Western Garden Book
Maureen Dowd
BUSHWORLD
IN SEARCH OF HISTORY
Theodore H White
A DEATH IN ZAMORA
Eleanor and Franklin
KATHARINE FELTON

Christina and David Romer

In times of financial turmoil, it is comforting—or at a minimum, illuminating—to receive counsel from those with long-term perspective. Tempered with the lessons of history, their views extract true trend from distracting noise. Guided by precedent, shaped by narrative, checked against data, the conclusions of economic historians are formed slowly and carefully.

In the realm of U.S. monetary history, few economists are as qualified to provide such counsel as Christina Romer and David Romer of the University of California, Berkeley. Since 1985, when both received their doctorates from the Massachusetts Institute of Technology, the two have co-authored some of the field's central analyses of Federal Reserve policymaking, based on thorough scrutiny of Fed documents and painstaking empirical investigation. They've made fundamental contributions to the literature on fiscal policy as well. Individually, Christina is well known for her research on the Great Depression and David for his work on microeconomic foundations of Keynesian economics.

While their topics and methods are orthodox, their conclusions are often unsettling. Attempts by members of the Federal Open Market Committee to add information to Fed staff forecasts "may lead to misguided actions," the Romers wrote recently. Monetary policymaking has improved since World War II but not steadily, they've concluded; policymakers have gone astray when they deviated from sound economic theory. Contrary to conventional wisdom, the Romers have found, government spending is not reined in by tax cuts. And, according to a celebrated, if "offbeat," analysis by David, football coaches should be much more aggressive on fourth down.

The following conversation with the Romers covers this research as well as their work as co-directors of the monetary economics program of the National Bureau of Economic Research, their thoughts on asset prices as a focus of monetary policy, the benefits of research collaboration with one's spouse and, indeed, their perspective on current U.S. economic turmoil.

Photography by Peter Tenzer

TAXES AND SPENDING

Region: You recently wrote a very intriguing paper about the interplay between tax changes and government spending. Would you give us a brief description?

David Romer: Well, a major motivation that people have put forward for cutting taxes is their concern that government is too large. They think that the direct approach of going through the political process to cut spending is very difficult, and so the best strategy is to cut taxes. The idea is that this will reduce the revenues that Congress has available, and over time that will force spending down.

This is something that Ronald Reagan was very explicit about. It was one of the motivations for his tax cuts, and it goes under the name of the "starve-the-beast" hypothesis. The "beast" is government and its "food" is the revenues. Despite its importance, there's been very little empirical work on this, and most of that work boils down to looking at correlations: When revenues go up or down, do we later see spending move in the same direction? But a theme that runs through a lot of our work is that simply looking at correlation is often very misleading for getting at causation.

In the context of the starve-the-beast theory, my favorite example of the issue of correlation versus causation is the fiscal history of the Korean War. The North invaded the South at the end of June 1950. A month later Truman took a few minutes out from planning the military response and wrote to Congress to say that we needed a massive tax increase because we were going to have to ramp up military spending. A big tax increase was passed and put into effect three months after the invasion. We really hadn't succeeded in increasing military spending at all at that point.

So if you look just at the data, you see that taxes went up and spending went up afterwards. If you look at correlation, it looks like a great example of tax changes causing spending to change in the same direction. But if you listen to the history I just described, it's clear that, in fact, causation went from the decision to raise spending to the decision to raise taxes.

What we try to do in a lot of our work is bring in additional information from history to try to get at causation. In the paper on the starve-the-beast hypothesis, we go through the history of tax changes and take out the ones that are motivated by decisions that had already been made to increase spending, take out ones that are coming not from policy at all but from developments in the economy, and the like. We try to isolate changes in taxes that seem truly legitimate for testing the starve-the-beast hypothesis.

And what we find is no evidence for starve-the-beast. There's no systematic tendency for spending to fall after tax cuts relative to what it otherwise would have been.

We find … no evidence for starve-the-beast. There's no systematic tendency for spending to fall after tax cuts relative to what it otherwise would have been.

David Romer

In postwar U.S. history what actually gives is the tax cut itself. A substantial fraction of a tax cut is typically undone in the subsequent five years.

