



ATLANTIC CAPITAL MANAGEMENT

## **MONETARY POLICY GOES “ALL IN” ON A WEAK HAND**

**Radical Money Policies And The Radical Adjustments That Must Follow**

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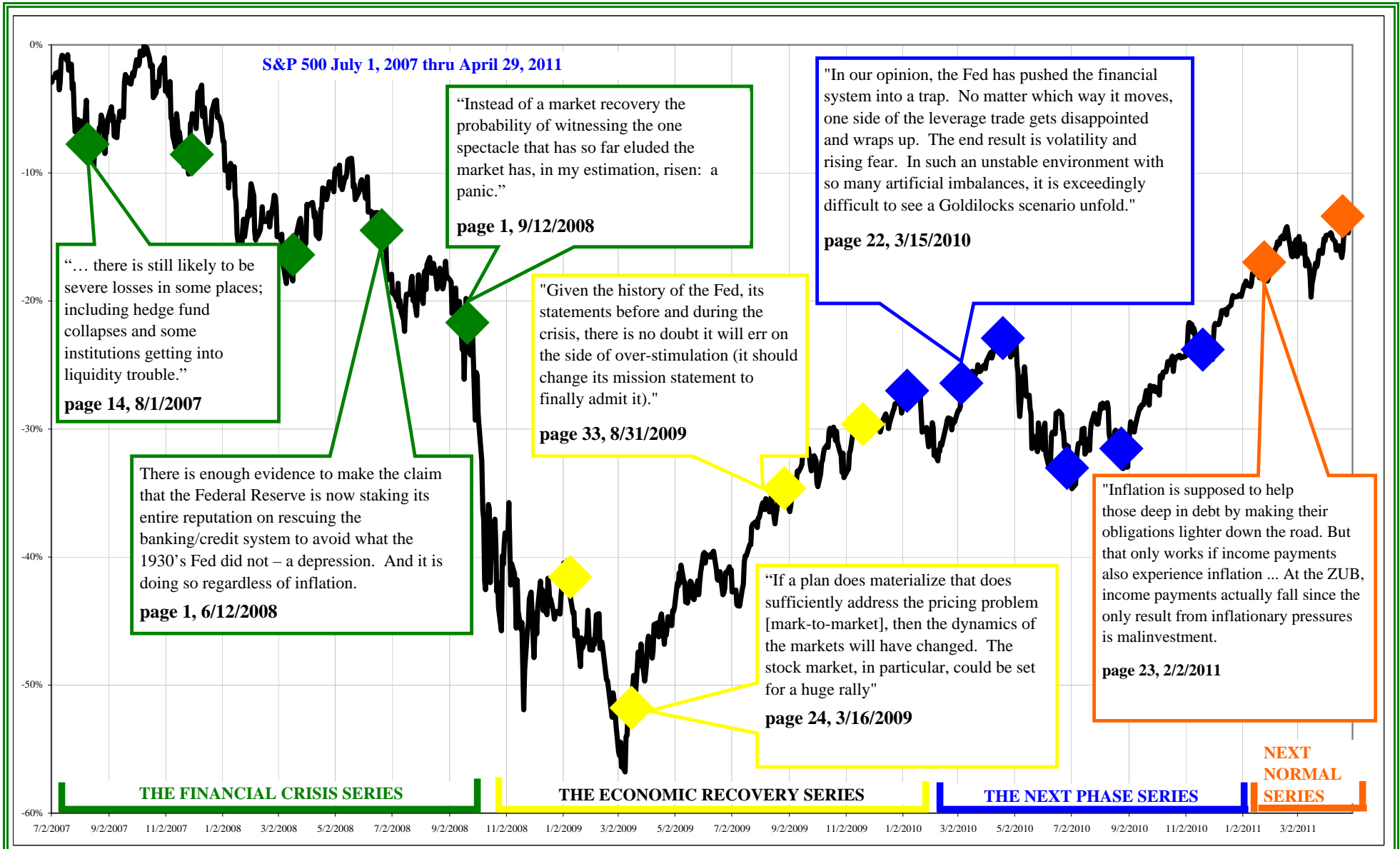
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## REPORT SUMMARY

The Federal Reserve System operates monetary policy as if economic activity during the asset bubbles was representative of true economic potential. To the Fed, the Great Recession has pushed economic activity so far below that potential it can stimulate with zero interest rates and quantitative easing well into the future, even after two years of it already.

We believe the Fed is mistaken for the reasons contained in this report. Chief among them is that The Great Recession actually brought the economy back down toward its true potential. Further than that, it is likely that the current weak recovery is still running above true potential, and that is leading to a wide array of problems. Inflation pressures are the biggest.

### Part 1 – Uniform Dollar Mistake

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There are times when monetary policy is no longer effective, a lesson that the Fed seems incapable of learning. Stimulative measures are useless in the context of a breakdown in economic specialization. The inability of the economy to foster specialization is why the recovery has not become self-sustaining. It is a fundamental issue that recognizes the difference between the Fed's estimate of economic potential and true economic potential.

### Part 2 – Debt is Dead

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To return to the Fed's idea of economic potential would necessarily mean returning to bubble-type spending, including using debt for marginal purchases. The banking system's evolution since 2008 ensures that such a reversion is completely impossible. It also means that critics of the Fed are wrong to believe the massive bank reserves (cash) created in the past two plus years will be inflationary. Inflation, as we demonstrate here, cannot be due to traditional means.

### Part 3 – Globally Diseased Dollar

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Inflation, expressed through commodity prices, is the result of a fundamental re-adjustment of purchasing power. The US dollar used to receive an innovation premium based on estimated potential growth. The economy has not performed up to these expectations, so the dollar has undergone a revaluation. The last three years have accelerated the trend. The implications of such a large fundamental shift are straightforward.

*“In our framework of understanding, money stock and true demand (quantity of goods and services for exchange) are the only two independent variables. In other words, the quantity of money should have no bearing on the real demand for the exchange of goods. Any increase in economic activity induced or enticed by the quantity or cost of money is not true demand and will be transitory (to steal a phrase from Ben Bernanke). The housing bubble is a perfect example.”*

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### Appendix I – Equations of Exchange

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A brief discussion of the difference between the traditional equation of exchange and our version. We examine why we think our arrangements are far more descriptive of the real economy and the implications of the monetary mistakes due to the Fed's use of the original.

## INTRODUCTION

### MONETARY POLICY GOES “ALL IN” ON A WEAK HAND

#### Radical Money Policies And The Radical Adjustments That Must Follow

Gold and silver prices are at levels that are unnerving a lot of people. Typically these people claim that the precious metals are in a bubble of some sort. They have to be because if the prices are “real”, and not due to a bubble, that would mean all sorts of devastating implications.

The fact that precious metals might even suggest such distress is either outright dismissed or thought of as revolutionary. The truth is that the revolution actually took place three years ago.

If we take a step back and look at the world as it was before the credit crisis and Panic of 2008, the contrast is more than striking. Policy measures undertaken by the Federal Reserve during the crisis would have been thought to be lunacy just a few months before it. The public has now become accustomed and conditioned to a financial regime that runs through Ben Bernanke. And Chairman Bernanke ensures that the public is well informed that there is, in his opinion, no other alternative. None.

This level of centralization should be more widely viewed as revolutionary, particularly as the Fed is forced to micromanage more and more. If centralization is working, then there should not be any signals to the contrary, like gold, silver, commodities, interest rates, etc.

Whenever the subject of reimposing some kind of gold standard or replacing the US dollar as the world’s reserve currency is brought up, the larger body politic simply laughs off the suggestion in a sorry fit of recency bias. The public has yet to fully grasp that the window has *already* been shattered, that the paradigm shift *already* occurred.

The movements in gold and silver are a recognition of the fundamental change that has been taking place over the past four decades. The Fed’s post-crisis response was nothing more than a revolutionary attempt at overriding the self-correction process that was already well underway.

The rising commodity prices that are pressuring all facets of the economy and markets are the visible signs of this struggle. These price increases, however, are not being driven by credit or money creation. In this very important way inflation in 2011 is nothing like inflation in 1979. That points to something far more profound.

In our opinion, the seismic shift entered its final phase when monetary policy used control over quantity and cost of money to fix a problem that had nothing to do with quantity and cost of money. If we break down, theoretically and conceptually, what has happened over the past four decades, we see a far different cause and effect dynamic that renders monetary policy essentially useless.



If we view economic growth of the past few decades as unsustainable and the collapsing bubbles as the economy’s self-correction mechanism, we begin to see that the way in which money flows is far more important than its quantity and cost.

For various reasons, the dollar has been receiving an unearned premium due to economic *potential*. As the monetarily distorted economy has failed to live up to that potential, particularly in the aftermath of two huge bubble failures, the dollar is re-adjusting. The Fed, intending to lead the economy back to some model-calculated potential, has only accelerated the re-adjustment it, in fact, started. Chaos, uncertainty and general confusion should be expected.

By disabling self-correction, the Fed has made it impossible to ever unwind its control. Because it took the economy in a way it did not naturally want to go, removing control will simply allow the economy to relapse into that natural dislocation now that the perception of economic potential has drastically changed. Creating a foundation of real, profitable, sustainable growth that flows freely and correctly for all economic actors would necessarily mean short-term pain.

So the Fed has two unappealing alternatives. One is to allow this natural process to continue, knowing that the short-term will likely be bad, to put it mildly. There is a precedent for this: the 1920-21 depression was severe but remarkably short.

The other is to assert more and more control over the economy with the misplaced idea that central control can actually work some day. The more centralized the economy becomes, the more malinvestment grows. There also is a precedent for this option: the 1937 depression within a depression.

The revolutionary artifacts of this second alternative are already leading to another crisis. Inflation this time is about the dollar itself, a radical departure from history and expectations.

Unfortunately for us, the Fed believes the latter option can be successfully implemented. Because it has not detected classic inflation, it does not believe in the growing resistance and imbalances – they are “transitory” and will supposedly revert to their historical mean. In the end, though, the Fed’s sorry history of predictions actually validate the price of precious metals and the dollar’s fall into disrepute.



## Part 1 Uniform Dollar Mistake

Before getting into the monetary entanglements, we want to demonstrate the perversion of the definition of money. By unpacking this particular example, we can begin to see that the foundation of modern monetary “science” is unconvincing at best. It is also a good starting point for our discussion of how money flows is more important than quantity or cost.

The largest single item in the official GDP calculations is called the “imputed rental value of owner-occupied housing”. It is a technical way of saying that the Bureau of Economic Analysis (BEA) estimates how much homeowners who live in their own homes would *pay themselves* in rent. This estimate is then included in the “services” segment of personal consumption expenditures (PCE).

Because this imputation applies to a very large segment of the population it is a huge number. As of the end of 2009 (the latest estimate available), the imputed rental value was **\$1.2 trillion**, or 12.1% of PCE, and **8.6% of overall GDP**. With this one item making up such a large part of overall GDP there should be much more scrutiny surrounding its inclusion. After all, there is nothing straightforward about it.

The BEA looks upon these homeowners who live in their own homes as unincorporated businesses. Since they are a business they have to have some kind of income, so the BEA assigns them an income of what it estimates a homeowner could potentially get by renting out their house. In other words, they are saying that if you own and live in your home, you actually pay yourself *potential* rent based on current market conditions.

