinen, K. Kuorikoski, and P. Ylikoski, *Economics for Real: Uskali Mäki and the Place of Truth in Economics* (London: Routledge, 2013), 12-25.

individual's intrinsic motivation to complete a task;[143] and (4) *Expectancy-Value* theory argues that the perceived value that a person attaches to a task determines their motivation to work.[144]

Other non-economic incentives that enhance motivation include a desire to reciprocate, in which workers in team situations will assist one another (and management) if there is a perception of reciprocity in teamwork. Motivating factors also include the desire to avoid social disapproval. Use of non-economic incentives can also lead to greater worker motivation: These include offers of flexible work hours, increased access to promotion, access to company information (or less restrictive access), and praise.

Each of these psychological constructions are absent in the current consideration of economic motivation, as at present, economic indicators (primarily GDP) presuppose that all members of a nation and contributors to an economy are rational economic actors whose working motivations are determined by purely mercenary forces.[145] Unfortunately, as will be shown in the following section, the dependence and ceaseless focus on GDP and on growth-oriented policies that GDP has engendered in the private sector, has resulted in a nation where not only is volunteer work – or work for little pay – delegitimized, but the American employment landscape is now one characterized by an

[143] E.L. Deci, and R.M. Ryan, "Self-Determination Theory: A Macrotheory of Human Motivation, Development, and Health," *Canadian Psychology* 49, no. 3 (2008): 182-185.

[144] N. Barber, "Is Money the Main Reason We Go to Work?" *Psychology Today*, (2010). Accessed December 9, 2014. https://www.psychologytoday.com/blog/the-human-beast/201012/is-money-the-main-reason-we-go-work.

[145] J.W. Darrington, and G.A. Howell, *An Optimized Project Requires Optimized Incentives* (Haifa: International Group for Lean Construction, 2010), 18.

engineered uncertainty sufficient to force workers to put their financial interests first, and to ignore all other motivators, in order to simply "get by."

A Mercenary Nation?

The current marketplace in the United States and in countries that are currently dealing with the long legacy of GDP-dominated capitalism is one that is characterized primarily by one of *uncertainty*. As examined by R. Sennett, a Professor of Sociology at the London School of Economics, states that one key difference that characterizes the current job market when compared to the job market that greeted high school and college graduates in decades past has been its lack of permanent job opportunity.

In a piece published more than a decade ago, this author cited the unofficial motto of the telecommunications company AT&T as being an element that is most reflective of the hiring climate at that company. This slogan is "no long term," referring to how they would hire and maintain their labor force.[146] This is significant not only because this was an official policy whereby the company argued that they would not *commit* to their workforce in any tangible way, but also because AT&T (unlike Wal-Mart, which has been considered) is a company that historically has hired employees to work for their whole lives, and in the past whose employees might have enjoyed strong pension plans in retirement. These guarantees were once "par for the course" in American working life, especially that which followed the Second World War: Unlike those years – in which unions were powerful and welfare state guarantees were plentiful – even skilled and

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[146] R. Sennett, *The Corrosion of Character. The Personal Consequences of Work in the New Capitalism* (New York: W.W. Norton, 2000), 2.

"white collar" workers now no longer expect long careers of "relative stability," much less the regular incomes raises and pensions enjoyed by their parents and grandparents.[147]

The modern American economy is now one that is most characterized by organizations that have followed Wal-Mart's example of vicious efficiency and worker exploitation, all in order to produce enterprises that are as "lean and mean" – and unfettered by union demands – as can be achieved. While retail and manufacturing have been characterized by moves toward direct union "busting" and prevention practices, skilled "white collar" workers are now also fettered by organizations that no longer provide them with the *loyalty* that their skills may have afforded them in the past. Unlike the way things were decades ago, it can be argued that the long-term American focus on unfettered economic growth at all costs has produced an environment in which organizations see such loyalty as an economic liability, and have sought to produce organizational methodologies that ensure that even workers with high skills feel the impact of economic uncertainty. This is seen by their establishing systems by which they only hire "short-term" contract workers, or ensure that their labor force is employed on only an "episodic" basis, and have limited, phased out, or eliminated outright the traditional career paths and organizational structures that have existed for the benefit of their long-term workers but have placed historically "high" demands on businesses.