Christina Romer

Region: I was quite surprised by that.

Christina Romer: We didn't know what we were going to find. One of the stressful things about the type of narrative research we do is that it involves a huge amount of work before the first regression can be run. But in this case, we thought the results would be interesting whichever way they came out.

Region: But you did find that tax cuts were followed by something else.

CR: Right. Tax cuts led, eventually, to tax increases. Basically, something has to give; there is a government budget constraint. What we thought gave when you cut taxes was spending, but we seem to find that in postwar U.S. history what actually gives is the tax cut itself. A substantial fraction of a tax cut is typically undone in the subsequent five years.

FORECASTING AND THE FOMC

Region: Let me jump now to monetary policy. Another provocative recent paper was your analysis of Federal Open Market Committee versus Fed staff forecasting ability, in which you basically found that the FOMC doesn't add much value. Is that an accurate summary?

CR: It is, or at least it's accurate as far as we've gone. This is our first pass at this topic. There's a limited amount of data on the FOMC forecast and the staff forecast that comes out of the *Monetary Policy Reports* that are done twice a year. We've been trying to get the actual data on the forecasts of each member of the FOMC so that we can do more thorough tests. We have an ongoing discussion with the Fed trying to get those data.

But the first pass at this certainly found that the FOMC has very little value added when it comes to forecasting: Once you know the staff forecast, you can pretty much throw away the FOMC forecast.

Region: And you also found that divergences between the two led to policy shocks.

CR: Yes, though that part of the paper is more suggestive than conclusive. We looked at whether times when the FOMC's forecast is quite a bit different from the staff's seem to be correlated with the FOMC doing something unusual on the policy side. We find that it does seem to be.

DR: If you think about how the Fed works, the forecasting results make a lot of sense. First of all, there is a huge number of staff economists, and they're very well-trained at forecasting. They devote enormous, enormous effort to it. So it really does seem like that's the staff's comparative advantage, and it would be surprising if the FOMC had a lot of value to add to that.

But what we really take from this is that the role the FOMC should focus on, their comparative advantage, is making judgments. Their role shouldn't be to engage in economic forecasting or to say what the effects of different policies are likely to be, but rather to make the value judgments about outcomes. "If we choose this policy, here's what the staff tells us the likely outcome is," they might say. "And we could make this choice and go down this path. This is the point estimate and the uncertainty. Now, as representatives who've been appointed through the democratic process, which path do we think is better for society?" That clearly is not something that should be delegated to the staff; it's absolutely something that the FOMC should be doing.

Region: So it's a deliberative role, not an analytical function.

CR: I think it's somewhat deliberative, but it's more a value judgment. You're confronted with a supply shock. Do you take it on inflation? Do you take it on output? There's a trade-off there. Someone's got to make the judgment call, which path do we want to take? There's not one that's necessarily objectively right, that every economist would say, "Of course, this is what you should do." It's going to be a value judgment that should be made by people who have been appointed and confirmed through the democratic process.

The first pass at this certainly found that the FOMC has very little value added when it comes to forecasting: Once you know the staff forecast, you can pretty much throw away the FOMC forecast. (CR)

The role the FOMC should focus on, their comparative advantage, is making judgments. Their role shouldn't be to engage in economic forecasting … but rather to make the value judgments about outcomes. (DR)

PRIVATE INFORMATION

Region: Let me ask a question about "private information" in relation to forecasting. I think it was in 2000 that you wrote a paper looking at the Fed's ability to forecast inflation and output versus private forecasters' ability and found that Fed forecasts were better. That indicated that the Fed had some private information.

My impression is that most economists don't think the Fed has a lot of private information. Are they wrong about that, or is it that the amount of private information has diminished given greater policy transparency since the period you analyzed?

DR: I think the label "private information" is potentially confusing, and actually the published version of the paper just refers to "Federal Reserve information." We don't think the Fed is making better forecasts because some people there are collecting the industrial production data or because they have contacts on Wall Street who are giving them special information.

We think that the sense in which the Fed has better information is that they take the mass of publicly available data—ranging from published government series to anecdotes about what's happening at Macy's this week—and do a much better job of turning those data into a forecast.

