

THE THEORY OF INTERPRETIVE FRAMEWORKS: *CETERIS NON PARIBUS*

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ABSTRACT: Although most economists model individual behavior using comparative statics, that approach ignores several important aspects of human action. How do we account for people having opposite responses to the same price change? How do changes in the market or other institutions affect what people believe and how they act? The caveat of *ceteris paribus* gives economists the ability to bypass problems of complex individual cognition and motivations. This paper examines how people make choices outside the assumption of “all else equal.” The issue is often one of asymmetric interpretation, not asymmetric information. Many phenomena defy the logic of comparative statics because people have differing interpretive frameworks. An interpretive framework method of analysis, therefore, will give better explanations of emergent economic outcomes. For example, interpretive frameworks offer better analysis of the effects of recent Federal Reserve policy than comparative statics do. The method relies upon the costs and benefits of gaining knowledge, institutional change, and recent historical context.

KEYWORDS: interpretive framework, expectations, comparative statics, Federal Reserve, institutions, Menger, Walras, *ceteris paribus*

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1. INTRODUCTION

Many authors have thought about economic problems outside of a comparative statics framework (Lachmann 1943, 2007 [1956], Shackle 1968, Garrison 2001, Koppl 2002, Wagner 2010, Klein 2012). In one way or another their works focus on individual choices and expectations made within the market process. This paper provides an alternative framework to comparative statics theorizing by combining and extending many of these scholars' ideas into a set of analytical tools for understanding market phenomena and individual behavior.

Most principles of microeconomics textbooks (Samuelson, 1948; Mankiw, 2012) are based upon comparative statics and the *ceteris paribus* assumption. Utility maximization subject to budget constraints falls under this category, as does calculating income and substitution effects given various price changes and utility functions. Students learn to calculate equilibrium prices given a variety of actors, initial endowments, and utility functions. Even basic supply and demand graphs, including elasticity and cross elasticity, rely on *ceteris paribus*. Monopoly, price discrimination, and perfect competition are also constructs of comparative statics and the *ceteris paribus* assumption.

Although comparative statics theorizing helps us understand the world better and has useful didactic properties, it also has some significant shortcomings. First, there is little room for modeling strategic behavior. Comparative statics describes firms in perfectly competitive markets as simply solving math problems. Consumers are treated similarly; they simply optimize their utility given fixed budget constraints and an array of prices. Even attempts to remedy the lack of strategic behavior through game theory fall short because in reality people's payoff matrices are not fixed (Ostrom, 2010) and they may read more into particular games than the numerical payoffs (Smith, 2003). Hayek (1945, 1978) identified this problem by explaining that the very purpose of markets, prices, and competition is to discover the relative costs of production, consumers' valuations, and relevant payoff structures. The most important social questions are not mathematical calculations of profit maximization or cost minimization, but the *discovery* of human wants, productive opportunities, and the coordination of plans.

A second problem is that opportunity costs, and thereby much of the data used in comparative statics, is indeterminate until the point of choice (Buchanan, 1979). Radical subjectivists, from Lachmann (1943, 2007 [1956]) to Shackle (1968) to Stringham (2010), argue for the inadequacy of traditional utility theorizing. Uncertainty does not factor into people's calculations in the same way that risk does. Furthermore, people's beliefs and expectations about the future are influenced by their historical experience and the institutions around them. In this regard there is a certain amount of indeterminacy and contingency in real world phenomena that do not fit well into equilibrium theorizing using comparative statics.

Wagner (2010) has framed the dichotomy between comparative statics and emergent phenomena as two different methods of theorizing. One method carries on the tradition of Leon Walras. The other continues the tradition of Carl Menger. Neo-Walrasian theorizing focuses on mathematical equations, equilibrium, and highly stylized assumptions. Neo-Mengerian theorizing, on the other hand, focuses on emergent phenomena—it looks for patterns rather than clear specific predictions. The approach taken here should be viewed as an extension of the neo-Mengerian method.

