"Beyond the Liquidity Trap:
Price Level Stability, Inflation, and the Neutrality of Money"

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There exists an asymmetry in the relationship between stock and bond markets on the one hand and inflation/deflation on the other hand. When there is a 'highly' inflationary environment, stock and bond markets rise and fall together. When there is a deflationary or 'mildly' inflationary environment, they move in opposite directions. The reason for this is the fact that we cannot have negative nominal interest rates while we can have negative Price Level changes. This prevents complete symmetry between the functioning of an economy during deflation and the functioning of an economy during inflation. Because of this, the economy acts differently depending on whether there is deflation or inflation. A true understanding of the functioning of financial and money markets turns on this point.[1]

The basic nature of asset markets is that there are two types of environments they operate in, one where the markets move together, one where the markets move against each other. The classic Keynesian exposition on this effect is the 'Liquidity Trap' analysis.[2] This is however only the first page of the complete story. There is much more to this process than is usually realized. And the nature and meaning of Macroeconomic Theory balance on this fulcrum. This is an assymetry between the asset markets and the goods markets that causes them to sometimes behave similarly and sometimes differently. When stock and bond markets move against each other, the lessons of goods markets do not all carry over to the asset markets.

The classic Keynesian exposition on asset markets was that when the price of stocks went up(down) the price of bonds went down(up).[3] This was the accepted orthodoxy until the 1970s when

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[1] This is the reason why a "Liquidity Trap" can exist. If not for this effect changes in liquidity would always result in a change in interest rates. But since interest rates cannot drop below zero, greater liquidity in a stable price level scenario must eventually result in no change in interest rates.

[2] Of course when the original Liquidity Trap analysis was formulated, this dichotomy of inflationary environments had yet to be recognized. And when that environment changed in the 60's and 70's the Liquidity Trap was relegated to the backwaters of economic theory instead of having the analysis extended. While it is true that the Liquidity Trap only represents one face of the coin, you can't have a coin without two faces.

[3] The focus being on the portfolio allocation aspects of holding both stocks and bonds. So that individuals are shifting back and forth between stocks and bonds in search of the highest risk adjusted yield. The driving force being the inflexibility of interest rates on the downside. So that when a recession occurred, interest rates were limited in their ability to fall making them more attractive investments in a downturn.

stock and bond markets began to move in unison up or down. This does not mean that this analysis is invalid, it means that it is an analysis of a particular type of economic environment. The Keynesian analysis is not tied to a particular epoch of history (i.e.-the Great Depression) as some have claimed but rather to a particular condition, 'Price Level stability' or deflation. If the critics of Keynesian Economics were to succeed in their quest to create Price Level stability, they would also create the circumstances in which Keynesian Theory was most valid.

The difference between the seventies (and later) and prior periods is the inflationary environment. This leads me to believe that the primary effect of changes in inflationary expectations occurs in the asset markets. When people expect price stability, the stock and bond markets move against each other. When people expect inflation, the stock and bond markets move in the same direction. What process in their behavior does this illustrate? I believe it is simply their response to the impossibility of negative nominal interest rates. Since in an economic downturn, interest rates are limited in their ability to adjust downwards, they become more attractive as wealth storage devices than they are in economic expansions. This effect differentiates bonds from stocks, making them functionally different as well as legally different. This difference disappears in an inflationary environment. If there is sufficient inflation then bonds can change in value in lock-step with stocks. There is no dampening effect as interest rates reach low levels. The yields on both types of instruments will then adjust in the same degree and in the same direction. An inflationary environment makes stocks and bonds much more like one thing instead of two things.[4]

[4] It is tempting at this point to suggest that the way to define price level stability is in terms of this behavior. If we do so, then the definition of price stability becomes the level of inflation/deflation where stocks and bonds couple and uncouple in their price movements. Then price stability ceases to become something linked to the concept of zero inflation and becomes instead an aspect of human behavior. Since Economics is about human behavior, this is an intrinsically more appealing definition. However, by grounding the definition solely in a way in which people behave, we are losing the nicely intuitive idea of price stability meaning no general change in prices, and the idea that price stability is an achievable goal. Because the stock and bond markets will either be moving in unison are moving against each other and if the point at which price stability occurs is defined as the change-over point, then price stability never occurs. For price stability to be experienced, then stocks and bonds would have to neither move together nor move against each other. Which is a state of affairs that can never actually occur.

This is where expectations about inflation come into play. Since asset markets are speculative markets, expectations about the future are causative for price movements. Irregardless of what will actually occur, stock prices and bond prices will move in unison if inflation rates are expected to be high. They will move against each other if inflation rates are expected to be low. So, when viewed from this perspective, the place of expectations in Macroeconomic behavior is much more complex and much more definite than is usually realized. Given this effect, a narrow focus on whether expectations are 'on average' correct or not may be misleading. Since the results of incorrectly estimating Price Level changes downwards do not necessarily mirror image the effects of incorrectly estimating Price Level changes upwards, they may not evenly cancel each other out. That being true, then the economically efficient allocation may require that inflation be systematically misestimated upwards or downwards. This is not the nice, easy, neat, elegant solution of Rational Expectations Theory.