CR: What David is describing is closely related to what we said about the FOMC versus the staff. No private forecaster, just like no member of the FOMC, puts the resources into forecasting that the Fed does. It has hundreds of Ph.D. economists, not to mention all the people at the regional banks. So we think that it's a processing advantage, not getting the data sooner or having secret contacts or whatever.

On the issue of whether this is a common view, I think the question of

No private forecaster, just like no member of the FOMC, puts the resources into forecasting that the Fed does. It has hundreds of Ph.D. economists, not to mention all the people at the regional banks. … Our empirical evidence says that they have some information relative to private forecasters. (CR)

whether the Fed has useful information is an empirical one. It's not one we should try to answer from the seat of our pants. And, we certainly think that our empirical evidence says that they have some information relative to private forecasters. I think it's been confirmed, hasn't it?

DR: I think so. [Princeton economist] Chris Sims has a paper on this [http://sims.princeton.edu/yftp/bppolicy/bpPolicy.pdf]. He came to the same conclusion. There are a lot of statistical results out there of the "Is the *t*-statistic 1.8 or 2.2?" variety. But the results about Fed information aren't in that category. This is something that statistically is overwhelming. If you know a high-profile commercial forecast of inflation and someone handed you the Fed Greenbook, the evidence is very strong that you would want to put almost complete weight on the Greenbook.

CR: I do think that there is a question of whether the Fed's advantage may have changed over time. There certainly have been big increases in Fed transparency. To the degree that there's more signaling now of "here's what we're thinking and here's where we're going," the Fed's informational advantage may have lessened over time.

EVOLUTION OF UNDERSTANDING

Region: At the Kansas City Fed's 2002 Jackson Hole symposium, you spoke about the "Evolution of Economic Understanding and Postwar Stabilization Policy." You identified three distinct phases in that evolution, ending in the 1990s with a sophisticated model that seemed sensible. And you said this suggests "both a note of optimism and a note of caution about the future of stabilization policy." Would you describe those phases and elaborate on those notes?

CR: I'll start with the phases. There's a desire to think that we gradually learn things over time, and so we get gradually better and better policy. But, what we found was a more complicated evolution. We found that in the 1950s, policymakers didn't have a sophisticated model of the economy, but in its basics, it was actually pretty good. They had a sense that inflation was bad. They had a sense that there was a kind of capacity constraint to the economy, and that if you tried to push the economy too far, eventually you wouldn't get any benefits in terms of lower unemployment; all you'd get is inflation. It was a sort of proto-natural-rate kind of view. As a result, policy was also pretty good. It wasn't perfect—they were certainly doing the sort of "stepping on the gas, stepping on the brakes" that Milton Friedman always criticized—but overall, the basics were pretty good. Inflation was kept in check and recessions were brief.

Then what we see is deterioration in the 1960s and '70s. In the process of trying to add better analytics, policymakers in fact took a giant wrong turn in understanding how the economy operates. They first had the idea that there was a permanent trade-off between inflation and unemployment, so if we were just willing to have more inflation, then we could permanently lower unemployment.

That view disappeared pretty fast, but then policymakers replaced it with a natural rate of unemployment view where they thought the sustainable level of unemployment was, maybe, 3 percent. Then we see Arthur Burns in the early 1970s struggling with the fact that that didn't seem to be right. So he added the idea that maybe monetary policy just can't do anything—that inflation doesn't respond to slack. So another twist and turn, but a wrong turn. Policy in this period reflected these views—it was wildly overly expansionary most of the time, with a few half-hearted monetary contractions aimed at controlling inflation thrown in.

Not until the Volcker, Greenspan and now Bernanke era do you get a basically pretty sensible model—the view that inflation is bad, the sustainable rate of unemployment is moderate and inflation will respond to slack.

I think we're both pretty strongly of the view that the Great Moderation—the excellent performance of the U.S. macroeconomy over the last quarter century—is not just luck. A big part of it is improvements in the conduct of monetary policy related to improvements in economic understanding. (DR)

Region: You call it "sensible *and* sophisticated."