Of course, one need not be a radical subjectivist to see the importance of understanding how people interpret reality and make decisions based upon those interpretations. As Hayek (1943) points out, in the social sciences "facts" are what people think and believe, not fixed material phenomena (Hayek, 1943). That claim may seem radical to those economists who spend most of their time running regressions and crunching data, trying to find relationships between variables, or those working out complex mathematical equations describing how people's utility functions, payoff matrices, and risk-preferences lead to equilibrium or disequilibrium. Yet stripping away the many assumptions in these comparative static models demonstrates that they ultimately depend upon what things people value, why they value them, and how people interpret events around them. Although trying to analyze how every single individual makes decisions is impractical, some progress may be gained by developing a theory of how groups or "types" of individuals understand the world.

Lachmann (1943, 2007 [1956]) discusses how people make decisions in the face of price changes and uncertainty. He argues

that it is not clear how people will react to a relative price change in a non-*ceteris paribus* world because their response depends on their interpretation of reality. If people do not know the future, then it is possible that they will interpret a price increase as being the first of many, and therefore buy more of that particular good. At first glance that behavior violates the law of demand because people are buying more of a good as its price rises. But upon reflection we realize that they do this because if the price increase is in fact the first of many, then the price of that good, relative to its future price, has actually fallen. Yet even in this short exercise we have assumed that everyone believes the same thing. In reality people disagree about how to interpret the same price increase because they have access to different amounts of information and have different levels of knowledge.

Instead of solving equilibrium equations, price theory needs to explain how prices emerge in the first place. Price *emergence* theory, then, needs to incorporate the different goals and different levels of information and knowledge among market actors. The emphasis should be upon how involvement in markets affects an actor's knowledge, information, and expectations. As Koppl (2002) argues, theories about human cognition and human institutions are essential for understanding how people react to price changes and other market signals.

How can we theorize about complex states of the world in which the *ceteris paribus* assumption does not hold and people may react to price changes differently from each other? Rather than focusing on what particular information a representative agent may have at any given moment, we should study the mechanisms of information transfer and of learning among diverse individuals. Institutions and the various mechanisms at work in particular markets are more important than any particular shift in macroeconomic variables. Because people's expectations of the future are influenced by the market process, we cannot treat those expectations as exogenous (Garrison, 2001; Salerno, 2012). Instead we should look at how institutional changes may increase or decrease their uncertainty and how they form expectations.

To deal with these problems, we need to develop three analytical tools to help us understand people's interpretive frameworks: knowledge costs, institutions, and history. Section two develops

a theory of interpretive frameworks with the help of those tools. Section three then applies the theory of interpretive frameworks to recent Federal Reserve policy—particularly to the mystery of its surprising ineffectiveness according to comparative static theory—by looking at how changes in knowledge costs, institutions, and recent history affect how individuals interpret the world around them. Section four concludes with comments on the relationship between neo-Walrasian theorizing and neo-Mengerian theorizing in economics.

2. THEORY OF INTERPRETIVE FRAMEWORKS

Once we begin theorizing outside comparative static equilibrium models, we run into the problem of how to interpret and analyze people's behavior. We know that they act purposively using various means to achieve various ends, but how *do* they think about those means and ends? Although considerations of people's motives and how they choose their ends stray into the realm of psychology (Mises, 1949), it is not clear that we can choose to ignore them when exploring emergent phenomena using the neo-Mengerian method. People's goals will affect not only their choices of available means, but what they even consider to be means. Technology arises from creating new means to achieve ends that could not have been realized with prior means.

Though we might say that most people value wealth, what they think of as wealth can vary and have important effects on their choices. People who view wealth as high portfolio value will react to economic changes differently from those who see wealth as a large bank account or those who see wealth as large real estate holdings or owning cash-generating businesses. We need to appreciate the variety of people's ends, beyond simply maximizing a mathematical utility function because what a person values determines his goals; and his goals affect how he interprets the world around him. People's goals are like a lens that colors everything they see.