This sounds especially ridiculous in the theoretical context of what GDP itself is supposed to be, i.e., what is *actually* produced within an economic system during a specific time period. However, there is a technically sound argument for this imputation. The BEA

wants to keep the housing segment of GDP “invariant to how certain activities are carried out”<sup>1</sup>. In terms of owner-occupied rent, the BEA is trying to make sure that GDP is not higher during periods when a larger portion of the population is actually *renting* homes. Conversely, if there were no imputations made, a dramatic shift into home ownership (such as the housing bubble) would actually *shrink* GDP without this estimate. Home ownership is economically desirable and consistent with general economic health, so perhaps imputation is not such a bad idea.

There is an “extreme” example that shows exactly what they are trying to accomplish:

“Imputations may seem more natural if one imagines the extreme case of an agrarian society where people build their own homes and raise most of their own food; here GDP would be near zero with no imputations.”<sup>2</sup>

This is a very effective example. If everyone built their own home, housing-related GDP *should* be something greater than zero. After all, a good was produced. Similarly, if everyone grew and raised their own food, then food-related GDP *should* also be greater than zero. So the BEA assigns a dollar value and includes the housing imputations in its calculations of the value of total production.

While we agree that GDP should be something greater than zero, it is not at all clear that that something should be dollars. In that example, it is absolutely true that a good is produced, but the *dollar value* of that good is appropriately zero. The BEA takes the meaning of a dollar to be a uniform measure of quantity. But in this extreme example and in the larger context of modern monetary science, producing one’s own house or food should not be valued in dollars at all.



If we view dollars as nothing more than a means of exchange, then producing your own necessities means that you have no use for dollars. Any energy you undertake to furnish yourself with daily needs and wants contributes nothing toward anyone else in society. So what we are truly measuring through dollar terms is the potential ability to **exchange** productive endeavors. In other words, by using dollars we are really measuring the economic impact of labor specialization.

In the context of home ownership, if you have no intention of ever renting out your house, then your home does not contribute to society’s ability to foster specialization. Living in your own home does not put someone else to work. Renting your home may, so perhaps invariant GDP is not appropriate after all.

GDP should attempt to measure the ability of a societal economic system to allow specialization through exchange, with particular emphasis on whether that system is broadening or shrinking. In basic terms, this means that the more you do for yourself, the less someone else can specialize, and therefore will have to do more for themselves as well.

This is exactly what we have seen during the “Great Recession”. People have eaten out less than they did before 2008. The term “staycation” was coined as a way to describe people entertaining themselves rather than hire someone else for recreation. Ask any tax accountant how business has been and they will tell you that self-preparation has become a threat to their existence. The unemployed no longer need daycare. And on and on.

So the questions have to be asked: why are there no imputations for self-preparation of taxes? Or for eating at home? Why are there special rules for shelter only?

At best these imputations are inconsistent. If we measure exchange potential for shelter and include it in GDP, then should we not impute the *potential* for exchange for a whole host of activities? In the end, that is exactly what the BEA is doing. It is measuring the dollar value

of potential exchange of an assumed “good” called shelter.

In reality, if you currently have no *intention* of exchanging that good, it should not be measured in dollars at all. It does not matter if you have the ability to change your mind and intend to do something else later in time. Just because a good or assumed good exists does not mean that it is worth something in dollars. Its intrinsic value is not uniformly a function of money; the money description of value is always derived from intent to exchange.

This generalized treatment of the dollar is exactly the misguided definition we are talking about. It is a mistaken application of Say’s Law that seems to be at play. Say’s Law basically says that goods are produced automatically with the intent to be exchanged. The BEA is applying this “law” to the dollar value of shelter, an assumed good, without ever considering ability or alternate intentions/uses. Or even if services exist in the same way goods do. The BEA obviously considers their existence as automatically a part of the exchange equation, and therefore a part of total economic capacity.

We can modify the “extreme” example to demonstrate this point with a little more clarity, particularly with regard to monetary assumptions. In this allegory, we will assume that a very large segment of Americans over several years decide to grow/raise their own food and make their own clothes, setting aside the reasons and necessary capabilities associated with the change (this is an allegory, after all). Outside of the initial spike in exchange activity to prepare and acquire the ability to become food and clothing self-sufficient, this massive change would subtract an enormous amount of economic activity. Grocery and apparel stores would be in oversupply and would have to contract. Corporate farms would go out of business, as would some of the family farms that produce too large of a surplus. Warehousing, transportation and most parts of the supply chain would wither.

Such a dramatic shift in the “intent” of production would cause a massive drop in the



economy’s ability to allow specialization. But the amount of actual goods produced would be nearly identical! Is it then appropriate for the BEA to make sure GDP is invariant? Of course not. Dollars in the context of our allegorical lack of exchange no longer have any meaning for those producing their own food and clothes.

Whether we assume that the BEA does or does not impute this process and keeps the “dollar” value of GDP invariant, monetary authorities would surely react to the sudden rise in unemployment by administering “stimulation”. In the current framework of monetary science, the Fed would see sufficient slack in production *potential* to allow for “accommodative” monetary policies, including an increase in the supply of dollars and a reduction in the cost of credit (interest rates).

Adding to the stock of money would have absolutely no impact on our self-producers. It would not matter at all how much money they have in their pocket at any time, or at what interest rate they could borrow. The motivation for exchange does not lie within the quantity or cost of money. We might even say that food production grows inelastic to money supply and/or cost. We could even say that the propensity to exchange food and clothing goods is itself becoming invariant.

For the larger economy, this dislocation should trigger a fundamental re-allocation of resources away from food and clothing production. The excess supply of labor and capital has to shift to another segment of production that is more accommodative of specialization. If the now out of work food and apparel producers cannot find an activity to keep them producing something for exchange, those unemployed will be reduced to becoming self-sufficient themselves. The economic “slack” created by this inversion of specialization is self-reinforcing, making this transition especially difficult.

Under the uniform money assumption that economists hold, the newly created money and cheap credit from monetary accommodations should foster this transition and ease its burden on the displaced. But in reality, economic

reallocation is not at all related to money stock – it is the resultant aggregate view of business that any reallocation efforts will be fully profitable and sustainable. The *amount* of money in circulation does not affect long-term profitability or sustainability. Instead, it is *the way* that money is circulating that determines both, as we shall see further on.

Money creation does, however, create a massive imbalance in the equation of exchange. Contrary to the accepted equation, we see the equation of exchange as simply the amount of dollars in existence divided by the amount of goods produced *for exchange*. In our allegory, the amount of goods produced *for exchange* has fallen dramatically (even though total amount of goods has remained constant) while the total amount of dollars has increased. The result of our equation of exchange is nothing more than the general level of prices, i.e., inflation.

In other words, we get high inflation and high unemployment concurrently.

We can use this allegory as a window into what we actually see happening today in the economy and markets. The conditions and characteristics of the various marginal economic actors are leading to an economic situation whereby specialization has broken down, and money stock measures will have no loosening or stimulative effect. In the allegorical example of our equation of exchange, the denominator was the amount of goods produced for exchange. In the real economy this is the same as the real potential for goods and services. That is, the amount of goods and services produced for exchange at profitable and sustainable levels, free of monetary entanglements.

To say that we have high unemployment is to point out the obvious. According to the Bureau of Labor Statistics’ (BLS) assumptions-adjusted labor survey, there are 7,038,000 fewer jobs in March 2011 than there were at the January 2008 peak. The BLS further estimates that there are 779,000 fewer people “in the labor force” across the same time period. Adjusting for population growth, it is likely that well more than 1 million individuals have left the labor force altogether,



meaning that 1 in 7 that had jobs at the outset of 2008 are no longer even looking for one. Clearly this data is showing exactly the kind of characteristics you would expect to find in an economy undergoing specialization reversal.

Digging deeper into the data we see that almost 23% of the job losses came from wholesale and retail trade activities. Twenty-one percent of the overall reduction came from durable goods manufacturing, while a massive 28% were in the construction sector. The professional and business services segment, which includes accountants, architects and attorneys among others, accounted for almost 14% of the total.

These five sectors amount to 85% of all job losses since January 2008, but make up only 45% of the overall employment picture. These sectors demonstrate a shrinking supply chain. They also pick up a decline in certain segments

of the service sector, itself very susceptible to specialization reversal. Hardly anyone produces their own goods because labor specialization and capital intensity are the primary considerations for exchange. Many service sector tasks, on the other hand, have relatively low barriers to remove specialization and are therefore more respondent to changes in intent.

The massive job losses sustained by the economy within these sectors are highly suggestive of a situation similar to our allegory. It does not take much to figure out why this occurring; one only has to look at the savings rate. The return of a modest savings rate demonstrates all we need to know about the *intent* to exchange goods and services at the marginal level. Because households are spending proportionately less, they are replicating the results of our self-producers.

The same is true for businesses. Most of the decline in dollar-measured GDP during the Great Recession related to business spending as firms sought to re-examine every aspect of their operations. A lot of excess was eliminated, including excess business-to-business spending – such as contracting out to accomplish a task or produce some part of the production chain; the entire consulting industry is an example of *specialization within the business segment*. Productivity has certainly played a role here in fostering specialization reversal, but this goes well beyond just squeezing existing employees.

In the process of reducing participation in the spending cycle, households and businesses are doing more for themselves at the margins and eliminating the ability of the economy to foster specialization. This is a much more durable and profound change in behavior that is far more significant than a simple lack of demand (as in a cyclical recession/recovery). It is the answer to the economy’s inability to create more than the 1.8 million jobs since the February 2010 trough (especially considering that so many of those have been part-time and low-value).

Participation in the spending cycle, for us, is described by our velocity *function*. Velocity is a *variable* in the traditional equation of exchange

### FIGURE 1-1

#### Traditional Equation of Exchange

$$M * V = P * Q$$

**M** is the nominal supply of MONEY

**V** is the VELOCITY of money circulation

**P** is the general PRICE level

**Q** is the general QUANTITY of goods and services produced

#### ACM Equation of Exchange

$$\frac{M}{Q} = I, \text{ where } I = F(V)$$

**M** is the nominal supply of MONEY & CREDIT

**Q** is the general QUANTITY of goods and services produced *for exchange*

**I** is general inflation

**F(V)** is the VELOCITY FUNCTION that describes the manner and type of I

SEE APPENDIX I ON PAGE 25



(Figure 1-1). The primary reason we moved away from the traditional equation is that it is misleading in how it arranges the variables such that each can directly affect the others. All variables are essentially given equal opportunities to do so. The equation itself is not at all descriptive of how interest rates and credit production affect each of the variables outside of very rigid, static assumptions.

In our framework of understanding, money stock and true demand (quantity of goods and services for exchange) are the only two independent variables. In other words, the quantity of money should have no bearing on the real demand for the exchange of goods. Any increase in economic activity induced or enticed by the quantity or cost of money is not true demand and will be transitory (to steal a phrase from Ben Bernanke). The housing bubble is a perfect example. Easy credit enticed economic activity that was unsustainable and economically damaging over the longer-term, requiring a severe dislocation to clean it up. The unsustainable activity was signaled through housing price inflation, and then consumer inflation into 2008.