CR: This is in contrast with the 1950s, which was sensible but clearly crude. The modern framework has a lot of sophisticated features that policymakers in the 1950s didn't have. The important thing is that these sensible views have led, by and large, to moderate, well-tempered policy. The result has been low inflation and remarkably steady growth over the past 25 years.

Region: And your notes of caution and optimism?

DR: The optimism is to say that we've now had monetary policy run on a very sound basis for 25 years. I think we're both pretty strongly of the view that the Great Moderation—the excellent performance of the U.S. macroeconomy over the last quarter century—is not just luck. A big part of it is improvements in the conduct of monetary policy related to improvements in economic understanding. That's the optimistic note, that maybe good ideas and good policy can continue.

The note of caution is that we haven't had a monolithic march toward better and better knowledge. So if people get complacent and start appointing people who have misguided ideas to the Federal Reserve, we can have a backsliding.

CR: Another wrong turn.

DR: Yes, another wrong turn in how policy is conducted. And so that's something we have to be vigilant about. We have to think about ways to ensure that monetary policy is consistently run on the basis of the best available ideas about how the economy works.

THEORETICAL PROGRESS

Region: From my reading of the symposium proceedings, it seemed there was a fair amount of criticism from the discussant [NYU economist Thomas Sargent] and others, saying among other things—and I'm from Minnesota so I have to bring this up—that your analysis left out major theoretical advances, such as rational expectations and the time inconsistency problem, among others.

Is it your view that these theoretical advances don't have much of a role in improved policy?

CR: I think our view is that to understand what went on in U.S. macro history, these things aren't crucial. Issues of credibility and rational expectations surely can matter and surely are something that any good monetary policymaker should be thinking about. But in terms of explaining why policy went so astray in the early 1970s, it wasn't time inconsistency, it wasn't failing to take credibility into account. It was Arthur Burns saying things like, "Monetary policy can't do anything." So in terms of the source of the big policy mistakes, we think that's not the best place to look.

Issues of credibility and rational expectations surely can matter and surely are something that any good monetary policymaker should be thinking about. But in terms of explaining why policy went so astray in the early 1970s … we think that's not the best place to look. (CR)

The paper I'd cite that I think is very supportive of this comes very much from a rational expectations learning tradition. It's by [Northwestern University economist] Giorgio Primiceri in the 2006 *Quarterly Journal of Economics*. It uses a sophisticated "Sargent-esque" learning model, but finds that learning about just a few variables—the estimates of the natural rate and the sensitivity of inflation to deviations from the natural rate—can explain the evolution of policy and outcomes incredibly well. So again, I think it's an empirical issue, not a theoretical or methodological issue.

DR: The other example I would add besides the one of what went wrong in the 1970s is what finally went right when Volcker came in. The crucial thing was that Volcker had a much more sensible view of how the economy operated, and he took actions consistent with those views. He said, in effect, "Okay, look, we have to get inflation down. Monetary policy is capable of doing that. The natural rate of unemployment is pretty substantial, so to reduce inflation we're going to have very tight policy and the unemployment rate is going to have to go quite high."

As things turned out, it was actually less costly to bring inflation down than most economists had expected, and a likely reason is that at some point people started to realize that the Fed was really serious. The Fed gained some credibility, and so you didn't have purely mechanical backward-looking expectations. You got kind of a credibility or rational expectations kick.

So if you want to describe the very big picture of what happened, rational expectations isn't central. But if you want to get into a quantitative account and match the numbers, then that becomes something to consider. So, it's on the list, but it's not one of the top ones for the period we were looking at.

A FOURTH PHASE?

Region: It's too early to write our history about the current period, of course, but people are again talking about stagflation, and I guess it comes to a question of, What have we learned after all? Is the Great Moderation over? Have we entered a fourth phase?

CR: The key question is what happens from here. For the Great Moderation, we believe that good policy was a crucial part. But another thing that a lot of the studies have found is that during the Great Moderation, we didn't have big shocks. For example, we didn't have a lot of oil price shocks.