It is for this reason that there has been an erosion in *character* that has been caused by this shift: While the American economy has never been the most stable on earth, and subject to the swings and shifts caused by the market perhaps more than many others, this author argues that the immediate fallout from this recent cultural shift away

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[147] Sennett, *Corrosion*, 10.

from long-term work has been extraordinary: American graduates entering the workforce in 2015, face truly difficult choices with regard to their futures: Where once they may have sought work based on their interest in that work – or shied away from work in industries whose policies or impact on the environment or society they found reprehensible – the *expectation* of instability that has been presented to the recent generation of graduates has ensured that they are no longer as capable of making these decisions, and their *character* is diminished as a result.

In his work, Sennett cites the Founding Father James Madison, who argued in 1785 that "character turns on doing one's duty."[148] This is a concept with major resonance in the world today, albeit – as Sennett argues – for all the wrong reasons. In the increasingly "flexible" world economy, the individual's *duty* may be seen to increasingly be tied to the same priorities that have determined those of private industry, and the state at large: the maximization of profit.

Where once individuals were able to make economically impertinent decisions based on a strong sense of will and duty to their own ambitions and interests, these individuals are increasingly incapable, or unwilling to do so: As all work, even in the non-profit and charitable sectors, has been affected by the same mind-set that defines the hiring and human resources priorities as AT&T, for a worker to seek anything less than the *best-paying* job, no matter what it is, would be to do themselves a long-term disservice. While many will certainly anticipate seeking work in the future through which they are able to satisfy some innate sense of duty, these workers' goals and ambitions are increasingly "shelved" for the first pivotal decades of their careers.

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[148] Sennett, *Corrosion*, 3.

As the American private sector has spent the last thirty years doing major damage to the idea of the company's loyalty for its workers – by mass layoffs to protect profits, by raiding pension funds and restructuring away from major benefits, and especially through its newfound emphasis on contract and temporary labor – workers now find themselves at a crossroads.[149] Many workers doubtless may feel that they have been insulted by the economy, and that their workplaces have denied them the benefit in lifelong purpose that was once the apparent right of any American high school graduate with even a middling skill-set. Unfortunately, Sennett's work implies a far graver, and inadvertent option to be exercised by American workers: They will acquiesce to the uncertainty that is their "cross to bear," as they have grown to maturity indoctrinated in the "growth at any cost" mindset, which dominates considerations of economic matters in the United States and in the world at large.

These workers, who come into the workplace knowing that they will know only instability and hardship, and understanding that they will have to change jobs many times across many years to succeed, it can be argued that there has been engendered a stark, though perhaps more realistic mentality where they know that they will never know loyalty, and as a result, never feel *duty.*

While traditional workers' rights are trampled the world over and income inequality increases, this "erosion of character" may be one of the most unfortunate and little-noticed "externalities" of GDP and its adherence to growing the economy at all costs: Through government's doctrine of GDP informing policies, regulatory laws, and priorities in this manner, perhaps inadvertently, as a consequence of its internal systems

[149] Sennett, *Corrosion*, 15.

and logic, business now seeks to turn all workers, no matter their level of skill, into commodities to be exploited with ever-greater efficiency. As a result, young people are now becoming *used* to the idea that they will not have a lifelong job, but rather have to seek new lines of employment in continuous cycles.[150]

Duty and character are ruined by such instability: the current generation of American workers is not only wedded indelibly to the system but has been subtly assured that they will never reach substantial stability. As a result, their priorities have been aligned with those of the institutions in which they are a part: They are encouraged only to pursue profit, no matter what enterprise engages their labor. For this reason, it can be argued modern workers can be put to work doing almost anything, and be counted upon to do it obediently, even if the product of their labors is, for instance, writing software or designing machines for which the purpose is to erode the *future* power of their labor. The erosion of morality, of choice, and of duty, is perhaps the most significant consequence of the modern drive to heedless growth and the ignorance of its externalities.