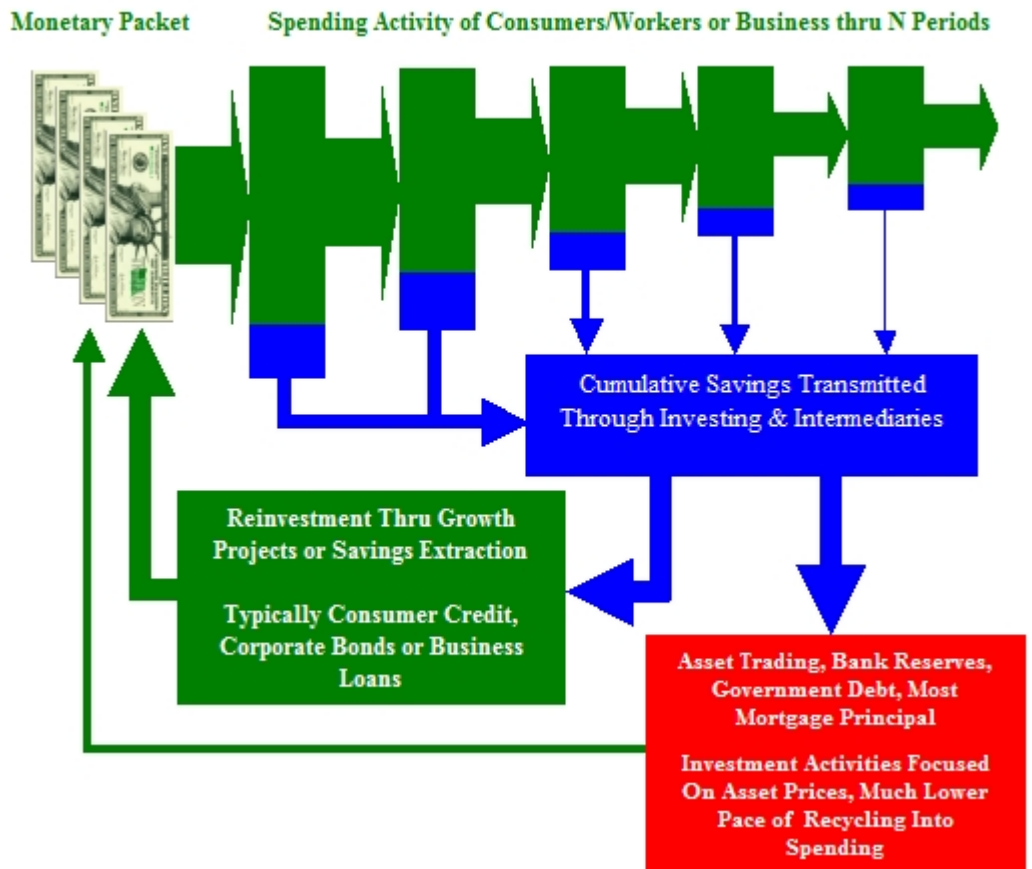
In our equation of exchange, velocity is the function that describes the inflation methodology. The velocity process (for easier comparison with the traditional equation, we reluctantly use the term “velocity” even though it is really a much fuller concept than simply the speed of money) is the channeling that demonstrates how any imbalance in the primary equation is transmitted. It is in this process that interest rates and price signals operate, and where revolutionary monetary policy has been so damaging (more on this in Part 2). It also

determines the amount of non-productive consumption and activity, such as activity tied to asset bubbles (for more on this, see Appendix I on Page 25).

If money growth outpaces true demand, then we expect some form of inflation. Depending on the structural interference in interest rates and relative income opportunities, the velocity function (Figure 1-2) channels money between general spending (the green areas) and general saving (the blue areas). If conditions generally favor spending during an imbalance, then we would expect to see consumer prices rise. If conditions favor price action, we would expect asset inflation (which can leak into consumer inflation). The way in which excess money flows determines malinvestment.

In our allegory above, the self-producers are locked out of this velocity flow since they have *intentionally* reduced their economic participation. So the creation of additional money would simply circulate within and amongst the remaining participants, with more money chasing fewer goods for exchange and/or

FIGURE 1-2





a stable supply of financial assets.

The question for the Fed and monetary policy is whether the quantity and cost of money can influence intent. Certainly the Federal Reserve is betting that it will. Intent, however is more than just desire, it is also a measure of ability. We have very little doubt that there is pent up desire for a return to the “best” days of the housing and/or dot-com bubbles. The problem is that money-driven wealth destruction has re-adjusted the proportion of ability and desire. Whereas desire may remain off the charts, enough of the population has begun to reconsider their own ability such that intent has been drastically altered.

For the Federal Reserve to be successful at influencing intent, two factors would be required. First, it would require funding sources that are well above the current means of most households and small businesses. Because a large segment of the population cannot access additional funding, either wages or debt, they are *forced* to mimic marginal self-producers, continuing to do so until the funding system (velocity process) changes dramatically. It cannot be stated strongly enough that much of the specialization created by the asset bubbles was really malinvestment and not sustainable. Without access to debt much of the population simply cannot spend like they did pre-crisis

(again, a structural change as opposed to cyclical) and most of them now recognize this as an unchangeable fact – there are still holdouts, particularly squatters that simply stop making debt repayments.

Second, and in many ways more important, the current inflationary environment is entirely different from the classical sense. The equation of exchange also applies to economic activity on a global scale, including re-allocation of purchasing power between currency zones. As this revaluation continues, it essentially taxes the reluctant self-producers by taking away even more marginal spending power, adding another layer to lost spending ability that monetary policy would have to overcome.

This was all a rather long-winded (and unfortunately necessary) way of simply saying that the economy of the bubble periods was well above true potential, and it is not possible at this juncture to return there. This current re-adjustment will happen whether or not monetary stimulus is added. In fact, as we will see in Parts 2 & 3, because intent has been altered, monetary accommodations just add more fuel to the malinvestment fire. Our equation of exchange and allegory explain the lack of employment growth and weak recovery far more than any attempt to perceive economic “slack”.



## Part 2 Debt Is Dead

Despite the persistent rhetoric that low interest rates will stimulate the economy through an increased appetite for credit, the evidence just does not agree with that theory. Credit has contracted throughout the credit system regardless of cost (Chart 2-12). We have argued on several occasions that the current interest rate structure is the opposite of stimulative.

From our March 2010 report:

“Previously, banks were able to leverage all manner of credit risky assets within the repo market (for funding leverage) and securitizations (for regulatory leverage). Even though interest rates on risky assets were nominally low, the low cost and easy access to leverage overcame that pricing anomaly (risky assets are not supposed to be low interest). To put it another way, intermediaries had to use leverage in a low rate environment to make it worthwhile on a risk adjusted basis to commence the most basic of lending activities (as we stated before, no one wants to make just 4% on a carry trade in riskless assets, let alone in riskier assets).

After the crisis, as we demonstrated above, liquidity and safety rule the leverage roost. The securitization markets have nearly ceased (and will completely dry up after full implementation of FAS 166 & 167) and repo leverage is restricted to US Treasuries or agency collateral – the most liquid of fixed income classes. With interest rates historically low, meaning spreads above lower risk assets tight, there is no incentive to lend to anyone other than the US Treasury, or in any form that will get shut out of repo financing (remember the swap trades are overpriced).”<sup>3</sup>

Our conclusion that there is no incentive to lend to any non-securitized obligor extends beyond the boundaries of the US. It also includes the Eurozone and explains why so many banks were willing to move money into PIIGS debt – because sovereigns were the only repo-eligible substitute for mortgage-bond tranches. By mid-2010, banks

in Europe were in crisis because they had too much sovereign debt in repo financing arrangements. The potential haircut adjustments on the PIIGS were beginning to snowball into a repo/liquidation panic akin to the mortgage-bond fiasco of 2008.

Both events supposedly demonstrated a “quantity of money” problem and the “solutions” to them were an alteration/expansion of the money supply. Or so it seemed on the surface.

The European Central Bank (ECB) tried to sterilize its bond purchases through offsetting deposit programs with Eurozone banks. Troubled banks could sell their PIIGS bonds to the ECB, thereby increasing the overall quantity of money in the banking system. The ECB then took a parallel amount out of other banks by locking them up in what was essentially an ECB-sponsored CD. So the net result was really a transfer of funds from banks with adequate funding to banks with shaky repo funding due to potential PIIGS haircuts. The interim step also had the benefit of removing the problem assets from the troubled banks, sequestering them safely on the ECB’s books where losses have no meaning.

The problem for the ECB is that by fooling with the quantity of money, acting as an intermediary between good banks and bad banks, only the symptoms were dealt with. The quantity of money problem was not a primary cause, it was derivative of the larger problem of economic potential.

In the US, the Federal Reserve used a similar approach. It reshuffled bank assets away from the bad banks. But instead of acting as an intermediary, it acted as the good bank itself. The net result for the Federal Reserve System as a whole was a massive increase in bank reserves, i.e., cash. But in viewing this newly created pile of money as potentially inflationary, Fed critics are leaving out a critical piece of the puzzle.



Despite increasing the quantity of money, it cannot possibly flow as desired. The banking system is undergoing a radical and healthy shift that has removed all incentives to lend as it did in 2003 to 2007. In attempting to restart bubble-based means of spending, central banks are guaranteeing their own failure. Instead of allowing changes in the banking system to work themselves out, the Fed and ECB are endeavoring to “manage” the changes since they want their economies to return to their calculation of economic potential.

The Fed provides a somewhat useful, simplistic example of its actions in a July 2009 paper, “Why Are Banks Holding So Many Reserves?”<sup>4</sup> The paper uses a theoretically example of two banks with identical deposit reserve requirements of 10%, as well as identical depository and capital bases. The one difference between them is that Bank B “has access to a larger pool of lending opportunities.”<sup>5</sup>

According to the example, Bank A estimates that it is profitable to lend out \$50 to the economy-at-large and then use its remaining excess reserves to lend \$40 to Bank B. Bank B now has the ability to lend out \$130 to the economy-at-large and still maintain its 10% deposit reserve ratio (Figure 2-1).

**FIGURE 2-1**

| BANK A          |    |             |     | BANK B     |     |               |     |
|-----------------|----|-------------|-----|------------|-----|---------------|-----|
| Assets          |    | Liabilities |     | Assets     |     | Liabilities   |     |
| Reserves        | 10 | Deposits    | 100 | Reserves   | 10  | Deposits      | 100 |
| Loans           | 50 |             |     | Loans      | 130 | Due to Bank A | 40  |
| Due From Bank B | 40 |             |     |            |     |               |     |
| Securities      | 10 | Capital     | 10  | Securities | 10  | Capital       | 10  |

During the financial turmoil in 2008/09, the interbank market essentially froze. For the simple example above, it meant that Bank A’s loan to Bank B was probably short-term and required rolling over. As the crisis worsened, Bank A likely grew wary of Bank B’s ability to repay or its posted collateral, and refused to roll the loan. At this point, Bank B would have been forced to liquidate some of its \$130 loan portfolio to pay back Bank A.

Since massive liquidations are not part of the Federal Reserve’s elastic money supply mandate (its original and primary directive), the Fed decided it had to step in. It, effectively, bought the Bank B loan from Bank A at par, and in doing so increased Bank A’s excess reserves:

**FIGURE 2-2**

| BANK A     |    |             |     | BANK B     |     |             |     |
|------------|----|-------------|-----|------------|-----|-------------|-----|
| Assets     |    | Liabilities |     | Assets     |     | Liabilities |     |
| Reserves   | 50 | Deposits    | 100 | Reserves   | 10  | Deposits    | 100 |
| Loans      | 50 |             |     | Loans      | 130 | Due to CB   | 40  |
| Securities | 10 | Capital     | 10  | Securities | 10  | Capital     | 10  |

“The goal of the central bank’s lending policy here is to mitigate the effects of the disruption in the interbank market by maintaining the flow of credit from the banking sector to firms and households. The policy is highly effective in this regard: it prevents Bank B from having to reduce its lending by



\$40. This simple example illustrates how such a policy creates, as a byproduct, a large quantity of excess reserves.”<sup>6</sup>

Notice the rise in systemwide reserves from Figure 2-1 (Bank A’s \$10 + Bank B’s \$10) to Figure 2-2 (Bank A’s \$50 + Bank B’s \$10).

