



2012

Richmond Fed Research Digest

Summaries of work by economists in the Bank's Research Department published externally from June 1, 2011, through May 31, 2012

Welcome to the inaugural issue of the *Richmond Fed Research Digest*. The Federal Reserve Bank of Richmond produces several publications that feature the work of economists in its Research Department, but those economists also publish extensively in other venues. The *Richmond Fed Research Digest*, a mid-year annual, brings this externally published research together in one place with brief summaries, full citations, and links to the original work. (Please note that access to articles may require registration or payment.) So bookmark this spot on the Richmond Fed website and mark your calendar for June 28, 2013, when the Bank will publish the next issue of the *Richmond Fed Research Digest*.

Frictional Wage Dispersion in Search Models: A Quantitative Assessment

By *Andreas Hornstein, Per Krusell, and Giovanni L. Violante*

American Economic Review, December 2011, vol. 101, no. 7, pp. 2873–2898.

Standard models of wage determination in frictionless markets imply that workers with the same abilities should receive the same wages. Researchers, however, find a lot of wage variation among workers who are observationally equivalent. So either there is substantial unobserved heterogeneity among workers or there are frictions that prevent some workers from attaining the highest pay based on their qualifications. Defining frictional wage dispersion as that part of wage dispersion that cannot be attributed to variations in observed worker characteristics is fraught with problems since it is difficult, if not impossible, to account for all differences among workers.

The mean-min wage ratio turns out to be a valuable tool for interpreting the empirical findings in the literature that estimates structural search models.

The authors of this paper—Andreas Hornstein of the Richmond Fed, Per Krusell of Stockholm University, and Giovanni Violante of New York University—propose using job search theory and data on labor market turnover to estimate frictional wage dispersion. They measure wage dispersion through the mean-min wage ratio, that is, the ratio of the average accepted wage to the lowest accepted wage. For many job search models, the authors demonstrate that the mean-min wage ratio can be calculated by considering only worker preferences (reflected in the value of nonmarket time and the interest rate) and worker-flow statistics.

In the most basic job search model, the mean-min wage ratio is a function of the interest rate, the value of nonmarket time, the rate at which workers exit from employment, and the rate at which workers exit from unemployment. For empirically reasonable values of these parameters, the mean-min wage ratio is only 1.05. In other words, the average accepted wage is 5 percent above the lowest accepted wage. The most basic job search model relies on

four assumptions: perfect correlation between job values and initial wage, risk neutrality, random search, and no on-the-job search. The authors relax these assumptions one by one to study the effects on frictional wage dispersion as measured by the mean-min wage ratio. Relaxing the first three assumptions does not change the ratio significantly, but allowing on-the-job search raises the ratio to 1.25, a five-fold increase in relative terms, though still a fairly small ratio in absolute terms. The authors then find that further modifications of on-the-job search models—such as introducing endogenous search effort, counteroffers among competing employers, or commitments to wage-tenure contracts—can generate much higher frictional wage dispersions, with mean-min ratios greater than 2.

The mean-min wage ratio turns out to be a valuable tool for interpreting the empirical findings in the literature that estimates structural search models. Since the authors have shown that frictional wage dispersion is small in standard search models, researchers who estimate structural search models using worker-flow statistics and wage-distribution data must tolerate very large estimates of measurement error, substantial unobserved worker heterogeneity, or implausible parameter values, such as very low estimates of the value of nonmarket time or extremely high estimates of the interest rate.

<http://dx.doi.org/10.1257/aer.101.7.2873>

Recourse and Residential Mortgage Default: Evidence from U.S. States

By *Andra C. Ghent and Marianna Kudlyak*

Review of Financial Studies, September 2011, vol. 24, no. 9, pp. 3139–3186.