Unemployment as a Positive Effect?

It is important to briefly touch on unemployment's potential to have a positive effect on the economic health of a nation. While the presence of a high rate of unemployment indicates that a country's economy is "in distress," having an unemployment rate of zero would not be of a strong benefit either, for according to M.

[150] Sennett, *Corrosion*, 16.

Moffati, “having a small amount of unemployment is actually desirable.”[151] To this end, Moffatt, a Professor of Economics, describes how structural unemployment reflects institutional and technological changes and is often the negative by-product of progress: When one technology is replaced by one that is better (such as the horse-drawn carriage by the automobile), many jobs dependent on the old technology are lost, but overall gain is ultimately great.

In any society with “at will” employment – like the United States, where there are no tax or legal penalties for quitting a job – unemployment often results from people “following their hearts and dreams.”[152] Both of these views of the positive end of unemployment support the same goals of progress and growth, and are reflective of commonplace understandings of growth and of the same mentality that has exalted GDP as economic measure.

That said, if the United States is to be restricted to measures of economic growth that reward progress, it is fortunate that workers are free to pursue their ambitions by breaking ties with an employer. In this instance, employment is a force for good, albeit couched in a justification for heedless progress that is ultimately indicative of a stagnant mindset.

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[151] M. Moffatt, “Would 0% Unemployment Be a Good Thing?” *About* (2015). Accessed May 2, 2015. http://economics.about.com/od/helpforeconomicsstudents/f/unemployment.htm.

[152] Moffatt, “Unemployment.”

Non-Monetary Determinants of Growth and Progress

It has been made clear that there are severe disadvantages to current measures of economic activity, and far more factors at play in any consideration of economics has yet been willing to consider. To this end, the following section proposes that *sustainable growth* and *happiness* are the strongest indicators of national wellbeing, and that future measures of economic activity would be wise to adopt these measures as their primary goal.

One such example is the Human Development Index, or HDI. As pointed out by Stiglitz et al., Professors from Columbia and Harvard University, this measure factors in many measures that are currently not being taken into consideration by GDP. These include life expectancy, education, and income as a means of tracking overall *human development*. While this is not an especially strong economic indicator, particularly because it changes based on different nations' cultural qualities, it is a leading contender among measures that might be implemented to offset the profit-driven model that has been for so long entrenched by national measure through GDP measure.[153]

The FDI seeks to shift emphasis in national measure "from measuring economic production to measuring people's wellbeing," and argues that such wellbeing must be maintained from a "context of sustainability."[154] The emphasis on people's wellbeing is not presumed to divert emphasis from industrial output measures or other economic measures, factors that these authors acknowledge "emerged from concerns about market

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[153] J. Stiglitz, A. Sen, and J.P. Fitoussi, "Report by the Commission on The Measurement of Economic Performance and Social Progress," *France: The Commission on the Measurement of Economic Performance And Social Progress* (2013).

[154] Stiglitz, "Report," 12.

production and employment," but rather to serve as a means of "what counts" for people's well-being, a factor they argue is not present in current data.[155]

The report recommends to: (1) Evaluate material wellbeing in a society by considering consumption, instead of production; (2) Emphasize the perspective of households, such as through "taking account of…taxes going to government, social benefits coming from government, and interest payments on household loans."[156] The report also recommends to (3) "Consider income and consumption jointly with wealth," meaning that a household that spends a lot is not necessarily one contributing to the economy, as their debts may be great or saving low, and to (4) Give greater "prominence" to wealth distribution, as average measures of income and production tell only half the story.[157]

Self-determination theory provides another strong means by which sustainable growth might be achieved and happiness measured: As described by Deci and Ryan, Professors of Psychology, this theory presents human motivation, development, and wellness as predictors of "performance, relational, and wellbeing."[158] Through implementation, people's life goals are taken into account, as well as various social conditions which either enhance or inhibit their achievement of these goals, as well as intrinsic and extrinsic motivating factors, and psychological wellbeing. Taken in a macro perspective – such as from a consideration of social wellbeing – self-determination theory

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[155] Stiglitz, "Report," 12.