In Figure 2-3, the central bank goes further by lending directly to the economy-at-large through its extraordinary programs, such as “lending to primary dealers and other financial institutions, opened currency swap lines with foreign central banks, purchased mortgage-backed securities guaranteed by certain government-sponsored enterprises (GSE’s) and directly purchased debt issued by housing-related GSE’s.”<sup>7</sup>

Here it lends \$40 directly to Firm X with deposit accounts at Bank A. The net effect is an increase in Bank A’s reserves (cash) coupled with an offsetting deposit liability.

**FIGURE 2-3**

| BANK A     |    |             |     | BANK B     |     |             |     |
|------------|----|-------------|-----|------------|-----|-------------|-----|
| Assets     |    | Liabilities |     | Assets     |     | Liabilities |     |
| Reserves   | 90 | Deposits    | 140 | Reserves   | 10  | Deposits    | 100 |
| Loans      | 50 |             |     | Loans      | 130 | Due to CB   | 40  |
| Securities | 10 | Capital     | 10  | Securities | 10  | Capital     | 10  |

Total reserves in the banking system have now increased to \$100, five times the amount in Figure 2-1. This is where critics of the Fed contend the inflationary problem lies. Bank A has the cash to lend out an additional \$76 to the economy-at-large before reaching the 10% deposit reserve requirement. This would be a massive expansion of credit and would certainly confirm those inflationary fears.

Going further, in Figure 2-4, the paper assumes that Bank A does expand lending by giving Firm X an additional \$20 loan on top of the \$40 loan Firm X has from the Fed.

“Next, suppose that Firm X uses the \$60 it has borrowed the central bank and from Bank A to purchase goods and services from Firm Y. Suppose further that Firm Y holds its deposit account with Bank B. A payment, either in check or electronic form, will be made that debits \$60 from Bank A’s reserve account and credits \$60 to Bank B’s reserve account. Bank B will then credit these funds to Firm Y’s deposit account, so that Bank B has larger assets (a \$60 increase in reserves) and larger liabilities (a \$60 increase in deposits). Meanwhile, Bank A’s reserves have fallen by \$60, as have its deposits. The balance sheets of the two banks after these transactions have been completed are depicted in Figure [2-4]. Notice that the total amount of reserves in the banking system has not changed: it is still \$100. The \$20 loan and the subsequent \$60 purchase by Firm X have simply transferred funds from the reserve account of Bank A to that of Bank B.”<sup>8</sup>



**FIGURE 2-4**

| BANK A     |    |             |     | BANK B     |     |             |     |
|------------|----|-------------|-----|------------|-----|-------------|-----|
| Assets     |    | Liabilities |     | Assets     |     | Liabilities |     |
| Reserves   | 30 | Deposits    | 100 | Reserves   | 70  | Deposits    | 160 |
| Loans      | 70 |             |     | Loans      | 130 | Due to CB   | 40  |
| Securities | 10 | Capital     | 10  | Securities | 10  | Capital     | 10  |

“The general idea here should be clear: while an individual bank may be able to decrease the level of reserves it holds by lending to firms and/or households, the same is **not** true of the banking system as a whole. No matter how many times the funds are lent out by the banks, used for purchases, etc., total reserves in the banking system do not change. The quantity of reserves is determined almost entirely by the central bank’s actions, and in no way reflect the lending behavior of banks.”<sup>9</sup> [emphasis in original]

The central bank controls the level of reserves (cash) in the system, but individual banks move the assets and liabilities around at their whim. The paper directly addresses the issue with excess bank reserves by noting the then new policy of paying interest on them. This has the effect of negating the opportunity cost of holding those excess reserves to the point that banks do not even begin to put them to use. In this way lending is theoretically constrained by the Fed’s use of another interest rate lever.

This simple Fed example is helpful in illustrating exactly what the Fed wants illustrated. We would even go so far as to completely agree with the paper’s conclusion regarding the bank reserve lockup, but only insofar as the conclusions are limited by the simplistic terms it has laid out in its stylized example. The real world is much more complex and messy.

There are a couple of additional monetary factors at play here that were completely ignored. First, and most important, is that banks are not just constrained by liquidity reserves (deposit reserve ratio). They are also constrained through equity-loss absorption factors. Going back to Figure 2-3, Bank A could theoretically lend Firm X as much as \$76 since it does have the cash, but the real question is whether it has the *balance sheet capacity*. In fact, the deposit reserve requirement is rarely even mentioned in describing the health of any particular bank. The primary measure deals with capital, be it Tier I or Tier II. Layered on top of those is the measure of leverage.

If we analyze the effect of interbank lending in the context of these additional capital measures, something profound becomes very clear.

**FIGURE 2-5**

| BANK A          |    |             |     | BANK B     |     |               |     |
|-----------------|----|-------------|-----|------------|-----|---------------|-----|
| Assets          |    | Liabilities |     | Assets     |     | Liabilities   |     |
| Reserves        | 10 | Deposits    | 100 | Reserves   | 10  | Deposits      | 100 |
| Loans           | 50 |             |     | Loans      | 130 | Due to Bank A | 40  |
| Due From Bank B | 40 |             |     | Securities | 10  | Capital       | 10  |
| Securities      | 10 | Capital     | 10  |            |     |               |     |

**SYSTEMWIDE LEVERAGE = \$220 Total Loans, \$20 Total Capital = 11x1**



If Bank A had never made the loan to Bank B, instead lending the money to the economy-at-large itself, total loans would equal \$180 on a capital base of \$20. This would have yielded a systemwide loan leverage ratio of 9x1. Figure 2-5 re-examines Figure 2-1 to capture the leverage effect due entirely to interbank lending. There is absolutely no change in lending to the economy at large, still \$180. But total loans grow to \$220, pushing leverage levels significantly higher.

Not only that, while Bank A’s ratios remain intact, all of the leverage is added at Bank B. But in the Fed’s discussion, Bank A and Bank B are identical in terms of liquidity ratios. Clearly that is not enough when discussing risk or constraints on lending.

The “progression” in banking over the last thirty-plus years actually follows this simple example. Aided and abetted by regulators and large Wall Street institutions, the financial system was actually *designed* for this to happen.

In our examples above, Bank A is a simple depository institution while Bank B is really an investment bank. That does make this example invalid on its face since the investment banks had no depository requirements (since they collected no deposits) and it makes the Fed paper deviously misleading.

Perhaps we could give the paper’s authors the benefit of the doubt in that they were simply trying to compare apples to apples – the actions of the monetary authority within the confines of the regulated depository system. And, in fact, all the monetary actions were completed within those confines since the last of the standing investment banks converted during the Panic of 2008. But, as Figure 2-5 amply shows, a lot of explanatory power is lost by ignoring the history of how interbank lending evolved.

The one, single biggest change to the banking system during the Great Moderation (a terribly and purposefully misleading term) is the conversion of the financial system from deposit-based to debt-based (Chart 2-13 on page 18). It may seem like an innocuous change, but it was significant. Depository firms invested their funds in loans, by and large. Debt-based firms, like the investment banks, invested their funds in securities. The fundamental idea of bank liquidity itself was completely altered: liquidity used to mean cash on hand to repay depositors, now it means how easily an asset is sold to repay debt financing.

When the Basel I framework was finalized in 1988, it rearranged the definition of bank risk. A firm’s traditional liquidity relationship to its deposit base (the *liability* side of the balance sheet) was not enough to fully describe how risky it was. Conceptually, the framework made perfect sense: riskier *assets* would describe a riskier bank. Basel I put a bank’s assets into one of five “buckets”, assigned them a “weighting” and then required the bank to maintain 8% “capital” against those risk weighted assets (see Figure 2-6).

Before Basel I, the only incentive banks had to hold one asset class (or loan obligor) over another was the risk/return relationship. After

## FIGURE 2-6

### BASEL I - BUCKETS

- 0% - Cash, central bank and government debt
- 20% - Development bank debt, OECD bank debt, OECD securities firm debt, non-OECD bank debt (under one year maturity) and non-OECD public sector debt, cash in collection
- 50% - residential mortgages
- 100% - private sector debt, non-OECD bank debt (maturity over one year), real estate, plant and equipment, capital instruments issued at other banks

Banks must maintain capital equal to at least 8% of its risk-weighted assets (RWA).

## FIGURE 2-7

### RECOURSE RULE – RATINGS BUCKETS LONG TERM SECURITIES

- 0% - AAA to AA-
- 20% - A+ to A
- 50% - BBB+ to BBB-
- 100% - BB+ to B-
- 150% - Under B-



Basel I adoption, banks were given the opportunity for regulatory arbitrage. That is, they wanted to maximize the size and return capabilities of their portfolios in relation to their capital base. That meant re-evaluating asset classes in terms of regulatory capital effects. This was also a major shift into micromanagement over financial firms by regulators.

Depository institutions took a major step backward during and after the Savings & Loan crisis of the late 1980's and early 1990's. We have discussed the impact on the financial system in several reports over the past three years, so we will simply summarize our findings. The mortgage market was almost entirely taken over by the GSE's and their securitization-based model of lending. Corporate and consumer credit, to a smaller degree, were taken over by investment banks (corporate bonds) and finance companies.

The development of security-based credit in the 1990's gave rise to the impetus to match this style of lending to the regulatory framework. Wall Street wanted buckets for securities as well as loans. This would effectively extend regulatory arbitrage from asset classes all the way down past individual obligors to individual securities within a single obligor – a revolutionary development that fostered offbalance sheet re-arranging. There were proposed rules to adopt a ratings-based approach as early as 1994 and 1997. But Wall Street would have to wait until 2001 with the adoption of the “recourse rule”. Essentially, as of January 1, 2002, banks would now be able to calculate the risk weights of *securities* based on Standard & Poor's, Moody's and Fitch's ratings systems (Figure 2-7).

From the recourse rule:

“Investors rely on ratings to make investment decisions. This reliance exerts market discipline on the rating agencies and gives their ratings market credibility. The market's reliance on ratings, in turn, gives the agencies confidence that it is appropriate to consider

ratings as a major factor in the risk weighting of assets for regulatory capital purposes.”<sup>10</sup>

The traditional risk/return basis for lending was now a fading memory; regulatory arbitrage and the outsourcing of decision-making were the rules of the game. Centralization meant that banks no longer decided something so fundamental as their own creditworthiness. The recourse rule itself is a perfect example of the tortured logic that often defines centralized control: the market should rely on ratings agencies because their existence is based on them being correct, even though the market really does not care that they are correct, only that they have ratings agencies to create ratings.

Depository institutions that remained were now significantly disadvantaged. Under their regulator framework, residential mortgages, for example, that were assigned a 50% weighting under Basel I were no match for the 20% weighting assigned to a AAA or AA-rated mortgage-backed security. Securitization and balance sheet leverage were the primary drivers of financial profitability.

The depository institutions then began to simply act like Bank A. They bought securities from Bank B and Bank B's SIV's or other off-balance sheet arrangements, or MBS tranches from Fannie Mae and Freddie Mac. The interbank market exploded, along with systemwide leverage. The market for repurchase agreements (repo) also grew exponentially, creating a source of extremely cheap funding for all these new kinds of securities. Eligibility for repo funding was also, surprise, ratings-based, governed by a “haircut” regime. Banks now had far too powerful incentives to lend through securities in what we have called “dual leverage”: regulatory arbitrage and the lowest average funding cost. Dual leverage brought with it unaccounted for rollover and liquidity (new definition) risk. Depository liquidity (old definition) was an anachronistic fantasy since marginal funding was almost entirely debt-based.