The language for interpretive frameworks comes from Lachmann's (1943, 2007 [1956]) work on capital and expectations. Although he does not actually use the two words together, his ideas about interpretation and how people have different

frameworks for understanding the world fit well in the term: "Interpreting an event means to fit it into a picture of the 'situation,' a concept of a structure which serves as framework of reference" (1943, p. 20). Recently, Klein (2012, p. 96) has used the phrase "interpretive framework" to describe how people process information—implying asymmetry of interpretation even in the face of symmetric information. Interpretive frameworks are a composite of beliefs, feelings, expectations, goals, and knowledge. They are much like the vision described by Schumpeter (1987 [1954]) as a "pre-analytic cognitive act." Thomas Sowell writes that "vision is a sense of *causation*" (2007 [1987], p. 6, emphasis original) and that "visions are the foundations on which theories are built" (*ibid.*, p. 4). Interpretive frameworks include learning, expectations, and goals too. But in comparative statics, people's interpretive frameworks are flattened to a few assumptions about information, preferences, and market opportunities. This is akin to the flattening of knowledge described in Klein (2012). Emergent order within the neo-Mengerian framework arises from the interaction of many different people's interpretive frameworks and on their ability to adapt to market and social institutions over time.

It is difficult to break interpretive frameworks into their constituent parts without moving back into the neo-Walrasian world of comparative statics. Yet two general points can be made. First, objective data does not determine human behavior like physical terrain determines the course of a river. People do not act based upon numbers but upon what those numbers *mean* to them. Interpretation is never given or uniform when data are mixed with local knowledge, beliefs, and individual ends. Hence issues of asymmetric interpretation may greatly overshadow issues of asymmetric information (Klein, 2012).

Second, beliefs and values may "commit" people to a particular expectation or interpretation of reality. In this case better information alone may not be enough to change their behavior or beliefs. But these commitments may not arise from stupidity or irrationality as many have argued (Keynes, 2006 [1936]; Shiller, 2006; Caplan, 2008; Akerlof and Shiller, 2010). Knowledge can be embodied in beliefs, much like Hayek (1960) and Sowell (1996 [1980], 2007 [1987]) claim that knowledge is embedded in traditions. If that is the case, then people's commitments are a type of heuristic for interacting with

the world. That does not mean that their beliefs are always right or beneficial; but it does mean that there are good reasons not to dismiss them as purely fanciful.

These moral, ideological, or philosophical commitments make forming a theory of expectations difficult. Yet, they are an important part of understanding emergent dynamics and phenomena that are not adequately explained with equilibrium or disequilibrium theory. There are other heuristics that people use to form expectations about the future and interpret changes in economic data such as knowledge proxies and the opinions of others. Although these are important in their own right, they are not developed in detail here except as they help explain the phenomena at hand.

The first analytical tool that can help us think about the emergent dynamics of economic phenomena is the costliness of knowledge. Knowledge differs from information because it requires interpretation and integrating information or data into some theory. As I mentioned earlier, two people, facing the same information, may make different choices because of their interpretation, their knowledge. Information and data are the building blocks of knowledge—much as Lego pieces are the building blocks used to create various structures. Just as the blocks can hardly be said to determine the final structure and details of the building, so data can hardly be said to determine people's choices or interpretations. More building blocks let one build a greater variety of structures, while too few prevent one from building any satisfactory structure at all. Information cost is subsidiary to knowledge cost; and it is the cost of gaining knowledge that will affect the accuracy of people's expectations and their willingness to act.

Because of its costliness, people rarely engage in extensive calculation and analysis. Instead they use heuristics and proxies to economize on both information and knowledge costs (Gigerenzer, 2002, 2011). For example, one major influence on people's expectations and beliefs are the expectations and beliefs of others—particularly of family, friends, and experts. How influential those opinions are may fluctuate in relatively predictable circumstances depending on existing institutions and recent historical experience.

Knowledge costs depend on at least three criteria. First, they depend on the simplicity or complexity of the situation / phenomena

to be understood. This in turn depends on the number of variables involved in the situation as well as the characteristics of those variables, whether they are predictable, random, or indeterminate. Second, knowledge costs are affected by the availability, and reliability, of data or information. The number and types of blocks available affect what kind of structures can be built. Third, the opportunity costs of gaining knowledge will fluctuate depending on available alternatives. In markets with many profitable opportunities or high turnover, the opportunity costs of developing knowledge are higher than in more stable environments.