[156] Stiglitz, "Report," 13.

[157] Stiglitz, "Report," 13.

[158] Deci, "Self-Determination," 182.

allows for a better understanding of social pressures and forces aside from economic factors to determine the overall wellbeing of a group of people, or a nation.

In addition, Asheim, a Professor of Economics at the University of Oslo, and Mitra, a Professor of Economics at Cornell University, consider *sustainable discounted utilitarianism* as a means of enhancing sustainable economic growth by paying close attention to the needs of future generations. Unlike traditional discounted utilitarianism, a common theory under which "less weight is given to the utility of future generations," any economic measure – and any policy it influences – would apply "an equity condition respecting the interests of future generations."[159] This understanding of wellbeing and happiness would transcend the needs of the present to consider the needs of the future, and provide a much-needed dose of foresight and wisdom into government measurement and policy affairs.

While the FDI and these similar theories do much to emphasize elements of economic contribution and growth not being considered by the current measures, there are still some concepts future considerations must include to be all-encompassing and directed toward happiness and wellbeing. M.E.P. Seligman, a Professor of Psychology at the University of Pennsylvania, states that it is crucial for any macroeconomic understanding of economic output to put *Wellbeing Theory* into practice. While it may seem difficult to implement theories of happiness into what is ultimately an economic measurement, it is appropriate to *extend* the current measure to reflect factors that are more relevant to people at their human scale. While a good start is to include – and

[159] G. B. Asheim, and T. Mitra, "Sustainability and Discounted Utilitarianism in Models of Economic Growth," *Mathematical Social Sciences* 59, no. 2 (2010): 148.

legitimate – unpaid labor, and to account for inequality and consider net wealth rather than gross production and consumption, a truer measure of the *state* of a given populace would also consider people's "engagement" in their lives and relationships, as well as seek to quantify their sense of "meaning…[and] accomplishment" in life.[160]

The *Genuine Progress Indicator* is another tool that may be used to track progress and make determinations beyond those that are currently being tracked by GDP alone. Talberth et al., state that the GPI measures far more than simple growth and profitability, and instead considers factors such as unemployment, pollution, the number of people in a given population who have a college degree, vehicle crash injuries, Internet access, and other factors – both major and minor – in what it describes as a "holistic" approach to the consideration of Americans' welfare.[161] Significantly, in 2009, this means of quantifying such elements was announced as a means by which conclusions would be drawn and policy formed in the state of Maryland. While this can be considered perhaps a significant step toward a future in which far more expansive – and human-oriented – characteristics are taken into account in official indicators of economic wellbeing, it is limited in its focus. First, this has been limited to Maryland, and altogether limited in its focus, and its effect. In addition, use of GPI in Maryland has only focused on the ways that consideration of human welfare may have a positive impact on *wealth inequality*. As this work has shown, wealth inequality is a major issue, but this is only a symptom of a larger problem that – even in such a progressive an experiment as was mounted in Maryland – the GPI will clearly only "scratch the surface."

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[160] M.E.P. Seligman, *Flourish: A Visionary New Understanding of Happiness and Wellbeing* (New York: Simon and Schuster, 2012), 11.

[161] Talberth, "Closing," 12.

In addition, the GPI fails to take into account international measures to which the United States would so often be found wanting. To this end, another significant means of quantifying values that contribute to national success and progress, but which are hardly included in current GDP measures is called the *Social Progress Index*. Like the FDI, this index argues that there are multiple dimensions to success in a given nation, as well as means by which such success may be tracked, that are not being currently measured.

In *The Economist*, proponents for use of this theory and methodology for the tracking of factors "beyond growth," argue that GDP is "simply too one-dimensional to provide a complete measure of a nation's progress," but argue that their Social Development Index is superior to the other methods that have been proposed because it "specifically tracks social and environmental outcomes."[162] These measures include a close focus on a given country's access to schools, its provision (or denial) of healthcare to all of its citizens, as well as access to nutrition and to sanitation.