Falling housing prices since the start of the Great Recession have led to a greater number of mortgage defaults and foreclosures. Defaults on home loans became prevalent in the United States at the height of the crisis as borrowers either suffered income shocks that prevented them from making payments or chose to default on “underwater” properties. Andra Ghent of the City University of New York and Marianna Kudlyak of the Richmond Fed explore one factor that may influence default risk: recourse loans versus non-recourse loans.

Under a non-recourse loan, the borrower is not liable for more than the value of the collateral. In the case of homes that have fallen in value since the loans were issued, borrowers who default on mortgages in non-recourse states will not be sued for the difference between the value of the home and the unpaid balance of the mortgage. Recourse loans, however, do allow lenders to seek additional payment. Ghent and Kudlyak look at home loans originated between August 1997 and December 2008, a data set comprising 2.9 million mortgages, with recourse loans accounting for roughly two-thirds of that total. They explore whether borrowers in states allowing for recourse loans were more or less likely to default on their loans.

Ghent and Kudlyak find that recourse laws do have a significant impact on borrowers’ gains from defaulting, leading to different threshold values for default in recourse states versus non-recourse states. Since recourse adds an additional cost to defaulting, borrowers with recourse loans would be less likely to choose default at the same level of negative equity relative to non-recourse borrowers. Indeed, other things equal, it takes 8.6 percent more negative equity in a recourse state to reach the same probability of default as in a non-recourse state. On average, the probability of default is 32 percent higher in non-recourse states when measuring the interaction between the law and the value of the default option.

The authors also find that this effect is not uniform for all households. Lenders can recover greater value in recourse proceedings from households with more assets, which are more likely to have mortgages on higher-value properties. Thus, recourse deters default on mortgages for properties worth \$200,000 or more, an effect that generally becomes more pronounced as values rise. For homes appraised between \$300,000 and \$500,000, the probability of default is 81 percent higher in non-recourse states. For homes ranging from \$500,000 to \$750,000, it is more than 100 percent higher.

Ghent and Kudlyak also explore other effects of recourse loans on borrower behavior. Borrowers in recourse states are more likely to “cure” their defaults—that is, to resume payments to some degree within one year following an initial 60-day delinquency. The authors propose (but cannot confirm) that one contributing factor to this higher cure rate may be that a greater share of defaults in recourse states are driven by liquidity constraints rather than strategic decisions. Alternatively, the higher cure rate may indicate that borrowers in recourse states are not aware that their mortgages allow for recourse until they become delinquent. Ghent and Kudlyak suggest that both factors may contribute to the results, and they note that the lower default rate for recourse loans provides evidence that some mortgage defaults in the overall data set are strategic.

<http://dx.doi.org/10.1093/rfs/hhr055>

Why Do Payment Card Networks Charge Proportional Fees?

By Oz Shy and Zhu Wang

American Economic Review, June 2011, vol. 101, no. 4, pp. 1575–1590.

Payment card usage in the United States continues to grow. Recent data show that consumers use either debit or credit cards to make more than half of their purchases. Many payment card services are free to consumers, but card networks charge merchant fees (often referred to as “interchange” fees) for each transaction. Merchants have complained that these fees are unreasonably high. The federal government recently capped debit card interchange fees and also has considered other regulatory proposals. One suggested change would require card networks to charge fixed fees per transaction rather than fees proportional to the size of each purchase, as has been common practice.

When card networks and merchants both have market power, card networks earn higher profits by charging proportional fees.

Oz Shy of the Boston Fed and Zhu Wang of the Richmond Fed (this paper was written while Wang was at the Kansas City Fed) explore why card networks charge proportional fees rather than fixed per-transaction fees, and they compare the social welfare implications of both regimes. They note that the costs of providing payment card services cannot explain the decision by card networks to charge proportional fees. In particular, debit cards do not provide float and bear very little fraud risk, so there appears to be no cost basis for charging proportional fees. To address this puzzle, Shy and Wang develop a simple model where consumers submit purchases to their card networks, and the networks remit those payments to the merchants minus either a proportional or fixed fee. They find that when card networks and merchants both have market power (that is, they face little competition), card networks earn higher profits by charging proportional fees. They also find that competition among merchants reduces card networks’ gains from using proportional fees relative to fixed per-transaction fees. Merchants are found to earn lower profits under proportional fees, whereas consumer utility and social welfare are higher.