Ben Bernanke has been dealt just a rotten hand; there are awful shocks hitting the U.S. macroeconomy. The issue is going to be, What do we do from here? There's no way, confronted with some of these things, that you can have low inflation and 4 percent real growth every year. (CR)

We're now in a nasty period. Ben Bernanke has been dealt just a rotten hand; there are awful shocks hitting the U.S. macroeconomy. The issue is going to be, What do we do from here? There's no way, confronted with some of these things, that you can have low inflation and 4 percent real growth every year.

What we don't have to do is what they did in the 1970s, which is to compound bad shocks with bad policy. The Fed ran massively expansionary monetary policy at a time when conditions didn't warrant it. The result was very high inflation, followed by massively high unemployment to get it down.

So I think the real question is going to be, What's the line we walk from here? Think about the action we saw just today [June 25], where the FOMC didn't keep lowering the federal funds rate. It said, "We're probably through the worst in the financial markets; we had to fight that fire, but now we're going to look at what's happening to inflation. There are benefits to low inflation, and so we're going to have to think about how much we stimulate the real economy and how much we're concerned about inflation." The fact that the FOMC is thinking this way suggests that even if they don't do everything exactly right, they're not going to make the sorts of huge mistakes policymakers made in the 1970s.

ASSET PRICES

Region: It's long been Fed doctrine that we really don't have the ability to identify asset price bubbles with great accuracy, nor address them with alacrity. But given the housing market, the dot-com bust—given much of this past decade, I guess—some policymakers are reconsidering whether asset prices should be a focus of Fed policy. What is your view?

DR: I've always been of the view that it's very hard to identify an asset price bubble, and I don't think the Fed should be in the business of trying to determine what fundamental values are. A nice

It might be best to think not in terms of trying to manage asset prices or identify fundamental values, but rather that rapid increases in asset prices are another indicator of potential overheating. (DR)

concrete example of this is that when Alan Greenspan gave his famous irrational exuberance speech, the Dow-Jones average was at something like 6,000; it eventually fell, but it had risen a great deal more before it fell. So in retrospect it looks like 6,000 was not too high for the Dow at that time.

I think the bigger issues are that rapid run-ups in asset prices, first of all, tend to stimulate the economy a lot, and secondly, can be followed by declines. So it might be best to think not in terms of trying to manage asset prices or identify fundamental values, but rather that rapid increases in asset prices are another indicator of potential overheating that the Fed might want to consider in how it conducts policy. To me that makes sense.

I think it's really framing the issue in a confusing way to try to focus on the question of the Fed directly managing asset prices or trying to have its own view of what fundamentals should be. I think that's not where the Fed should be. But I think they should still be thinking pretty hard about asset markets.

CR: I like David's point about big rises in asset prices as an indicator that maybe the economy is too hot, or that they're one of the things that you should look at. In thinking about the Greenspan era, there's a tendency for people like [former Fed Governor] Larry Meyer to say, "Oh, Alan Greenspan was so much smarter than I was because he realized that the unemployment rate could go down to an incredibly low level."

I'm not sure that's right. In some sense maybe we were taking things too far. Being aggressive in seeing just how good we can make things in the short run might be setting up these kinds of bubbles. I think we might want to take rapid asset price increases as one indication that we should be following a more moderate policy.

CHOOSING A CHAIR

Region: In 2004, you wrote a paper with lessons about selecting a Fed chair. You suggested that the best way to predict what a chair would do was simply to read what they'd written. About two years later, Ben Bernanke was sworn in as chair. He's been there for about two and a half years.

Have your lessons held up? In other words, do you feel that Bernanke's writings and his testimony were an accurate predictor of what he's done, of the policy he's pursued?

CR: Yes, I think they were very much so. We argued that what you are looking for in the record is the potential chair's framework about the economy. What we learned from preparing the "Evolution of Economic Understanding" paper is that policy tends to go astray when people have "wacky" views about how the economy works.

When you read G. William Miller, for example, you can just tell that he doesn't have a sensible framework. It's a framework that would lead you to an overly expansionary policy. When you read Ben Bernanke's statements and papers, you see a very sensible framework and a reasonable view of what the Federal Reserve can and cannot accomplish. I think the actions he has taken are consistent with the views he expressed before becoming chair.