Social Progress Index 2015 presents a stark view of the world, where the United States does *not* come first in many categories. While the U.S. is presented by the Social Progress Index as a nation that has – for instance – the world's highest adult literacy rate, it ranks 73rd internationally in terms of primary school enrollment. While the United States ranks 30th in the world with regard to life expectancy and 35th in terms of premature deaths from non-communicable disease, its system ranks the U.S. 81st among the world's nations for its suicide rate (at 10.75 per 100,000), and 126th in the world for obesity.

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[162] "Beyond GDP," *The Economist* (2013). Accessed October 18, 2014. http://www.economist.com/blogs/feastandfamine/2013/04/social-progress.

Crucially, several of the factors that American government and business have presented as most indicative of the singular power and influence of American economic strength, particularly the *choices* and *freedoms* that such progressive growth affords, are reflected poorly in this survey. The U.S. ranks 67th in the world for "freedom of movement," and while it ranks first worldwide for political rights, its score for freedom of assembly is 15th worldwide, and ranks 27th in the world for its "community safety net." The Social Progress Imperative database information argues that while the United States has superior water and sanitation to any other nation in the world, as well as superior access to basic knowledge, it lags in personal safety, economic stability, as well as on measures of tolerance and inclusion.[163]

The takeaway from the Social Progress Initiatives' Development Index is that there are a wide range of factors that are not being considered by GDP. While it may be difficult to factor many of these elements into an economic measure, it is imperative to not ignore them, either, as to focus on GDP alone as a measure of progress and national "wellbeing" is to ignore the *detriment* that is being done to the economy by a wide range of these perhaps-ignored factors. To this end, it becomes necessary to devise a means by which these many considerations may be implemented into a course of robust economic analysis by which their true economic impact can be calculated and welfare policy derived.

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[163] Social Progress Imperative, "Social Progress Index 2015," *Social Progress Imperative* (2015). Accessed April 14, 2015. http://www.socialprogressimperative.org/data/spi.

Chapter V

Conclusion

This work has explored a range of alternative perspectives and theories that governments might employ to properly gauge the sustainable economic output of their citizens, as well as their wellbeing. Yet the primary question raised in this work is one of legitimacy: With so many government priorities set by economic output and measures of gross domestic product, there is revealed a tacit admission that many crucial aspects of life itself – child and elder care, housework, volunteering, non-monetary motivation, the environment, and happiness, no matter how it is calculated – are of no importance to the state, and that any protestations to the contrary are mere rhetoric.

The United States has spent the last decades basking in its own triumphalism: Not only is it a fine nation, but it is the *best* nation, a *God-given* nation, where people enjoy unparalleled prosperity and access to resources and opportunity that are unmatched anywhere else on earth. While there is some strength in this theoretical understanding of the powerful and prosperous place that the United States occupies, it is fundamentally a nation whose modern image of itself has been built by a *myth* of its own prosperity. GDP must be considered at present far more notable for the aspects of the American way of life and the happiness of its people, which it has *ignored*, than for the picture of a prosperous nation that it has all-too-often reflected.

The chief understanding of GDP that this work has sought to produce is one of its *transitory* nature. GDP was never a system of measurement that was intended to be

permanent. Like many of the systems that were implemented during the Great Depression – such as Social Security or the Works Progress Administration – GDP was a tool that was designed for a *job* specific to that time. Finding the nation mired in a depression of an unprecedented scale, the government at that time sought out a means by which *industrial* output might be measured, in order to determine if any of their efforts to kick-start the economy had been effective. The fallacy and crucial failure of GDP has been a story of a nation that took the growth that was in evidence during the last years of Depression and into the Second World War, and began to build its own self-image based on that solitary measure.

While the last decades have indeed seen an expansion of the GDP to include many other financial elements, this hardly means that it is the all-encompassing instrument – and reflection of national value – that its advocates so often purport it to be. In addition, it is *inappropriate*, as much now as during the 1930s, to base national policy around how best to *increase* the GDP. The externalities presented in this work are as much a testament to the ineffectiveness of GDP as they reflect a current inability to recognize these externalities because so much of modern national problem-solving centers around GDP. In order to truly consider national progress, and in order to consider the United States a truly modern and advanced nation, it must move beyond this *temporary* and *limited* measure, and broaden national consideration to include factors that are more directly related to human wellbeing. To not do so – and to continue to adhere to growth-oriented policy, the purpose of which is only to increase domestic product, is to minimize, diminish, ignore, and suppress the national conversation regarding fundamental human welfare.