Shy and Wang's findings shed light on related policy debates. Since card networks with market power charge fees higher than the marginal costs of handling transactions, the resulting market allocation may deviate from the social optimum. This concerns policymakers who try to align payment card fees with the cost basis. While it may be difficult to directly regulate card-fee levels, it seems natural and easy to regulate card-fee structures, such as requiring fixed per-transaction fees for payment cards that incur only a fixed cost per transaction. However, Shy and Wang's findings suggest that such a regulation may increase merchant profits at the expense of card networks, consumers, and social welfare. Therefore, caution should be taken when policymakers consider intervening in the payment card market.

<http://dx.doi.org/10.1257/aer.101.4.1575>

Central Bank Accountability and Independence: Are They Inconsistent?

By Robert L. Hetzel

Journal of Macroeconomics, Forthcoming, 2012.

Competition for control over the creation of American money goes back to Colonial times. This high-stakes struggle intensified in the late 19th century and early 20th century with fierce debates over the gold standard, the silver standard, and the formation of the Federal Reserve. President Woodrow Wilson and Virginia congressman Carter Glass believed that the Federal Reserve Act would curb the self-interests of Wall Street financiers and Washington politicians, but even the advent of the Federal Reserve left the money-control question largely unsettled.

Robert Hetzel of the Richmond Fed shows how this ongoing competition for control hinders the development of a better analytical framework for monetary policy. To protect their monetary turf from political encroachment, Federal Reserve policymakers express their individual decisions in "the language of discretion." In other words, they portray their actions as "optimal discretionary responses" to whichever economic problem—unemployment or inflation—is more pressing at the moment. In good times, this approach gives the impression that the Fed is in control. In bad times, the Fed can blame any recession and/or inflation on external shocks that overwhelm the Fed's stabilizing influence. This approach may help protect against political interference, but it limits the Fed's ability to learn from its mistakes.

Hetzel contends that monetary policymakers must move beyond ritualistic repetition of their "price stability" and "maximum employment" mandates to explain their decisions in the language of economics instead of the language of discretion. To reconcile Fed independence and accountability, members of the Federal Open Market Committee must answer the question: "What macroeconomic variables does the Fed control, and how does it exercise that control?" They also must adopt an explicit analytical framework that explains economic cause and effect through models, policy rules, and shocks. This approach would allow other economists to evaluate FOMC decisions using alternative assumptions about whether economic shocks were real or monetary.

Monetary policymakers have a responsibility to explain their understandings of economic trade-offs, especially those, if any, between inflation and unemployment. They need not designate a specific forecasting model, but they should choose among alternative classes of models as a way of showing how they work backward from setting broad policy objectives to making specific monetary moves.

Hetzel advocates more interaction between FOMC members and academic economists. Regional Reserve Bank presidents, for example, could host quarterly forums with academic economists in their districts, and members of the Board of Governors could engage nationally recognized experts in similar discussions. Both groups should translate this dialogue into language the general public can understand. Hetzel also recommends that the Fed establish a Monetary Policy Evaluation Group that would act as “external auditors” of the policy process. This proposed group of economists would test different classes of models and assess alternative strategies for monetary policy “outside of any institutional pressure to rationalize past actions.” The group would make predictions about the outcomes of current FOMC policy and compare those predictions to actual outcomes. These reforms would help the Federal Reserve conduct and explain monetary policy in a better analytical and institutional framework.