Going back to Figure 2-3, we see that there are \$130 in loans to the economy-at-large that need



to be described by the actual buckets of risk-weighted assets (cash is not included since it is a zero RWA; it is assumed that the \$10 in securities is US treasuries).

**FIGURE 2-8**

|           |           |             |           | BANK B                    |     |             |     |
|-----------|-----------|-------------|-----------|---------------------------|-----|-------------|-----|
|           |           |             |           | Assets                    |     | Liabilities |     |
| Bucket    | Face Amt  | Risk Weight | RWA       | Reserves                  | 10  | Deposits    | 100 |
| US Treas  | 10        | x 0         | 0         | Loans                     | 130 | Due to CB   | 40  |
| AA MBS    | 70        | x 20%       | 14        | Securities                | 10  | Capital     | 10  |
| Res Mtgs  | 30        | x 50%       | 15        |                           |     |             |     |
| Cons Cred | <u>30</u> | x 100%      | <u>30</u> |                           |     |             |     |
|           | 140       |             | 59        |                           |     |             |     |
|           |           |             |           | <b>CAPITAL BASE = 17%</b> |     |             |     |

If we assume that Bank B has \$30 in consumer credit and \$100 in a mortgage portfolio, it can reduce its risk-weighted asset capital ratio by shifting some of its residential mortgage portfolio into AA-rated MBS securities. That would lead Bank B from a 13% capital ratio to 17%, a noticeable improvement. Better capital ratios allow Bank B to invest significantly more funds in total, plus Bank B captures the added bonus of repo funding to reduce its overall cost of capital.

For the sake of this example, we will assume 10% is the minimum capital base and 15% is considered “well-capitalized”.

**FIGURE 2-9**

|           |           |             |           | BANK B                    |     |             |     |
|-----------|-----------|-------------|-----------|---------------------------|-----|-------------|-----|
|           |           |             |           | Assets                    |     | Liabilities |     |
| Bucket    | Face Amt  | Risk Weight | RWA       | Reserves                  | 10  | Deposits    | 100 |
| US Treas  | 10        | x 0         | 0         | Loans                     | 130 | Due to CB   | 40  |
| AA MBS    | 70        | x Mixed     | 56        | Securities                | 10  | Capital     | 10  |
| Res Mtgs  | 30        | x 50%       | 15        |                           |     |             |     |
| Cons Cred | <u>30</u> | x 100%      | <u>30</u> |                           |     |             |     |
|           | 140       |             | 101       |                           |     |             |     |
|           |           |             |           | <b>CAPITAL BASE = 10%</b> |     |             |     |

After it was learned that ratings agencies were not totally captured by market discipline and were instead captured by flawed math and over-reliant on static assumptions, the downgrades of the MBS tranches commenced and capital ratios cratered. In Figure 2-9 we assume that there was a mix of downgrades, some a couple notches, some more severe, that raised the risk weightings on the MBS portfolio to a blended 80%. The effect on the capital ratio is pretty straightforward. Regulatory arbitrage and reliance on ratings agencies allowed Bank B to present itself as “well-capitalized” when in reality it was barely at a minimum. Any additional downgrades to its MBS portfolio would push it under the minimum standard.



**FIGURE 2-10**

|           |           |             |           | BANK B                    |     |             |     |
|-----------|-----------|-------------|-----------|---------------------------|-----|-------------|-----|
|           |           |             |           | Assets                    |     | Liabilities |     |
| Bucket    | Face Amt  | Risk Weight | RWA       | Reserves                  | 10  | Deposits    | 100 |
| US Treas  | 50        | x 0         | 0         | Loans                     | 130 | Due to CB   | 40  |
| AA MBS    | 30        | x Mixed     | 24        | Securities                | 10  | Capital     | 10  |
| Res Mtgs  | 30        | x 50%       | 15        |                           |     |             |     |
| Cons Cred | <u>30</u> | x 100%      | <u>30</u> |                           |     |             |     |
|           | 140       |             | 69        | <b>CAPITAL BASE = 14%</b> |     |             |     |

In response to the capital ratio erosion, Bank B had to get rid of a large part of its MBS portfolio. There were also parallel mark-to-market charges being applied to earnings that were diminishing Bank B’s original capital position. Fortunately, the Fed stepped in and bought the MBS. To rebuild its capital ratio, Bank B now has little choice – either hold the created cash or switch into US Treasuries. We assume it chose the latter due to the zero interest rate policy (ZIRP) of the Fed and the desire to preserve repo funding.

During the “recovery” period, capital ratios were augmented by equity issuance and earnings growth; the latter driven by ZIRP (the tax on savers) and changing loan loss provisions. While we have not depicted these in Figure 2-11, we do show the change relevant to our discussion here. We assume that Bank B received an increase in reserves due to the Fed’s QE 2.0 program, meaning that there was no offsetting liability. Bank B now has extra cash to put to use. For simplicity’s sake we have assumed three broad choices:

**FIGURE 2-11**

|           |           |             |           | BANK B                                   |     |             |     |
|-----------|-----------|-------------|-----------|--|-----|-------------|-----|
|           |           |             |           | Assets                                   |     | Liabilities |     |
| Bucket    | Face Amt  | Risk Weight | RWA       | Reserves                                 | 40  | Deposits    | 100 |
| US Treas  | 50        | x 0         | 0         | Loans                                    | 130 | Due to CB   | 40  |
| AA MBS    | 30        | x Mixed     | 24        | Securities                               | 10  | Capital     | 10  |
| Res Mtgs  | 30        | x 50%       | 15        |  |     |             |     |
| Cons Cred | <u>30</u> | x 100%      | <u>30</u> |  |     |             |     |
|           | 140       |             | 69        |  |     |             |     |
| US Treas  | +30       |             | 0         | <b>CAPITAL BASE = 14% PLENTIFUL REPO</b> |     |             |     |
| Res Mtgs  | +30       |             | 15        | <b>CAPITAL BASE = 12% NO REPO</b>        |     |             |     |
| Cons Cred | +30       |             | 30        | <b>CAPITAL BASE = 10% NO REPO</b>        |     |             |     |

Bank B has very limited options with regard to its capital position. The best option is obviously US treasuries (or other sovereign bonds that are at least AA-) or cash. Dual leverage has essentially locked out any illiquid or unrated credit, which is almost every non-corporate or non-governmental borrower. It does not matter if the Fed creates another trillion dollars through QE 3.0, lending will always be constrained by this capital structure, not the amount of available cash reserves or the quantity of money. The Phase-in for Basel III has compounded this problem further. Any additional balance sheet capacity



added by new equity issues and earnings these past three years was created in anticipation of Basel III, not in any attempt to increase lending ability.

For larger corporations the bond market has met and exceeded lost credit availability (at least until interest rates rise and reprice earnings in light of a new cost of capital structure). Much of the basis for the weak recovery period has been this re-establishment of credit for liquid (new definition) obligors. But this fact simply demonstrates the broken flow model in the velocity function.

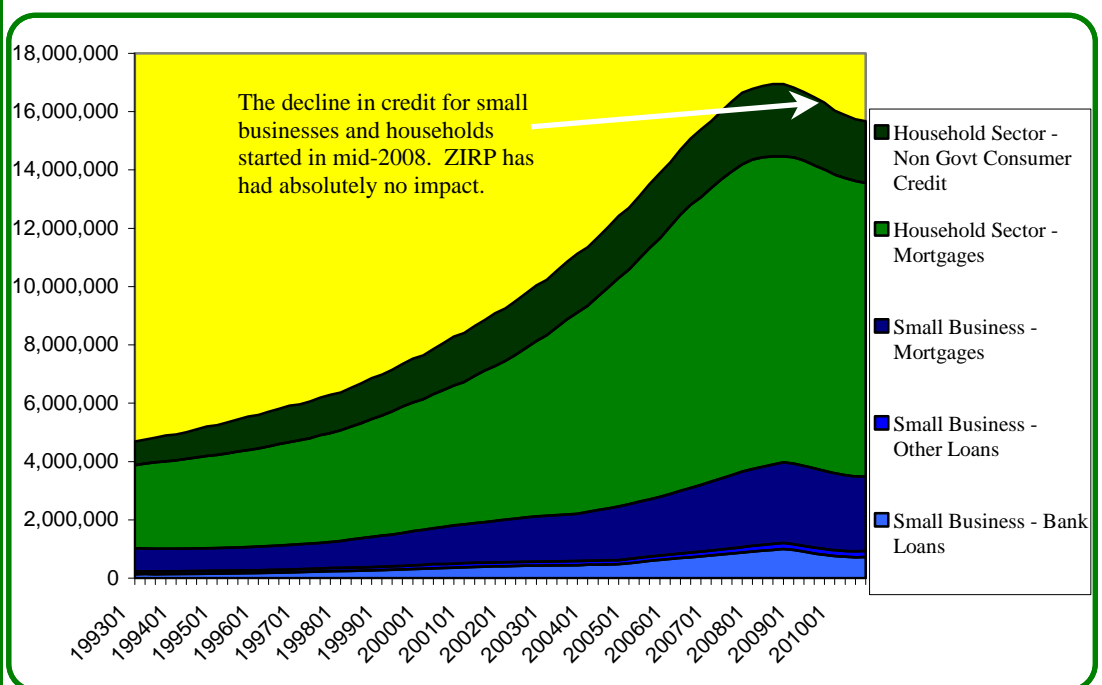
For small businesses and individuals, credit continues to contract significantly. Without a functioning market for securitizations there is no chance for lenders to reduce risk-weightings on consumer credit or mortgages. Asset buckets have severely constrained balance sheet capacity within the banking system. Again, it matters very little how much cash banks actually have or how much the Fed creates in the future. That newly created money will not flow to small businesses, consumers, or potential homeowners without a massive increase in balance sheet capacity. TARP did temporarily increase balance sheet capacity, but only enough to absorb some of the changes in ratings in Figure 2-9. Anticipating Basel III locked up the rest.

This simple example does not take into account several other factors limiting credit availability that we have previously discussed. Chiefly, ZIRP itself has allowed banks to reduce their overall balance sheets while maintaining profitability. Because the yield curve is steep (pinned at the short end by Fed policy) banks can make more money on a smaller asset base (see our November 2010 Special Report<sup>11</sup>). And while default rates on consumer credit and mortgages have fallen recently, they are still extremely high relative to pre-crisis levels. This makes riskier loans in the low interest rate environment unappealing to lenders. Risk is so mispriced and banking so distorted that risk-takers only search for yield *within* the sovereign debt class rather than move beyond it.

All of these factors form what we have called the Zero Upper Bound (ZUB). At the ZUB monetary policy ceases to work as intended. It also creates another problem. It confuses and confounds standard monetary theory and models. Where they see slack and successful stimulation, we see malinvestment and diminished potential described by our equation of exchange. The mechanics of circulation are trying to show that returning to 2007 is not an option, no matter the quantity and cost of money. The attempt to manage economies is distorting markets and signals, making the transition to the real economic potential much more difficult than it already is.

### CHART 2-12 Household and Small Business Credit 1993-2011

Despite “stimulative” monetary policy, total credit for everyone except the Federal Government and large corporations is still shrinking. Neither ZIRP, nor QE 1.0, nor QE lite, nor QE 2.0 have changed the direction of consumer credit. Since this obviously contradicts the Fed, they have been reduced to using the “saved or created” line of thinking.