Koppl's (2002) theory of big players explains how institutional change can lead to higher knowledge costs and increased uncertainty which in turn contribute to macroeconomic changes. The decisions that individuals make depend upon their view of long-term trends. They also depend on institutions. Koppl elaborates an idea of "anonymity" that strengthens social cooperation because we do not have to know the individual people who serve a particular function. For example, I do not have to know the bus driver personally in order to trust him to deliver me at my stop or know the mail carriers involved in transporting my letter across the country. These people are anonymous, yet they serve a particular function in a predictable manner which allows me to form realistic expectations at very low cost. The clearly defined role reduces the number of variables I need to consider. I do not have to make any judgments about a person's mood, motivations, or personal beliefs in order to form accurate expectations of how they will perform their role.

The opposite of relatively anonymous actors serving in a specific role (bus driver, mailman, barber, etc.) are "Big Players" who are not constrained by a specific function or role, or even by normal market discipline. Big Players are individuals or organizations who can substantially influence the market by their actions, who face relatively weak market discipline (often due to government protection through barriers to entry or costly regulation), and who have wide discretion when making decisions (Koppl, 2002, p. 120). Markets with Big Players become less predictable because rather than having people perform a particular role within relatively stable and fixed institutions—which means one does not need to know their personal characteristics in order to predict their behavior accurately—one has markets in which people need to

invest time and energy trying to understand the idiosyncrasies of a few individuals or organizations and the potential impact their idiosyncrasies can have on the market.

The second analytical tool for Neo-Mengerian theorizing is institutional analysis. Koppl (2002) explains how herding behavior, or imitation, increases in financial markets because Big Players change the existing institutions and introduce more arbitrariness. The relative costs of gaining knowledge and the value of different proxies change in that environment. In the case of markets characterized by (a) Big Player(s), such as financial markets in the face of the Federal Reserve and the credit rating agencies, people attribute high levels of importance to the views of the Big Player and devote substantial effort to predicting his future actions. Because of the difficulty and costliness of doing this, they tend to imitate those around them more. They try to “free-ride” on what they suppose to be the due diligence of others. The amount of uncertainty and variability in economic phenomena can increase or decrease depending on the presence of Big Players. He concludes that “Expectations will be more prescient in some environments than in others” (2002:7). Which means that neo-Walrasian theorizing that treats people’s expectations (whether static, adaptive, or rational) as exogenous is bound to fail sooner or later as the market environment changes; and with it how people form expectations.

Within the neo-Mengerian method of theorizing, on the other hand, institutions (including government policies) matter (Hayek, 1960; North, 1994). Not only do they affect the data of the market, such as allowing competition or protecting monopolists, sometimes fixing prices or wages, tax levels, etc., they also have an important influence on how people think and what they expect. As Koppl argues, “Expectations depend on institutions” (2002, p. 96). The way that people interpret the world around them will depend in large part on the stability of rules and others’ behavior. One might also say that institutions are an extension of interpretive frameworks because they filter and distribute information and other market signals. Institutions, including norms and informal rules, also affect how well specific roles, such as “bus driver” or “barber,” are defined. When institutions deteriorate, specific roles become less clearly defined and people face much greater uncertainty when making choices.

History is full of examples of how market structures and individual behavior change rapidly after governments violate a long-standing institution, such as the soundness of its currency, honoring its debts, or protection of private property—almost always in the direction of deterioration and stagnation. As I will explore in the next section, recent Federal Reserve behavior and the Troubled Asset Relief Program represent similar violations of long-standing institutions—thus changing market characteristics and individual behavior as people try to adjust their interpretive frameworks to deal with the greater uncertainty and difficulty of understanding the motives behind the actions of a distinctive Big Player rather than the simpler motivations of a “type” of actor (Koppl, 2002). Not surprisingly then, institutions can promote or hinder stability and thereby change both the location and the speed of convergence to competitive equilibria in the neo-Walrasian framework.

A third analytical tool for theorizing in the neo-Mengerian tradition is recent history. Experience and memory are crucial aspects of people’s interpretive frameworks. The contingency and personal relevancy of recent historical events will often give a more accurate depiction of the world than theorizing about mathematical calculations like Bayesian updating or rational expectations. What people learn from history is a matter of interpretation and therefore diverse, as can be seen clearly in the ongoing debates about the causes and nature of the Great Depression. History requires theory to give it meaning and structure (Mises, 1949, 2007; Coyne, 2013, p. 58). That is as true for the individual, whether he understands it or not, as it is for the economist or historian.