<http://dx.doi.org/10.1016/j.jmacro.2012.02.010>

Inventories, Inflation Dynamics and the New Keynesian Phillips Curve

By Thomas A. Lubik and Wing Leong Teo

European Economic Review, April 2012, vol. 56, no. 3, pp. 327–346

The New Keynesian Phillips Curve (NKPC) postulates a relationship between inflation, expected inflation, and the real marginal cost of production. Because marginal cost is unobservable, economists must find a suitable proxy or estimate marginal cost using data that can be observed and related to marginal cost via economic theory.

Thomas Lubik of the Richmond Fed and Wing Leong Teo of the University of Nottingham incorporate inventories of finished goods into the standard New Keynesian model. Firms hold inventories of finished goods to increase their ability to make sales in the future without necessarily having to boost production. If these firms have price-setting power (as they do in the NKPC model), they face a trade-off between intertemporal production and intertemporal pricing that influences inflation dynamics.

In the standard NKPC model, an increase in firms’ marginal cost of production leads to higher prices as firms pass on their higher production costs to consumers. But in the inventory NKPC model devised by Lubik and Teo, firms have the option of tapping their inventories of finished goods to keep prices lower. In this scenario, inflation dynamics are driven by both the marginal cost of production and inventories. The authors demonstrate that marginal cost can be expressed as a function of the present discounted value of the future evolution of the ratio of sales to finished goods inventories. Lubik and Teo then build an implied data series for unobservable marginal cost. They find, however, that the predictive power of their inventory NKPC model does not improve upon standard NKPC models that use a proxy, such as real unit labor cost, for marginal cost.

Firms have the option of tapping their inventories of finished goods to keep prices lower.

One possible explanation for this result is the authors’ reliance on inventories of finished goods. They suggest that introducing input inventories into their model likely would alter the determination of marginal cost. Lubik and Teo highlight various other areas for further study. They note that a key element to any extension of their research would be a mechanism to model labor costs as more volatile. Such a mechanism would give firms greater incentives to smooth production and pricing by managing inventories.

<http://dx.doi.org/10.1016/j.euroecorev.2011.10.002>

A Quantitative Theory of Information and Unsecured Credit

By Kartik Athreya, Xuan S. Tam, and Eric R. Young

American Economic Journal: Macroeconomics, *Forthcoming*, 2012.

The use of unsecured credit has grown sharply in the past three decades, and many important characteristics of that market have changed. Personal bankruptcies have increased during the same period, as has the spread of interest rates offered on unsecured loans. Comparing data from 1983 through 2004, the interest rates on loans offered to households with past delinquencies grew over time relative to the terms offered to households without past delinquencies, reaching a mean difference of 200 basis points. Kartik Athreya of the Richmond Fed, Xuan Tam of the University of Cambridge, and Eric Young of the University of Virginia hypothesize that improved information on borrower default risk may explain this trend. While better information is less relevant in the case of collateralized debt, reductions in the asymmetry of information between borrower and lender likely would affect the pricing and allocation of unsecured debt.

The authors measure the effect of improved information by comparing two scenarios. In the first model, lenders have access to all information relevant for predicting default risk. This represents the current unsecured credit environment, with outcomes compared to data from the 2004 Survey of Consumer Finance. In the second model, lenders lack some information and must try to infer borrower characteristics, and hence default risk, from the size of loans that borrowers request. This represents the unsecured credit environment of the 1980s, with outcomes compared to data from the 1983 Survey of Consumer Finance. The difference between the two models measures the effect of improved information on the unsecured credit market. The authors examine the effects of better information on six aggregates, including the bankruptcy rate, the spread of interest rates on unsecured debt, and the difference in spreads between credit card interest rates and risk-free interest rates paid by those with a past bankruptcy relative to those with no history of bankruptcy.