### CHART 2-13 Deposit Base To Total Non-Financial Credit, Interbank Lending Market 1959-2011

Marginal financial funding moved away from strictly deposits in the late 1970's with the rise of the GSE's in mortgages. In mid-1983, the change accelerated. From 1996 – 2004, US Government borrowing dropped off considerably, but total money did not. In trying to find a home, money flowed to stocks and interbank lending.

### Velocity Function Breakdown Due to Limited Bank Balance Sheet Capacity

With credit not cycling through consumer or small business loans, savings/profits are simply recycled in asset prices. This includes commodity prices.

Very little of this cycle gets used in the economy-at-large, keeping the recovery weak. Only corporate bonds have seen growth, but corporations are not recycling in the spending area either. Corporate funds, including internally generated profits, are also, once again, recycling asset prices with mergers and buybacks.

The result is currently something like stagflation, with an economic contraction triggered by the consumer inflation tax on weakening households.

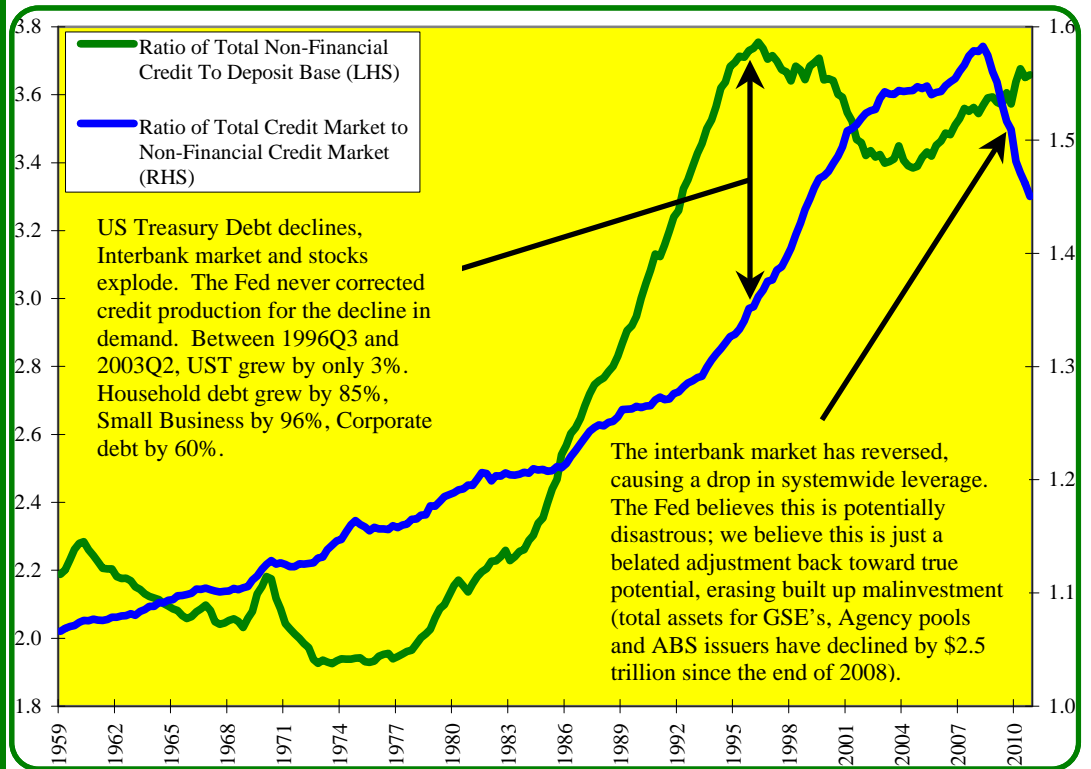
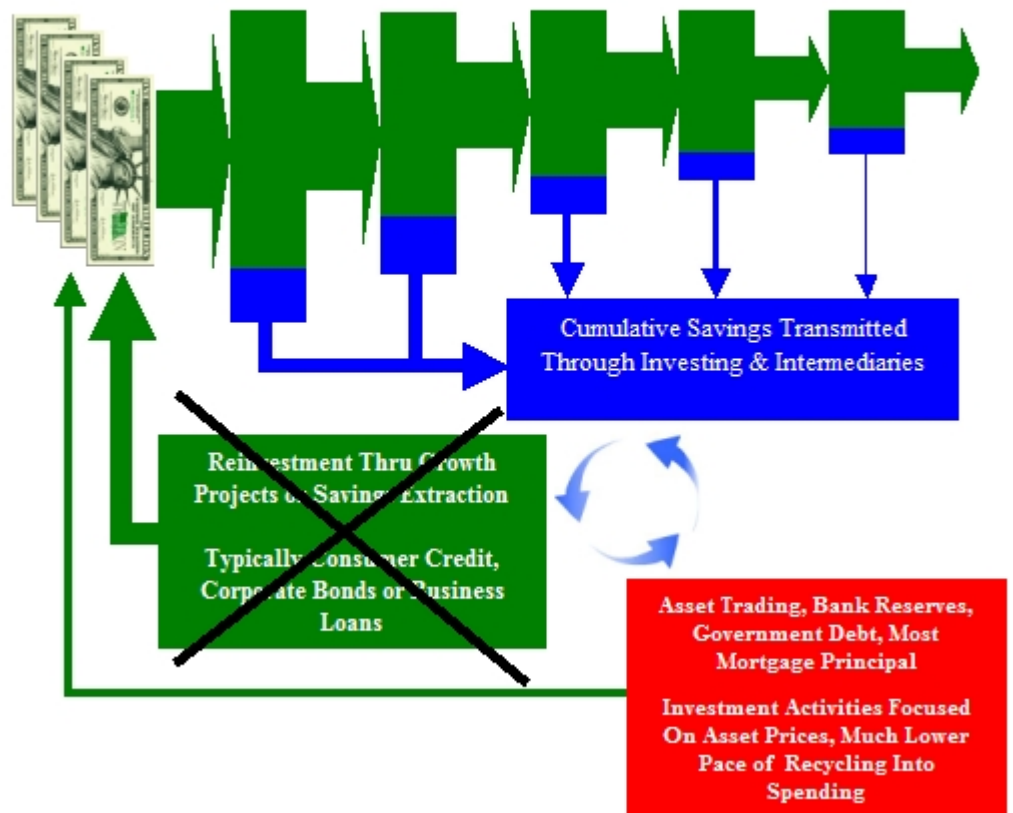


FIGURE 2-14

Monetary Packet      Spending Activity of Consumers/Workers or Business thru N Periods





## Part 3 Globally Diseased Dollar

Mainstream monetary science holds that inflation is a function of a tight labor market. If an economy has any “slack”, inflation, according to the theory, is simply impossible. This belief is expressed through the “output gap” and drives nearly every facet of Fed policy. The output gap is calculated as the trajectory of real GDP around an estimated potential GDP, where potential growth is itself a function of inflation and unemployment. As long as the Fed believes that the output gap is positive (that actual growth is below potential) it will deem a large enough margin for “accommodative” policies.

This is at odds with our understanding of potential, since we believe true potential is solely a function of sustainability and profitability. The ZUB confounds the output gap calculation through the process of specialization reversal. By mimicking our allegory, the changes in intent are trying to signal that total economic potential (represented as the economy’s ability to foster specialization) is much less than the actual growth of the bubble periods. What appears to be slack to the Fed is really devolution.

We produced a crude estimate of this in our February 2011 Special Report<sup>12</sup>, calculating what employment levels would be by factoring in wage levels that were uninfluenced by monetary and credit overuse. What we saw was that the “Great Recession” actually brought real employment down closer to our estimate of potential, but never below it.

Instead of following this path, the Fed soldiers on under the assumptions of economic slack and labors to be accommodative and stimulative. Of course this creates all manner of growing imbalances that can only be hidden by more centralized control. Without consolidated control, these imbalances are signaled to the wider financial system and economy.

The primary imbalance is now, of course, commodity prices. Chairman Bernanke really

believes that they are “transitory” and that prices will revert to a mean at some point. His understanding of inflation says that economic slack means inflation, classic inflation, is absolutely, utterly impossible. So he can continue to create money without fear because his models, based on the output gap, show an inflationary event as an extremely remote possibility (the same models that in mid-2008 showed a less than 1% chance of just achieving ZIRP).

Indeed, in a small way the Chairman is correct. Traditional inflation, like what we saw in the 1970’s, was created and sustained by a massive increase in credit production (Chart 3-1). The reason inflation persisted throughout the period was that credit continued to grow regardless of the economy’s direction. Inflation fell off during recessionary periods simply due to the short run Phillips Curve tradeoff. Credit production, in fact, continued throughout the next three decades, but was channeled into asset prices to achieve the illusion of the Great Moderation.

We see a distinctly different pattern today. Credit production continues to be negative. Both the traditional and the shadow banking systems are still in a protracted decline. Traditional inflation is not occurring, to Mr. Bernanke’s mistaken relief.

Instead, we have a much different and bigger problem. Rising prices are not being supported by the increase in money stock (using our definition). As we see in Chart 3-2, total average adjusted money supply has actually fallen during the contraction and subsequent weak recovery. So where are the price increases coming from?

More and more realize the answer is the dollar itself.

The weakness of our currency is giving rise to added price competition and compensation



demands for scarce resources. The dollar disease is due to two primary factors: the equation of exchange and, relatedly, the reversal of Jay Cooke’s definition of wealth.

If we assume that our equation of exchange is correct, then it would not matter if the total stock of money is rising or stable. Since the denominator, perceptions of true potential, is falling back to match that potential, a slightly falling numerator equates to the same result: rising inflation. The only real difference created by the numerator in this situation is acceleration of prices. In other words, the stock of money should match the potential for economic exchange – if that potential, or in this case perception of potential, falls, the stock of money should fall with it to equalize prices.

Turning the equation of exchange onto Jay Cooke, it was Cooke’s idea that paper debt claims were equivalent forms of wealth. In brief (more detail is found in our February 2011 Special Report<sup>13</sup>), government debt represented a potential extraction of wealth from a productive economy since it would require taxation (removal) of that true wealth to extinguish it. Therefore, for Cooke and his intellectual descendants, the amount of debt is itself a full substitute for true wealth.

Unfortunately for our current predicament, the flaw in this theory is painfully obvious. Government debt can only be wealth if it can be maintained. If taxation, or more precisely, potential taxation, rises to the point that the productive economy suffers greatly due to increased extraction, then the pile of government debt begins to get discounted as the ability to service it strains.

Here again our equation of exchange applies, with a slight variation in interpretation. The stock of money created by the banking system and the Federal Reserve is “backed” by our national debt. This is true in theory and in practice. The stock of money, then, is nothing more than once-removed claims (debt) on productive assets. In our equation of exchange, the resultant inflation is really a function of too many claims on a fixed or falling number of

productive assets (true wealth), regardless of whether this is expressed in asset prices or consumer prices. The real value of truly productive assets rises in units of debt, in this case the diseased dollar.

The ratio of productive capabilities between currency blocks becomes the terms on which global exchange is based. In the global competition for resources, the willingness of foreign suppliers to accept dollars is predicated on their perception of relative true wealth. If true productive capacity is “valued” with more dollars in the US, the same has to hold for foreign productive capacity – capacity is capacity no matter where it is located. In a sort of bastardized application of Gresham’s Law, any disparity in the price between them leads to marginal flows to correct the imbalance. If US productive capacity is priced too high in terms of dollars and foreign productive capacity has not yet equalized, then money would flow to (in terms of Gresham’s Law, hoarded) the undervalued asset, foreign productive capacity, weakening the dollar along the way to equalize the equation of global exchange. In this way we see that real currency is productive capacity itself.