So, we'd view Chairman Bernanke as a triumph for our paper. In fact, if you were to read our paper and ask who would be the perfect person, it probably would have been either Stan Fischer or Ben Bernanke—that's what came out of our analysis.

And again, Bernanke has been dealt a horrible hand—the meltdown in financial markets, the collapse of housing prices, huge oil price shocks—and I think the Fed has done a good job of trying to navigate us through this.

Region: One of the steps the Fed has taken is creating vehicles to open up the credit window more broadly. How important are these recent innovations in terms of Fed policy history?

DR: I'm not enough of an expert on this to know, but I think this is not really the big issue in the context of policy. The big issue is that, faced with problems in financial markets, the Fed responded aggressively, after a little bit of a delay, with easing. That seemed extremely appropriate. I start from a fairly traditionalist view, that the right thing for the Fed to do if the economy is in trouble, rather than trying to identify particular problem areas in financial markets that need intervention, is to provide lots of liquidity and keep interest rates low. I haven't studied the case for these more innovative steps enough to have a firm view about whether they were wise or not. But I don't think they're the big picture of what the Fed has been doing.

When you read Ben Bernanke's statements and papers, you see a very sensible framework and a reasonable view of what the Federal Reserve can and cannot accomplish. I think the actions he has taken are consistent with the views he expressed before becoming chair. (CR)

CR: I agree. Why was the Fed created? The Fed was created because we'd gone through several devastating financial panics in the late 1800s and early 1900s. So, faced with what could have turned into a panic in 2008, the Fed responded aggressively. It's exactly the textbook description of what they should have done. Now the innovative things, such as lending to investment banks, raise big regulatory issues that I think someone needs to be thinking about a lot—making sure they're dealing with them correctly. But again the big picture was, don't let the New York financial market go under because it would have devastating real economic consequences. That was exactly the right focus for policy.

NBER AND MONETARY ECONOMICS

Region: In a couple of weeks, you'll head to Boston to lead the monetary economics workshop of the National Bureau of Economic Research. It runs five straight afternoon sessions, 14 papers, I think. I was struck by the diversity of presentations, from a Larry Summers discussion on recent developments in financial markets to a paper by two young Harvard economists on frequency of price changes and exchange rate pass-through.

How long have you run this group?

CR: I have to think. Is it four years?

DR: That's what I was going to say.

CR: On the content, we deliberately take a very inclusive role of what counts as monetary economics. The unofficial definition of monetary economics that we inherited, going back to Greg Mankiw and Ben Bernanke, who ran this program before us, is that it's anything monetary policymakers should be interested in.

I do worry that monetary economics may be narrowing … we may be losing the empirical side. … To the degree we're trying to do any social engineering, it's to try to encourage the breadth of empirical studies. (CR)

So if you think of it that way, it's a lot of things. It obviously includes a wide range of macro topics, but it may also get into the microeconomics of price setting and financial market regulation. Anything that gets you information on how the macroeconomy operates we think is fair game. Subject to that constraint, we just look for the best papers and try to be pretty aggressive in getting what we think is good and exciting research, so people come and it's an interesting meeting.

DR: I think we are very committed to the diversity of approaches to empirical work. So you'll see some very high-tech, Bayesian time-varying parameter VAR sorts of papers; you'll see things in economic history; you'll see researchers who've gone out and talked to people at firms about how they went about changing the prices for a line of products. People who attend the workshop seem to appreciate that whole range of approaches.

Region: Four years as co-chairs may not be a long enough perspective to answer this next question, but you've certainly been attending the workshop for longer. Given where we are now with monetary policy, do you feel that monetary economists at the NBER, and overall, have been investigating the right questions, have they had the right research focuses?

CR: Oh, that's a good question. I think yes and no. The nice thing about the way research is done is, it's a thousand flowers blooming. People are just trying lots of different things. Some of them have proved to be very exciting and useful, and some of them have been less so.

I do worry that monetary economics may be narrowing. For some economists using a standard DSGE [dynamic stochastic general equilibrium] model, it's becoming "let's change this equation, let's change that one." I worry that we may be losing the empirical side. I worry that we've gone too far into "let's just calibrate this, let's check this covariance." I sure hope people will keep thinking along the lines of, Is there an innovative way of testing this? Is there a variable we haven't thought of? Is there a natural experiment? To the degree we're trying to do any social engineering, it's to try to encourage the breadth of empirical studies, so we don't narrow too much.