A non-mathematical view of learning and interpretation allows for the passage of time to impact what people remember and therefore what they believe and expect. Recent experience looms larger in men’s minds than more distant history. Although how people feel about and view a situation depends on much more than simply the passage of time, the effects of forgetfulness cannot be totally dismissed. How valuable someone thinks it is to avoid repeating a particular mistake in the future will influence how much he invests in retaining particular memories.

Understanding how people form and use interpretive frameworks is essential for theorizing in the neo-Mengerian tradition. Individual beliefs and goals, along with institutions, incentives, and

recent history all play a role in how people interact with each other and the world. The three tools I have outlined are the costs of knowledge, institutional analysis, and recent historical context. In the next section I use these tools to assess the recent divergence between comparative static analysis of the effects of recent Federal Reserve policy and its actual effects.

3. FEDERAL RESERVE POLICY IN A NEO-MENGERIAN FRAMEWORK

Coyne (2008) points out in the context of development that theorizing about the “meta-game” of society or social aggregates may be misleading if there are many “nested” games that collectively make up the meta-game. For example, the meta-game in the loanable funds market is that when interest rates fall, people will borrow and invest more. But which people? Neo-Mengerian theorizing focuses on individual actors and how they perceive the nested “game” that they are playing. They are not trying to solve the meta-game as many economic theories have them doing. Distinguishing between meta (macro) theorizing and micro theorizing explains the divergence between their predictions about the effects of Federal Reserve policy and the reality.

The Federal Reserve has been expanding the monetary base and keeping the Federal Funds Rate artificially low since late 2007 (Figure 1). Although the specific justifications for this huge intervention into financial markets have varied from preventing systemic collapse to easing liquidity constraints to encouraging lending and borrowing, the ultimate goal has always been to lower unemployment by increasing economic output. Nearly every neo-Walrasian macro-economic theory says that monetary expansion should increase output because the price of borrowing has fallen. That fall in price means, by assumption, that the quantity demanded will increase, which will lead to more investment and production. Even if they disagree about the wisdom of the Fed’s policy of artificial monetary expansion and how long its effects will last, neo-Keynesian (Clarida, Gali, and Gertler, 1999; Mankiw, 2012), Monetarist (Friedman, 1968), neo-Classical (Goodfriend, 2004), and Austrian (Mises, 1949; White, 2009; Woods, 2009; Salerno, 2012) macroeconomic theories all suggest that recent monetary policy

should have had more significant economic effects than it has had thus far. I am speaking of these theories as they were before 2008. Since then most economists have adjusted their models to explain the surprising results of monetary policy in the past five years.

One might argue that rational expectations explains the ineffectiveness of current Fed policy. Although that is part of the story, it is incomplete and somewhat misleading because rational expectations in a neo-Walrasian sense has significant theoretical problems. Why, for example, should people always have an unbiased view of the future? Or more importantly, why were rational expectations almost totally absent in the years leading up to the 2008 financial crisis? We see examples of systemic miscalculation both with regard to financial asset values as well as housing prices. Arguments that relevant information was simply unavailable at the time seem rather implausible (Shiller, 2006; Shiller and Akerlof, 2010).

So why is it that people were largely “fooled” or “misled” by the Fed’s behavior and other economic trends in the years preceding the crisis, but now they seem largely immune from Fed policy? The Fed engaged in aggressive monetary expansion to lower interest rates during the recession of 01–02 (Appendix, Figure 1). At that time, the monetary expansion had a strong positive effect on economic growth. Additional government policies that prevented housing prices and housing starts from declining also played a role in reducing the severity of the downturn (Woods, 2009, p. 81). But during and after the 2008 crisis, the federal government engaged in similar policies of low interest rates, stimulus, and policies promoting housing with little effect. Why were the effects so much smaller this second time around?