That willingness to accept dollars, until recently, was as much a function of the *potential* amount of goods and services produced for exchange as the actual amount. Innovation and potential for growth (as well as political considerations) drove the dollar to reserve status and allowed for a kind of natural premium in exchange valuations. As the dollar has grown increasingly diseased, as the number of them grows far greater than the true productive capabilities of the economy they are based on, the dollar premium is disappearing. The relative inequity in the value of productive capacity outside the US was essentially hidden by this dollar premium until recently.

The inability of the US economy in the past ten years or so to live up to these lofty terms has led to the discounting of that economic potential, eroding the desire for foreign partners to pay the innovation premium. There are many reasons



for the lack of innovation, but chief among them is monetary excess itself.

Again, going back to our February Special Report, the Federal Reserve’s initial founding was predicated on the prospect of money elasticity. In other words, the Fed was created to ensure that a shortage of cash during banking panics would not lead to wider economic disruptions (2008 was Strike 3?). Unfortunately for our economy, those disruptions were the natural mechanism by which excessive and mistaken projects were supposed to be extinguished. Resources can only properly re-allocate through this kind of dislocation event. This is the essence of market discipline.

True, dynamic innovation is a child of market discipline. Companies that operate in an environment of scarce money and credit are forced to continually improve themselves or face liquidation. Added to the pressure of scarce money resources is a workforce with a constant desire to share in success. The margins for success *should* be small enough that continual innovation is the only way to long-term success. This is the essence of survival of the fittest and it is the one true path to long-term economic health – and the real measure of economic potential.

As we demonstrated in February, monetary excess led to a diminishment in wage pressure. Workers accepted lower shares of profitability because they were given access to artificially cheap credit and price action-assisted net worth growth. Along with that, interest rates and widespread credit availability eroded the last vestiges of business discipline. Businesses that did not add to the productive capacity of the economy continued to operate solely through the ability to find financing (see dot-coms), including crony capitalism (see Japan since 1990), contrary to the nature of business itself.

Worse than that, mistakenly calibrated interest rates skewed the incentives away from true innovation. It was more “effective” for companies to use money resources on accounting tricks or financial allocations. If the cost of capital had been more naturally

expensive it would have been much more profitable to grow the productive capacity of a firm than to borrow money in the bond market to fund a stock repurchase plan or pay a massive premium for a merger. Goosing earnings per share is nice for transient stock investors, but eventually balance sheet debt will need to be serviced (or, gasp, retired) at interest rates that will not always be so favorable. If the actual productive means are not in place by then because of neglect, these balance sheet innovations will end up being counterproductive.

This is a microcosm of the US economy. The internet revolution, built on the back of the computer revolution, caused an overshoot in the estimate of potential productive abilities (straight line extrapolation again). Dollar favorability was too high and hid the undercurrent of growing money stock from plain sight. Our equation of exchange (in the foreign exchange sense) was balanced too much by *potential* productive capacity and not enough actual; too much financial innovation and not enough business innovation. The let down of the 2000’s is leading to an attempted rebalance as the illusion of money-driven wealth and prosperity fades away.

If there was anything that was transitory, it was the dollar’s favor. The age of fiat has not been kind. Bernanke’s mean reversion is taking place in our equation of exchange and global exchange, suggesting that we are on a longer-term trajectory of rising prices and revolutionary imbalances. At some point, it becomes obvious that the amount of debt created will require too much taxation, and thus too much extraction of real wealth. Of course, this is usually obvious to everyone but the borrower.

Once a tipping point is reached, new debt is given a discounted value, as it has with Greece, Ireland and Portugal. For the US, foreign dollar holders are beginning to fully realize our equation of exchange, that reluctant self-producers and the broken flow of money have severely limited marginal productive potential. The discounting began years ago and is getting



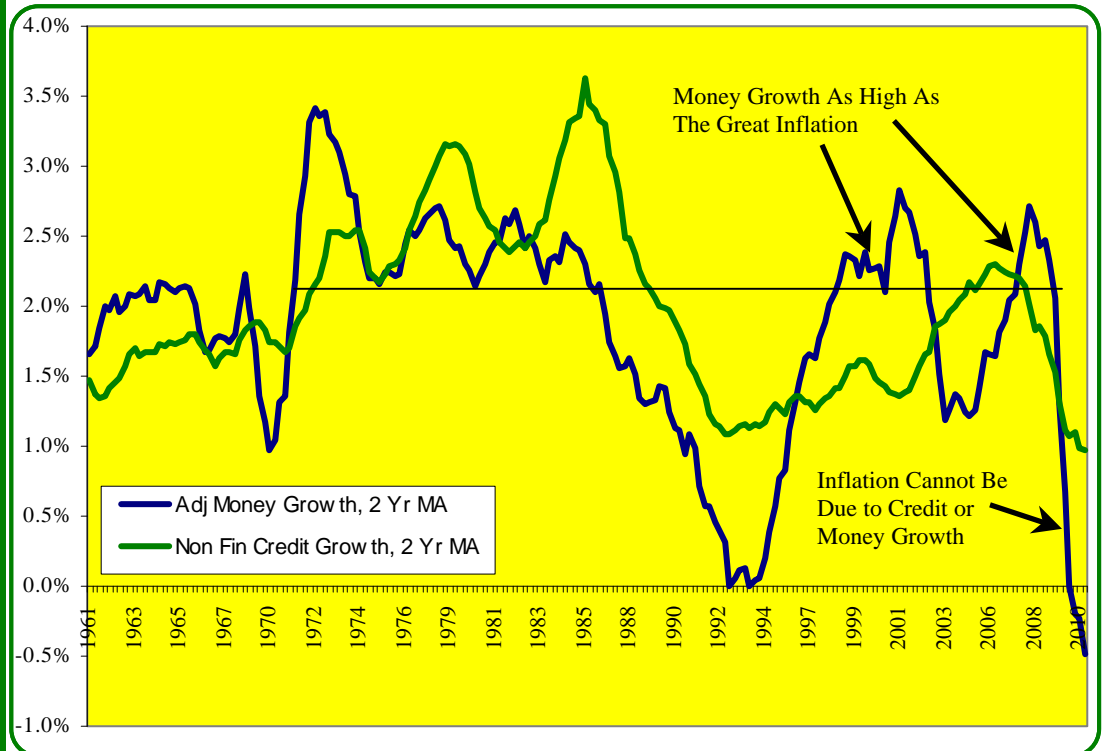
worse as with every attempt at managing or controlling the process.

That does not mean that prices will rise in a straight line, however. We fully expect more short-term Phillips Curve interference as the economy writhes from contraction to contraction. It does mean that we can replicate the circumstances of the 1970’s through wholly

different means. The wider world’s response to the revolutionary measures taken in Washington and New York is itself revolutionary. Lurking menacingly is the possibility that the Fed will go for broke and take the revolution to its centralized end. Unfortunately, the ultra-revolutionary response would be a nightmare hyperinflationary re-adjustment.

### CHART 3-1 Money & Non-Financial Credit Growth 1961-2011

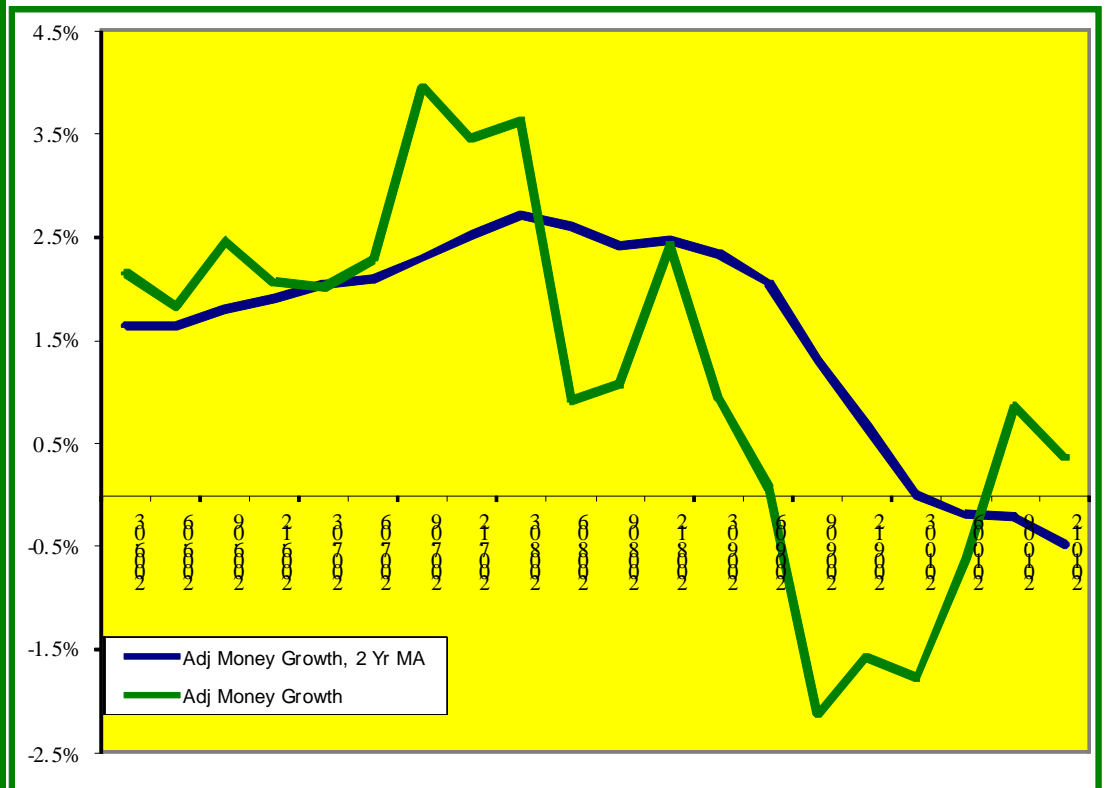
The dot-com and housing bubbles are clearly visible in money growth. The disparity between money growth and non-financial credit growth in the late 1990’s is due to the massive money moving into the stock market instead of credit. Since there is zero credit or money growth today, inflation, either asset or consumer, is not coming from the traditional source.



### CHART 3-2 Adjusted Broader Money Growth, 2006-2011

We calculate broader money supply as total M2 plus Institutional Money Market Fund Holdings plus Large Time Deposits minus Money Market Deposit holdings (to avoid double counting). We include MMF holdings to capture some of the shadow banking liabilities – MMF’s are one of the largest sources of commercial paper and repo fundings.

We see that there has been little actual money growth, only shifting between classes: out of MMF into deposit accounts. Growth in M2 is balanced by shrinking MMF.





### CHART 3-3 Federal Reserve Manipulation In The US Treasury Long Bond

One of the best expositions to come out in the past three years gives amazing detail on how the Fed is manipulating interest rates. Not only is it a devious measure of control, it is extremely dangerous.

This was posted on ZEROHEDGE.com and should be required reading for anyone that wants to really understand the lengths that policymakers are descending to in order to maintain control (see the Endnotes #14 for the link).



## Conclusions

Forget the so-called “dual mandate” of the Federal Reserve System. Beyond questions of whether the Fed can actually exert enough control to manage the economy, the real purpose of the Fed is to ensure money elasticity. It is its *raison d’être*.

Adhering to the objectives of money elasticity requires a general override of economic self-corrections. If we view banking panics as the logical, cleansing result of the loose money conditions that created them, then it may make some sense to find a way to manage the self-correction as it relates to general economic conditions rather than trying to avoid them altogether. Truly avoiding banking panics

would mean an end to the very loose monetary conditions in the first place.