Do you agree?

DR: I do.

COLLABORATION

Region: I've long been interested in the process of collaboration among scholars—how topics are chosen, labor divided, disputes resolved—but I've never considered how marriage might play into that.

You've co-authored many papers, run the monetary economics workshop for four years and made a wide range of employment decisions together. How would you describe your working relationship?

DR: My sense is that the collaboration is closer than it is in many co-authorship relationships, in a couple of ways. First, I think we do more steps of the research together. We spend a lot of time together in front of the computer or flipping through documents. Someone recently asked which of us had done the classification of the tax changes by motivation for our work on fiscal policy. And we both sat in awkward silence because the question made no sense to us. Finally, we said, "We did it together." One of us might take the first pass at reading the documents for a particular episode, and if it was straightforward, that was the end of the matter. But if there was any subtlety or disagreement, room for ambiguity, then we'd both study the record, and we'd make the case back and forth until we resolved things. The other way the collaboration is closer is, I think, we're—

David: My sense is that the collaboration is closer than it is in many co-authorship relationships, in a couple of ways. First, I think we do more steps of the research together. … The other way the collaboration is closer is, I think, we're—

Christina: We can be brutally frank.

David: Exactly.

CR: We can be brutally frank.

DR: Exactly. We can be more frank in our criticism because there's plenty of time to iron out the differences. If one of us isn't happy with the way someone has organized a section, we're not shy about expressing that. For one of our papers, I have a stack of outlines. On the bottom is #1, on top of that is outline #2, and then outlines #3 and #4. We went back and forth just trying to organize it.

CR: We often say that the professional collaboration solved all the bargaining issues in the marriage. Normally it's, Who does the laundry? or Who washes the dishes? Well, for us it's, *I'll* wash the dishes, *I'll* play with the kids, *you* go write the computer program. Given that there's lots of work to do, it certainly makes it easy to negotiate over who does what.

SEPARATE PIECES

Region: Of course, you've also published papers separately, and I'd be remiss if I didn't ask David about football. Can you tell me about your famous 2006 *Journal of Political Economy* paper, "Do Firms Maximize?"

DR: [Laughs.] That was a completely offbeat paper. The initial motivation really was just the narrow question of whether football coaches are getting a particular decision—what to do on fourth down—right. I found it intriguing, and at some point I found I had the tools to address it. And I got a bunch of undergraduates to help me gather the data. It was in some sense a paper that wrote itself. The number of undergraduates who responded to the e-mail of "Would you like to work on a project about football?" was just astronomical.

I find it interesting in various ways. The way that's emphasized in the published version is that it's a way of testing something that's very difficult to test normally. We can test whether individuals make maximizing choices, but it's much harder for firms because the decisions are more complicated, and the

More About Christina Romer

Current Positions

Class of 1957 Professor of Economics, University of California, Berkeley, since 1997. Joined Berkeley faculty in 1988; promoted to full professor in 1993

Co-director, Program in Monetary Economics, National Bureau of Economic Research, since 2003; Business Cycle Dating Committee since 2003; Research Associate since 1990

Previous Position

Assistant Professor of Economics and Public Affairs, Woodrow Wilson School, Princeton University, 1985–88

Professional Activities

Vice President, American Economic Association, 2006; various committees since 2001

Various committees, Economic History Association, since 1995

Editorial board, *American Economic Journal: Macroeconomics,* since 2007; *Review of Economics and Statistics,* 1994–2002; *Journal of Economic History,* 1994–97

Training Seminar on the Great Depression, International Monetary Fund, 2002, 2003, 2005

Honors and Awards

Fellow, American Academy of Arts and Sciences, since 2004

John Simon Guggenheim Memorial Foundation Fellowship, 1998–99

Distinguished Teaching Award, University of California, Berkeley, 1994

National Science Foundation Presidential Young Investigator Award, 1989–94

Alfred P. Sloan Research Fellowship, 1989–91

National Bureau of Economic Research Olin Fellowship, 1987–88

Publications

Co-editor, with David H. Romer, *Reducing Inflation: Motivation and Strategy,* University of Chicago Press for NBER, 1997