Another question that raises itself when we speak in this context is whether one of these situations is better from a normative perspective? We know people don't like inflation. So, we can, in general, say that inflation is 'bad.' But can we say something similar in regards to whether stocks and bonds move in a direct relation or an inverse relation to each other? Do people prefer that one situation or the other be true, or is this relation of no particular moment in and of itself in people's minds. If whether these markets move against each other or with each other is unimportant to people, then this discontinuity can be used as a marker to designate the situation where inflation is at the level people desire. However, its use as a policy guide is nullified if we cannot assume Rational Expectations in the financial markets.

If we cannot assume Rational Expectations, then we cannot assume that when the change in behavior occurs, that it is occurring in a result that is consistent with rational maximizing behavior. People may think that they are achieving an economically efficient result, but if they do not display Rational Expectations, then efficiency will occur only by chance.[5]

[5] The apparent contradiction between this statement about Rational Expectations and the previous statement about Rational Expectations appears because the statements refer to different types of situations. The first statement is in the context of dynamic analysis, the second is in the context of static analysis. Often a statement true in one context is false in the other. This is such a case.

This is the result of price stability being defined in terms of asset market behavior and not consumption goods market behavior. This has not been recognized as an effect because of the focus on the quantity theory of money in debates about inflation and the price level. The quantity theory defines inflation in terms of markets for consumption goods. However, this is not where inflation effects behavior. In relation to markets for consumption goods, money is neutral. It cannot effect the trade-off between different types of consumption goods. That trade-off is a relative price phenomena. However, in the asset markets, it does effect behavior because it can change the trade-offs. It does effect relative price in the asset markets. If it effects relative price, then it is not neutral. Money is neutral only when there is sufficient inflation to prevent it from changing relative prices.[6] So therefore all propositions in Monetary Economics that depend on the neutrality of money for their validity, may be invalid in a stable price level environment. And also disturbing is the implication that price stability is a variable in nature, not a parameter.

If price stability is defined as a way in which people behave, in this instance whether stock markets and bond markets move together or against each other, then there is no particular value for any particular price index that will in all situations at all times serve as a signal that the behavior will change from one sort to another.[7] And if that is true then there is no

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[6] The neutrality of money is one of the cornerstones of Macroeconomics. There does not seem to be question in Macroeconomics where the answer is not impacted by the concept of the neutrality of money. This dichotomy between the asset markets and goods markets is an unrecognized phenomena because the analysis is framed in terms of the Quantity Theory. What is ignored is that the Quantity Theory is about goods markets and not asset markets. And what is true about goods markets and money is not necessarily true for asset markets, but the analysis proceeds as though it were.

[7] The problems that exist in the creation of Price Indices may be the result of this truth. The meaning of Price Level stability may be situationally relative, so no particular formulation will be relevant in all places at all times. It should be taken as an underlying clue of the existence of a deep mystery when an idea cannot be properly defined. Economics is littered with these situations, as well as the Price Indices problem, there is the Social Welfare Function Problem and the Industry Concentration Ratio problem to name two well known ones. The presence of these undefinable ideas, shows us that these areas contain forces that prevent the simplification and parameterization of certain

particular invariant policy that can be followed to optimality.[8] Because there is no particular value for inflation that signals price stability. Assuming that, then the recommendations for monetary policy are that it be pursued on an ad hoc basis, and not in a systematic fashion. Because if people are going to behave differently in different circumstances and at different times, there will be no single over-arching answer that will yield good results. In fact it will sometimes yield bad results.

Policy is a practical endeavor. Science is the servant of practice. Practice is not the servant of science. Too often, economists make too much of their theories in policy debates. They treat policy debates as opportunities to empirically test their theories. They champion a theory for the opportunity to prove its validity, not for the opportunity to improve people's lives. Putting the cart before the horse.

By defining price level stability as an aspect of human behavior, we place it more firmly within the realm of Economic science. Economics is about how people behave. If price level stability is a way in which people behave, then it is part of our maximizing behavior and not part of the constraining reality about us. If price level stability is the number 'zero inflation,' then it is part of the constraining reality about us, and thus not truly analyzable by Economic theory.

An attractive aspect of this formulation of the meaning of Price Level stability is that it gives us a discernable signal about the level of inflationary expectations. So that we can look at behavior and it reveals to us information about expectations. This is more reliable information because it is revealed by actions not by statements.

Some other implications for Monetary Policy are also

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phenomena.

[8] This of course leaves Friedman's constant money supply growth rule out in the cold. Monetarist thought is a creature of the Quantity Theory of Money. Being so, it is about consumption goods markets not asset markets. The beginnings of monetarist thought and the debate over the elasticity of the LM curve is a debate as to the neutrality of money in asset markets. Monetarist thought assumes a self-contradictory position; one, that money is neutral in asset markets but not in goods markets, two, that the Quantity Theory of Money is valid. This position is salvaged by assuming that number one is valid in the short run while number two is valid in the long run. Intellectually very messy. And probably not true.

interesting. On one hand policy becomes even more deeply entangled with expectations than it is already seen to be. Not only must the monetary authority take into account the issue of expectations when formulating policy, it must also adopt a policy of managing expectations. And on the other hand, the same policy action can have opposite effects given the expectational environment in place at the time. An action that would provide increased liquidity if expectations are for low inflation would fuel increased inflation if expectations are for high inflation.