We need to be careful that our explanation does not fall prey to the centralized mindset (Resnick, 1997). Complex phenomena do not often have single central causes. Usually there are numerous factors involved that lead to a particular outcome through their interaction. There was far more adjustment of interpretive frameworks and expectations after the recent financial crisis than there was after the internet bubble. Those adjustments in interpretation explain, in large part, why Fed policy has had such different effects in the past couple of years than it did a decade ago. People’s expectations can become more or less rational depending on circumstances. A theory of analytical frameworks can help us

answer this question by looking at several factors including the changing costs of knowledge, the shifting institutional framework, and learning from recent historical context (Table 1).

Table 1. Loanable Funds and Financial Markets

	Pre-2008	Today
Knowledge Costs	Peer Pressure / Irrational Exuberance High opportunity costs Economic proxies fuel optimism	“Open Mouth” monetary policy Artificially low interest rates Awareness of future bubbles valued
Institutions	Basel I & II Community Reinvestment Act Shadow Banking	Dodd-Frank increases regulatory regime Bailouts (TARP), Fannie, & Freddie Stress Tests
Recent History	Greenspan Put (LTCM, Asian Crisis) Rapid appreciation of house values Steady growth in stock markets	Major financial crisis Large write-downs in portfolios Popped asset bubbles

How people perceive the costs and benefits of knowledge will be a function of institutions, history, and the characteristics of the phenomena they are trying to understand. We will look at several important factors that influence the costs and benefits of gaining knowledge about borrowing and investing. First, people perceive the value of having accurate knowledge about the movement of asset prices—particularly to avoid investing in a speculative bubble—to have risen because of their recent experiences during the 2008 financial crisis and subsequent recession. This, in turn, has led many people to become more alert to artificial credit expansion and asset bubbles (Kirzner, 1978).

Not only do people perceive a greater benefit to discovering artificial credit expansion, inflation, and asset bubbles, the Federal Reserve has made it less costly to understand its current actions. Ben Bernanke has explicitly said that the Federal Reserve will

proactively (i.e. artificially) lower interest rates until certain unemployment targets are reached (Bernanke, 2012). His claim of manipulating interest rates is easily confirmed by the fact that current interest rates are the lowest that the United States has ever experienced. These “open mouth” operations make it easier to know what the Fed is doing now. The future, however, is another matter. The Fed’s commitment to future policy actions is not very credible because they have so much discretion. It is easier for people to know what the Fed is doing today than what it will do, or what the consequences of its actions will be, tomorrow. Is it any surprise, then, that individuals and investors are less willing to borrow now and expand investment; even at attractive interest rates?

The hesitancy to borrow also stems from the fact that many people saw their net worth decrease substantially during the financial crisis—either because of the fall in stock prices or the decline in housing prices. They also probably know friends and neighbors who foreclosed on their mortgages or declared bankruptcy. Experiencing loss can affect people’s optimism and expectations, such as seeing more risk around them, but it may also affect their risk preferences and how much they value avoiding loss. Their uncertainty about future economic conditions likely increased after the 2008 crisis because of their historical experience, their awareness of interest rates being artificially low, and their uncertainty about the future.

There have been two important institutional shifts in the role that government regulators and agencies play in financial markets since 2008. The first shift came from the Troubled Asset Relief Program (TARP) bailing out too-big-to-fail banks (and nonbanks). Besides the obvious problems of moral hazard involved in such intervention, there is also destruction of the information and signals that are normally transmitted through losses and bankruptcy. The second shift is the largely unprecedented growth of government intervention in financial markets through the Dodd-Frank financial reform bill. Both shifts have reduced people’s willingness to invest because they make the future performance of financial markets less certain *and* because they undermine confidence in the stability of the “rules of the game” (White, 2009, 2010; Allison, 2012; Pierce and Broughel, 2012).

The first institutional shift of insuring too-big-to-fail financial institutions has changed the market mechanism of disciplining

firms who use resources inefficiently. That safety net has many effects in financial markets. First, it creates incentives for bankers to make riskier investments because they are insulated from most of the potential downside. Second, shareholders and creditors are less likely to scrutinize the operations of banks because they know that their investments are more or less insured by the Federal Reserve. Finally, the subsidies provided by the Federal Reserve in terms of low cost lending and purchasing “toxic” assets from the banks will distort the price signals for allocating capital within the economy.