That said, the GDP has not been without its *effect* on the American economy, yet even when this effect may be characterized as *positive*, the result has been a nation that is vastly different from that which it professes to be. The United States has spent the last decades arguing that it is superior to every other nation on earth for its wealth, and its growth, and the vast opportunities living in the United States presents its citizens with regard to the ability to attain vast wealth and to be swept upward by the nation's unceasing growth. However, as has been shown in this piece, this too is fallacy.

In the ever-more impressive efforts to boost the nation's economy in the decades after the Second World War, this nation has not only embraced the house of cards that is fiat currency, but it has – by hook or by crook – forced the world to play at this game as well. While the fiat American dollar, and economic policies deregulating its use and by incentivizing consumer, corporate, and government debt on and through such use, has indeed resulted in marked gains in GDP, such gains have resulted in major and notable detriments to the American economy, culture, and individual way of life. The fiat currency and growth-oriented deregulatory policy opened the door for American companies to globalize, to leverage their American holdings and move their production operations overseas, and to make major profits in the process, while leaving the American manufacturing landscape gutted. In addition, companies that did remain on American soil – again, in tireless pursuit of their own unfettered and effectively-unleashed growth-oriented policy – have spent the last decades monopolizing without end. This has had the effect of producing an American landscape where debt is endemic in government, in corporate boardrooms, and across kitchen tables, and where workers have lost their agency, their power, and as one author has argued, their *character.*

While reform to GDP to make it more reflective of human welfare seems like the solution to this problem, the time for such reform is perhaps on the wane. So calcified is the current American political landscape, particularly in terms of economics, that it seems that the priorities that were set with GDP are here to stay. For this reason, it may be necessary to move beyond GDP to consider how the American people may reform the way that they *practice economics.*

By the vast popularity of Bitcoin there might be extrapolated a trend of mistrust in government financial oversight that has up until recently had no outlet. The American government has not only spent the last eighty years misrepresenting crucial aspects of the economy, but also by building spurious economic "strength" through policies seemingly designed only to satisfy that inaccurate and woefully inappropriate measure of national wellbeing. While Bitcoin and other "crypto-currencies" have their downsides, they present an elegant solution to both problems described in this work: Not only are these currencies *fixed* in number – as the American dollar was on the gold standard – but they are fundamentally *ungoverned*.

Government policy recommendations moving forward must employ a greater focus on all economic activity, not just the behavior of some sectors. Failing that, the fundamental *dissatisfaction* with the poor priorities that have resulted from GDP and fiat currency may prove the impetus behind the growing popularity of means of moving *beyond* fiat currency to something more tangible.

Indeed, the Bitcoin model may yet prove a means by which the problems in economic measure described in this piece may be mitigated. If Bitcoin and other "crypto-currencies" become larger in scope and more expansive in their presence in national

economies, there may yet come a day when there are dedicated economic regulators and analysts who exist in the same unmoderated "cloud" as Bitcoin currently resides.

If the U.S. government maintains its focus on growth, calculated in dollars, the Internet may yet provide a solution to GDP and measured in Bitcoins, which does not fail to take into account the wellbeing of all people. Though this may seem far-fetched, the maintenance of an economy in the long term, even in a currency as unconventional as Bitcoin, relies on far more than heedless growth. In addition, the Internet, by its millions of discrete users contributing to the maintenance of a larger whole, has shown time and again its ability to problem-solve on a massive scale. To this end, it is perhaps not completely irrational to argue that Bitcoin – as its number is fixed – may be at the root of a more comprehensive *consideration* of the human welfare that is required to maintain an economy in currency that is not governed by faith. Failing that, this may succeed in forcing government to recognize crypto-currencies' potential consideration of human welfare as legitimate, and broaden its own economic considerations in order to compete.

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