The model developed by Athreya, Tam, and Young predicts that improvements in information account for roughly 46 percent of the total change in bankruptcy in the data. They also find that better information accounts for about 77 percent of the change in variance of interest rates for unsecured debt and 73 percent of the change in interest rate spreads between borrowers with past bankruptcies and borrowers without past bankruptcies. The authors also look at whether more precise information has generally improved household welfare. They find that households are always better off under full information, but welfare gains are not large, and they find that less-skilled households benefit the most. Under full information, credit is generally cheaper, allowing more households to borrow at any given rate. However, as a result of more households borrowing, more bankruptcies occur. Athreya, Tam, and Young conclude that improving borrower commitment to repayment is likely to produce greater welfare benefits than improving the availability of information.

<http://dx.doi.org/10.1257/mac.4.3.153>

Optimal Risk Sharing and Borrowing Constraints in a Continuous-Time Model with Limited Commitment

By Borys Grochulski and Yuzhe Zhang

Journal of Economic Theory, November 2011, vol. 146, no. 6, pp. 2356–2388.

Individuals, firms, and governments all face constraints on how much they can borrow, but as recent events have demonstrated, those constraints are not always enough to prevent default. When lenders have limited capacity to enforce a contract, and borrowers cannot fully commit to honoring that contract, there is risk of default. Borys Grochulski of the Richmond Fed and Yuzhe Zhang of the University of Iowa develop a model to determine the optimal borrowing constraints needed to prevent default.

The authors first explore an optimal long-term contracting model with a risk-neutral, fully committed lender and a risk-averse, non-committed borrower. The borrower can choose to default, but if he does, he must finance all future consumption without borrowing. As long as maintaining the lending contract allows the borrower to enjoy higher consumption (and thus higher utility) than he would be able to obtain with only his own income, the borrower will not default. Thus, the authors show that to prevent default in this model, the lender must increase the borrower's available consumption if the borrower's income increases to a new maximum. Otherwise, it would be preferable for the borrower to default.

The optimal credit limit equals the value of the surplus generated by the relationship between the lender and the borrower.

Grochulski and Zhang then study a model that implements a simple trading mechanism to achieve the optimal long-term contract described in the first model. In this second model, the lender offers the borrower two trading accounts: a bank account that enables the borrower to save or borrow at a riskless interest rate, and a hedging account that allows the borrower to transfer income risk to the lender with fair-odds pricing. The hedging account has no limitations placed on it, but the bank account is subject to a borrowing limit equal to the total value of the relationship between the lender and the borrower.

The authors show that in equilibrium, the borrower never defaults under these conditions. This two-account system replicates the outcomes of a system in which the borrower can fully commit to repayment. Using this model, Grochulski and Zhang are also able to calculate the optimal credit limit based on the underlying commitment friction. They conclude that the optimal credit limit equals the value of the surplus generated by the relationship between the lender and the borrower.

<http://dx.doi.org/10.1016/j.jet.2011.10.007>

Aggregate Labour Market Dynamics in Hong Kong

By Thomas A. Lubik

Pacific Economic Review, May 2012, vol. 17, no. 2, pp. 257–279.

The search and matching model has become the workhorse framework for addressing a wide range of labor market issues in macroeconomics. However, the literature focuses almost exclusively on American and European economies. In an application to a highly competitive market economy, Thomas Lubik of the Richmond Fed analyzes aggregate labor market dynamics in Hong Kong from the perspective of a standard search and matching model.

Lubik focuses on two broad empirical aspects. He studies how well the theoretical search and matching model describes the behavior of labor market variables, and he provides estimates of the structural labor market parameters as benchmarks for future research. To address these issues, Lubik develops a simple search and matching model that describes the observed outcomes of unemployment and vacancy postings arising from the interplay of workers seeking jobs and firms seeking employees. He estimates the model using Bayesian methods for quarterly data on unemployment and vacancies from 2000 to 2010.

Two aspects of the paper's empirical approach are rarely used in other search and matching analyses. First, Lubik assumes that the model is driven by a persistent shock to the separation rate of workers into unemployment and by a more standard productivity shock. Second, he conducts an extensive preliminary analysis to help set the priors for the Bayesian estimation, and he gathers prior information from a limited-information approach to the empirical model.