Instead, our central bank is trying to recreate the mid-2000’s by encouraging debt-based spending. The printing of money gets stuck within asset classes since interference with the velocity system has walled off marginal exchanging of goods and services. The recycle of money through assets is nothing more than a continuation of the asset inflation we have seen since 1982. The Great Moderation was really the Great Mirage.

That mirage included monetary circulation in less “harmful” assets, such as stocks and houses. In 2011, stock inflation has been reborn,



replicating the exuberance of the late 1990’s. Unfortunately, housing inflation is dead. Commodities have taken up the slack.

We have gone well past the point of revolution in the monetary system. Because the measures taken by the Fed were so radical, it should have been expected that not everyone would be on the same page. It is taken for granted, for example, that the dollar will always be the dollar we thought it was five, ten and twenty years ago. The Fed is very comfortable with a little inflation, but foreign dollar holders can do the same math. “A little inflation” can certainly mean different things depending on perceptions.

First and foremost is the recognition of the equation of exchange. If the Fed and the government (often one and the same) had seen the decline in credit stock from the housing bust being simply a return toward matching true economic potential, the fear of deflation, especially Fisherian deflation, would have been seen as overdone. Adjusting to that potential would have been drastic and painful, but it would have been just as liberating. A foundation for new growth could have been built – perhaps, and we will never know, the Great Recession could have been more like 1921 than 1931.

In overriding market discipline, the Fed and federal government have placed undue pressure on investor confidence by completely disabling price signals. The Fed can deny inflation all it

wants, but everyone has to eat and buy gas. Once we reach the point where reality is completely disconnected from the Fed’s utopian outlook, people begin to vote with *their* money. Unsurprisingly they are already turning to alternatives.

The backlash is met with still more control, as evidenced by the messy transition from QE 1.0 to 2.0. At every turn central banks absorb the fire sales and pretend there are no collateral consequences, yet the crises multiply and expand. Policymakers try to hold down interest rates and other levers to prevent a systemic signal of *expanding* risk, all the while stretching their credibility and contorting normal investment functioning (like the MOVE index and VIX). The more people see behind the curtain, the more they realize the centrally planned paradise is really dystopian.

The central economic problem of our time is not that the economic recovery needs more stimulus. It is that the last three years are a belated recognition that growth of the previous ten or twenty years was entirely too high. If there is such a thing as mean reversion, sky-high commodity prices are simply re-adjusting foreign exchange to account for this. The only solutions are a sensible dollar policy (including government spending) that recognizes this fundamental problem and a commitment to return to real innovation. Unfortunately, both are easier said than done with monetary and fiscal policies *intent* on doing the opposite.



## Appendix I Equations of Exchange

### Traditional Equation of Exchange

$$M * V = P * Q$$

**M** is the nominal supply of MONEY

**V** is the VELOCITY of money circulation

**P** is the general PRICE level

**Q** is the general QUANTITY of goods and services produced

### ACM Equation of Exchange

$$\frac{M}{Q_r} = I, \text{ where } I \text{ is } F(V)$$

**M** is the nominal supply of MONEY & CREDIT

**Q<sub>r</sub>** is the real demand for goods and services produced for profitable and sustainable exchange

**I** is general inflation

**F(V)** is the VELOCITY FUNCTION that describes the manner and type of I

### Equation of Exchange Leads to Output

$$Q_r + Q_i = \text{Total Output}$$

**Q<sub>r</sub>** is the real demand for goods and services produced for profitable and sustainable exchange

**Q<sub>i</sub>** is the amount of goods and services produced due to malinvestment, described by F(V)

There are two irreconcilable problems with the traditional equation. First is the assumption that all the variables can affect each other. Second, there is no variable for, or incorporation of, inflation or malinvestment outside consumer prices.

In regard to the first problem, we can think of an example where increasing the money supply (M) with a constant velocity (V) would mean that either prices (P) or (Q) would rise in response. It is also possible that *both* P and Q rise.

This rudimentary mistake is at the heart of mainstream monetary science’s biggest flaw. It says that increasing the money supply can increase the quantity of goods produced. This last statement is true on its face, but it makes no distinction about whether such an increase in Q is a good thing.

The dot-com and housing bubbles should have conclusively demonstrated for all time that any additional Q that comes from M is not desirable.

Too much emphasis is placed on short-term Q boosts through M. In the traditional equation it is simply assumed that any achieved level of Q is the same as economic potential. The *only* limiting factor on that potential is how much inflation (P) is occurring simultaneously. This leads into the second major problem with the traditional equation.

The 1990’s, for example, when P was “tame” or in “moderation”, the level of Q was assumed to be a true measure of potential. We know irrefutably that this was not the case. If P is limited to consumer prices, the effects of monetary mismanagement on asset prices is completely ignored.

We know that some portion of Q was not sustainable, such as dot-coms with absolutely no real business plans or chance to ever produce a real profit. That intermittent or transitory part of Q was due entirely to malinvestment. Those



dot-coms were started and continued to exist solely because there was so much money flowing through stocks at that time. This is completely missing from the traditional equation, and is a major reason monetary policy has been so wrong for so long.

The Fed’s flawed models during the period calculated that Q, including the part due to malinvestment, was actually below potential since P was low. This meant that the output gap was positive and the economy required additional stimulation. Had there been any account for P other than consumer prices, the Fed may have seen that Q was not representative of true potential, and therefore monetary policy should have tried to remove excess funding (especially since demand for credit declined dramatically with the US Government surpluses).

We have re-arranged some of the equation to account for these flaws, and added a second. It should be stated that our equations are not intended to build a mathematical model of the economy. We do not believe it possible to be so precise and it is not our intention to try to be. These “equations” are simply using mathematical constructs to help understand *qualitative* concepts and relationships.

Our equation of exchange is simply an attempt to gauge the money supply (including credit) in relation to true demand. Again, real economic potential is based solely on the profitability and sustainability of businesses. Real productivity, both capital and labor, is the means by which potential can grow, the fruits of true innovation.

Money supply issues as they relate to this potential are limited to whether or not there is enough of a means of exchange to foster this potential demand for exchange. In this way, the only method whereas money supply can affect economic potential is if there is a massive shortage.

In our equation, money supply over and above economic potential leads to a generic inflation. To describe that inflation, we use the velocity process or function. Depending on interest rate

structure and price signals, velocity will determine the type of inflation and how much ends up as malinvestment.

To get total output, we simply add activity due to malinvestment to economic potential. This leads us to an entirely different understanding of the “output gap”. The output gap in our equation is a fully incorporated concept since it includes more than just consumer price inflation.

Because we do not believe it is possible to calculate economic potential to any degree of certainty, there will always be malinvestment. Central banks understand this, to some degree, which is why they always shoot for a small amount of inflation. By allowing a small target, they are assuming that they are maintaining enough of a minimum money supply to allow potential growth to continue uninterrupted. They also assume another misconception, that deflation is always and everywhere bad. As we will see below, there are really two types of deflation described by our equations.

In allowing some inflation, they should realize that there has to be a tradeoff. That tradeoff is an economic re-adjustment when the ratio of malinvestment to true potential gets too high. The unsustainable projects that inflation and malinvestment encourage end up growing in proportion to total output. Once that ratio reaches a limit, a contraction or dislocation results. The size of the recessionary re-adjustment gets bigger the greater the imbalance grows.

By understanding these parameters correctly, as we believe our equations do, the folly of trying to override them is entirely clear. Disabling self-correction just makes the ratio of malinvestment to true potential grow further, requiring still greater dislocations to correct them at some further point.

Malinvestment imbalances can be re-adjusted without contraction, but only through true innovation. When the denominator in our equation of exchange is growing due to innovation and productivity, the temptation of central banks to counteract this natural



“deflation” is enormous. The lack of explanatory power in the traditional equation makes no differentiation between the type of “deflation”, thereby fooling central bankers to take action.

If economic potential expands from productivity, then society as a whole can produce more goods and services for the same amount of inputs. Money supply does not need to match this process – the natural downward flow of consumer prices due to productivity gains and innovation is the visible recognition of a *healthy* economy. Increasing the money supply to keep prices stable is not only misguided, it is counterproductive.

The productivity gains in the technology sector are an example of this. As productivity and economies of scale grow, average selling price falls allowing for a wider consumer base. If a central bank stepped in to hold prices at the higher level, then that wider adoption would be short-circuited. The company may benefit in the short-term, but society as a whole is poorer since only a small portion receives any benefit from the technology. The same principal holds on a larger scale.

Monetary policy should be focused on the amount of malinvestment at any given time, with an aim toward minimization. Minimizing generic inflation and malinvestment would reduce the magnitude of any recessionary correction, both size and length.

With this in mind, the folly of monetary policy during the “Great Moderation” and housing bubble is clear. In overriding self-correction by using only the traditional equation of exchange and its limited concept of economic potential, the Fed increased money supply and reduced credit costs to stimulate their  $Q$ . But they only stimulated  $Q_i$ . Worse than that, the lack of innovation and true productivity limited  $Q_r$ . The

proportion of  $Q_i$  grew too much as a result and the Great Recession was needed to rebalance.

In response to the Great Recession, businesses have seen a massive increase in profitability due to productivity. This, of course, should be extremely positive for  $Q_r$ , and very helpful in restoring balance to the massive imbalance in  $Q_i$ . The problem is that the Fed, fearing deflation uniformly, responded by trying to “stimulate” the economy it saw as well below potential. Because this has distorted normal functions described in the velocity process, corporate profits have not been put to productive use. Malinvestment has canceled any positives from the productivity gains.

As a result, we have a situation where the proportion of  $Q_i$  is too high again and rising. This will lead inevitably to another attempt at self-correction. This is exactly what happened in the 1970’s, leading to a series of intermittent crises that progressed in size and scope, without ever really fixing these imbalances.

In fact, they were never really fixed. Credit production continued with only the S&L crisis temporarily slowing the overall pace (a sadly lost chance to rebalance the equations at a time when consumers and businesses had so much more capacity to absorb that re-adjustment). The asset bubbles of the past fifteen years are just the continuance of the 1970’s inflation through other channels – that is the true essence of the entire age of fiat dollars.

We believe that our equations are a helpful way of visualizing these incongruent and misunderstood dynamics, but they are still just crude concepts. They should not be taken as literal math since, again, it is impossible to be so exact. This is a lesson we can only hope central banks begin to learn before the disproportion of  $Q_i$  again grows too far.



## Endnotes

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<sup>3</sup> ACM’s March 2010 Special Report, “Channel Distortions From The Fed”. Pages 17-18.

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<sup>6</sup> Ibid. Page 4.

<sup>7</sup> Ibid. Page 6.

<sup>8</sup> Ibid. Page 7.

<sup>9</sup> Ibid. Page 7.

<sup>10</sup> “Risk-Based Capital Guidelines; Capital Adequacy Guidelines; Capital Maintenance: Capital Treatment of Recourse, Direct Credit Substitutes and Residual Interests in Asset Securitizations”, Published in the Federal Register. A Rule by the Comptroller of the Currency, the Federal Reserve System, the Federal Deposit Insurance Corporation, and the Thrift Supervision Office on 11/29/2001.

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<sup>12</sup> ACM’s February 2011 Special Report, “From Cooke To Hoover To Bernanke”. Part 1, Pages 3-13.

<http://research.acminstitutional.com/resources/February+2011+Special+Report.pdf>

<sup>13</sup> Ibid. Part 3, Pages 20-24.

<sup>14</sup> “Doubling Down To (DXY) Zero: Has The Fed, In Its Stealthy Synthetic Bet To Keep Long-Term Yields Low, Become The Next AIG?”, Tyler Durden. ZeroHedge.com, April 16, 2011.

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