The second institutional shift of greater regulation is likely to have even greater effects than the first shift. The legislation of Dodd-Frank makes the Federal Reserve an even bigger Big Player in financial markets. Their discretionary authority has been expanded and has no clear boundary (White, 2010; Pierce and Broughel, 2012). Bankers and investors now face market conditions where new rules and regulations could appear at any time. Furthermore, the murkiness and volume of regulatory authority makes it difficult to hold the Federal Reserve accountable for how it implements its policies—opening the door for arbitrary enforcement. Finally, the cost of complying with these regulations has continued to skyrocket—imposing a greater relative burden on smaller banks and financial firms—which has changed and will continue to change the makeup of the market towards larger firms.

Though the Fed has been more open about many of its policies under Bernanke than it was under Greenspan, it can still change them, and financial markets, at any time. Greater “transparency” of Fed policy has failed to offset its increasing status as a Big Player because the Fed lacks credible commitment and its policies can be subject to rapid and unilateral change. Investors continue to shift their efforts from market analysis to analyzing past, present, and future Fed policy. Investors, lenders, and borrowers, instead of making judgments about impersonal market trends and forces, are trying to understand the individual motivations, beliefs, and goals of particular individuals at the Fed.

We can see how history affects institutions, which in turn affect the relative costs and benefits of behavior in the case of banks. They have more than a trillion dollars in excess reserves (Figure 2). Yet as we dig into the details, this seemingly erratic or non-optimal situation, from the perspective of market clearing, is quite

reasonable. First, we should consider the constraints and incentives that banks, or rather people within banks, face. After the 2008 financial crisis many regulators, from the Securities and Exchange Commission (SEC) to the Federal Reserve to the Federal Deposit Insurance Corporation (FDIC), have made it far more difficult for bankers to use discretion when originating or renegotiating loans. Many regulators were criticized for being too lax prior to 2008. In response they have increased their rules and enforcement on bank loans. In this environment, banks have less flexibility and discretion, which makes it more difficult for them to lend money (Allison, 2012).

Another reason that banks are more hesitant to lend is because their assessment of risk has changed. After all of the problems with defaults, foreclosures, and bankruptcies, bankers are less willing to consider higher-risk loans. Their interpretive frameworks have changed due to their recent historical experiences. From their new perspectives on risk, there is a dearth of profitable loan opportunities. On the other hand, the low rate of return on loans, due to low interest rates, also reduces their margin for error on issued loans.

Where does all this theorizing about the Fed and expectations leave us? First, we see massive and unprecedented excess bank reserves (Appendix, Figure 2), a large monetary base (Appendix, Figure 3), and historically low interest rates (Appendix, Figure 1). Contrary to comparative static models in the neo-Walrasian framework, we also see little change in the volume of loans originated and few signs of inflation (Appendix, Figure 4). That is not to say that there are no distortions occurring in financial markets due to Fed policy or that inflationary pressure does not exist, only that we are not seeing it in ways that macroeconomic models have predicted.

Second, we have seen slow growth over the past few years and a relatively weak recovery, which suggests that Federal Reserve policy has been surprisingly ineffective in accomplishing its goals of robust economic growth and low unemployment. Many economists are puzzled that they cannot square the predictions of their models with reality. They are missing the fact that historical contingency, institutional change, and knowledge costs have caused people's analytical frameworks to violate the *ceteris paribus* assumption in economists' models. What people expect has changed, which in turn has shifted their interpretations of relative

price changes in credit markets. People's views of risk, their fear of new asset bubbles, the change in institutions to greater arbitrary government intervention, and uncertainty about future Big Player decisions, have substantially altered the environment in financial markets. Neo-Walrasian theorizing has come up largely short. The neo-Mengerian framework, on the other hand, is better suited to understand how the current emergent outcomes—institutional, historical, and interpretational—have come about and what they may imply for future market developments.

4. CONCLUSION

The argument of this paper is not that comparative statics should be banned from classrooms or economics textbooks. The neo-Walrasian framework has many useful didactic and analytical properties. What has been argued here is that economists should acknowledge the limits of comparative statics and the *ceteris paribus* assumption, rather than try to make their models more complex. Many important economic phenomena are emergent, particularly at the level of the macro economy. The alternate neo-Mengerian framework should be used to understand such emergent phenomena.