The Bayesian estimation shows that the search and matching model captures aggregate labor market dynamics in Hong Kong quite well. The estimates of the structural labor market parameters are broadly consistent with analyses of U.S. data, although there are small differences for some parameters. Specifically, Hong Kong's separation rate is lower, as are the match elasticity and the match efficiency. The main driver of unemployment and vacancy fluctuations is productivity, with shocks to separations playing only a subordinate role. This suggests that the Hong Kong labor market exhibits little turnover in normal times. However, in times of economic distress, unemployment rises sharply because firms are willing to quickly accelerate firing and decelerate hiring. When the economy improves, the large pool of unemployed workers in combination with the relative inelasticity of the matching probability to labor market tightness stimulates firms' hiring decisions.

As Lubik notes, the exercise in this paper is constrained somewhat by the model's small scale. Publicly available data are currently limited, but future research may be able to bring more data to bear on the empirical analysis. In addition, future research could extend the theoretical model, for example, by adding a monetary sector to study the transmission of monetary policy shocks to the labor market.

<http://dx.doi.org/10.1111/j.1468-0106.2012.00582.x>

The Welfare Consequences of Alternative Designs of Unemployment Insurance Savings Accounts

By Hugo Hopenhayn and Juan Carlos Hatchondo

In *Reforming Severance Pay: An International Perspective*, edited by Robert Holzmann and Milan Vodopivec, Washington, D.C.: The World Bank, 2012, pp. 239–257.

Designing an effective unemployment insurance program is a difficult balancing act. Governments want to protect workers from unexpected swings in the labor market by maximizing benefits while minimizing moral hazard by maintaining sufficient incentives for unemployed people to find work. In the context of unemployment insurance, moral hazard can occur for two reasons: insurance administrators cannot easily distinguish between workers being laid off and workers quitting, and administrators cannot observe job offers unless workers accept the jobs.

Hugo Hopenhayn of the University of California, Los Angeles, and Juan Carlos Hatchondo of the Richmond Fed evaluate several unemployment insurance systems in terms of welfare benefits and costs. In particular, they look at unemployment insurance savings accounts (UISAs), which allow workers to contribute money when employed and withdraw funds when unemployed. Accounts with positive balances accrue interest, and accounts with negative balances are charged interest. When workers with positive balances retire, they retain the funds in their accounts. UISAs help minimize moral hazard by internalizing the costs of remaining unemployed, but do they increase worker welfare?

To address this question, Hopenhayn and Hatchondo examine three simple models of unemployment insurance to use as benchmarks. In the first model, the government provides full insurance—that is, workers are guaranteed constant consumption regardless of their employment. The government also can monitor job offers and enforce employment, thus eliminating moral hazard. The full insurance plan results in an increase in utility equivalent to raising each worker's wage by 2 percent to 16 percent. The second model provides each worker with a lump sum payment at the beginning of his or her working life. Workers use this initial increase in wealth to self-insure against unemployment, and the cost per worker needed to provide the same utility as the full insurance plan is lower for wealthier workers and higher for workers with higher wages. Finally, the authors derive an optimal unemployment insurance model with incentives that ensure consumption falls when the worker is unemployed and rises when he is employed. The cost of providing workers with the same utility as under the full insurance system is low under the optimal system, suggesting that if incentives are properly aligned, an unemployment insurance system can increase welfare even without perfect monitoring.