This paper has stressed the importance of people's interpretations of reality using their analytical frameworks. Knowledge, beliefs, values, expectations, and learning all impact how people view the world—including how they assess relative price changes. The tools outlined above: knowledge costs, institutions, and recent historical context, can help us understand emergent phenomena, as illustrated by the brief analysis of how people have reacted to recent Federal Reserve policy. Although the lack of precision in neo-Mengerian theorizing is troubling, it is still more accurate than neo-Walrasian theorizing when explaining emergent phenomena. As Carveth Read (1906) noted, "It is better to be vaguely right than exactly wrong."

APPENDIX: FIGURES

Figure 1. Interest Rates

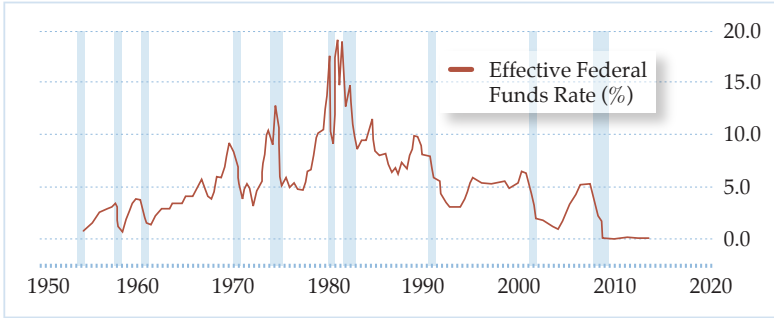


Figure 2. Excess Reserves

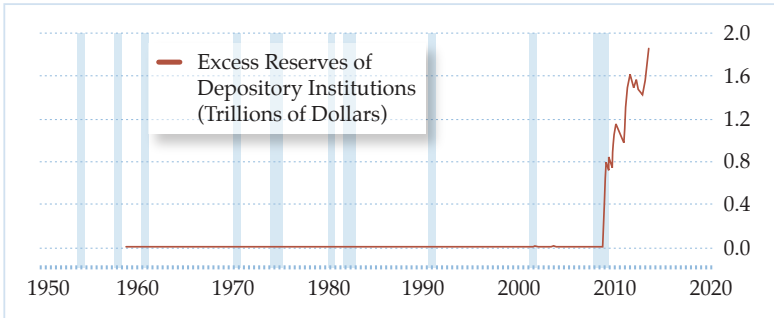


Figure 3. The Monetary Base

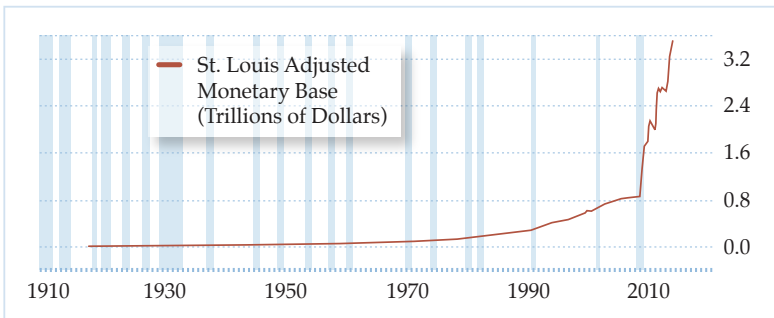
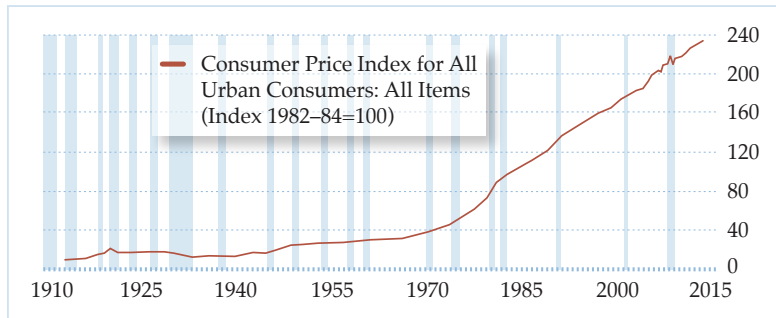


Figure 4. CPI Index

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