Hopenhayn and Hatchondo next compare various configurations of UISAs to the utility and costs of the full insurance and optimal unemployment insurance models. They define UISAs by the following parameters: a tax rate that is applied to monthly wages until the savings account reaches a certain limit; a replacement rate with an upper bound that the worker can withdraw per period; a lower limit on the account; and a contribution limit. They find that for “moderate degrees of risk aversion, a cost-effective system can be created with moderate replacement rates and relatively high levels of worker contributions to their accounts.” For low- and medium-wage workers, UISAs perform similarly to the benchmark models, and in the case of high-wage workers, the marginal cost for the UISAs is very low. The analysis provides an overview of the trade-offs between government costs and worker welfare under various UISA configurations.

http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2011/11/11/000386194_20111111025924/Rendered/PDF/655470PUB0EPI2065712B09780821388495.pdf

The Great Recession: Market Failure or Policy Failure?

By Robert L. Hetzel

New York: Cambridge University Press, 2012, 400 pages.

In 1960, Milton Friedman wrote, “In almost every instance, major instability in the United States has been produced or, at the very least, greatly intensified by monetary instability.” Friedman’s observation extends to instabilities in the decades that followed, including the recession of 2007–09, according to Robert Hetzel of the Richmond Fed. In the philosophical horse race between monetary disorder and market disorder as the two most likely causes of recessions, Hetzel puts his money on monetary disorder, even when market disorder looks like a sure thing.

At first glance, the recession of 2007–09 appears to be a classic case of market disorder. Wild swings between excessive risk-taking and excessive risk aversion seem to overwhelm the ability of the price system—especially the real interest rate—to maintain aggregate real demand equal to potential output. Hetzel, however, invites readers to take a closer look. He points out that consumption began to show signs of weakness in May 2007, long before the financial turmoil associated with the demise of Lehman Brothers in September 2008. In a nod to the market disorder view, Hetzel acknowledges that significant shocks—the collapse of the housing market and sharply higher prices for energy and commodities—initiated the recession. By themselves, those shocks probably would have led to a moderate downturn, but “a moderate recession became a major recession in the summer of 2008 when the FOMC ceased lowering the funds rate while the economy deteriorated.”

From September 2007 until May 2008, the Federal Open Market Committee reduced the funds rate incrementally from 5.25 percent to 2 percent. But then the committee paused at 2 percent because headline inflation was rising and the FOMC was concerned that further easing might unleash long-term inflation expectations. The committee assumed that a 2 percent funds rate was expansionary. However, based on the steady deterioration in the economy, Hetzel argues that the corresponding real interest rate was high relative to the natural rate of interest—the real interest rate consistent with full employment. This untimely hesitation by the Federal Reserve and other central banks around the world turned a moderate recession into a severe one.

Hetzel contends that the FOMC’s mistake is symptomatic of conducting monetary policy by discretion instead of by rule. The committee deviated from the lean-against-the-wind (with credibility regarding inflation) procedures that characterized the Volcker-Greenspan era. Instead, the committee reverted to behavior characteristic of the stop phases of stop-go monetary policy from 1965 to 1979. To a significant extent, the 2007–09 recession arose because the Federal Reserve departed from a rule under Volcker and later Greenspan that anchored inflation expectations while allowing the price system to work, Hetzel argues. “The FOMC misunderstood the lessons offered by the contrasting experience of the Great Inflation and the Great Moderation.”

Ultimately, monetary disorder wins the race in terms of which view allows policymakers to learn from their mistakes, Hetzel concludes. Under the monetary-disorder view, economists can study the history of central banking and determine which class of models offers the best policy guidance. “This will instill discipline and mitigate the problems inherent in the current practice of ad hoc policy making.”

<http://www.cambridge.org/aus/catalogue/catalogue.asp?isbn=9781107011885&ss=toC>

The *Richmond Fed Research Digest* is written and edited by Karl Rhodes and Tim Sablik and published by the Research Department at the Federal Reserve Bank of Richmond. It may be photocopied or reprinted in its entirety. Please credit the Federal Reserve Bank of Richmond and include the statement below.

The *Richmond Fed Research Digest* summarizes articles and other works that reflect the views of their respective authors and not necessarily those of the Federal Reserve Bank of Richmond or the Federal Reserve System.