Author of numerous journal articles, with research focused on the effects and determinants of monetary policy, economic fluctuations over the 20th century, the causes of the Great Depression, the history and effects of fiscal policy, and historical macroeconomic data

Education

Massachusetts Institute of Technology, Ph.D., 1985

College of William and Mary, B.A., 1981

More About David Romer

Current Positions

Herman Royer Professor in Political Economy, University of California, Berkeley, since 2000. Joined Berkeley faculty in 1988; promoted to full professor in 1993

Co-director, Program in Monetary Economics, National Bureau of Economic Research, since 2003; Business Cycle Dating Committee since 2003; Research Associate since 1993

Previous Positions

Assistant Professor, Princeton University, 1985–88

Visiting Professor, Stanford University, Fall 1995; Visiting Associate Professor, Spring 1993

Visiting Assistant Professor, Massachusetts Institute of Technology, 1988

Professional Activities

Executive Committee, American Economic Association, 2007–10

Editorial board, *American Economic Journal: Macroeconomics,* since 2007; *Journal of Money, Credit and Banking,* since 1992; *B.E. Journals in Macroeconomics,* 2000–06; *Economics Letters,* 1992–2003; *American Economic Review,* 1996–2002; *Quarterly Journal of Economics,* 1990–98

Honors and Awards

Fellow, American Academy of Arts and Sciences, since 2006

Adviser of the Year Award, University of California, Berkeley, Graduate Economic Association, 1999, 1993

Teacher of the Year Award, University of California, Berkeley, Graduate Economic Association, 1998

Alfred P. Sloan Research Fellowship, 1991–93

Valedictorian, Princeton University, 1980

Publications

Author of *Advanced Macroeconomics,* McGraw-Hill. 1st ed., 1996; 2nd ed., 2001; 3rd ed., 2006

Co-editor, with Christina D. Romer, *Reducing Inflation: Motivation and Strategy,* University of Chicago Press for NBER, 1997

Author of numerous journal articles, with research focused on the effects and determinants of monetary policy, microeconomic foundations of Keynesian economics, empirical evidence on economic growth, the history and effects of fiscal policy, and stock market volatility

Education

Massachusetts Institute of Technology, Ph.D., 1985

Princeton University, A.B., 1980

data usually aren't available.

Another thing I like about the paper is that it's an illustration of how analytical tools can be useful. I've given seminars on this paper to undergraduates in the math department. I've gone to a junior high school math class to say, "Here's something interesting you can do with math that you wouldn't have expected." So it was an interesting diversion from other things that I've done.

Region: And you found that—?

DR: The bottom line is that if the goal is to win football games, teams should be dramatically more aggressive on fourth down. They should go for it much, much more often. I focused on situations early in the game with the score tied, so time and score aren't issues, and found that at fourth and short yardage pretty much anywhere on the field, you should go for it. If you're down close to the goal line, you should try for the touchdown.

The main place the math comes in is in thinking through the whole chain of events after the fourth down play. In the example of fourth and goal near the goal line, if you go for the touchdown and you fail, then you've lost the three points you would have gotten from a field goal, but you've left the other team in really crummy field position, and that partially offsets the fact that you didn't get the three points. And what you find when you do the analysis is that that's a very big consideration.

CR: The very sad and ironic thing is that now football teams are going for it less often on fourth down than before David wrote this paper! The armchair psychologist view of it is that they don't want to be doing what the academic egghead says they should. They want to be following their own route.

Region: So, David shaped the game.

CR: But in the wrong direction. The other side of it is, the fans love him.

The bottom line is that if the goal is to win football games, teams should be dramatically more aggressive on fourth down. They should go for it much, much more often. (DR)

They all say, "I always knew they should be going for it on fourth, and now you've shown it!"

Region: I doubt you've gotten quite as much attention for your recent presentation to the Economic History Association on macro policy in the 1960s, but I found it equally interesting. Would you tell us about it?

CR: That paper built on the work we did on the "Evolution of Economic Understanding," but added some of what we were learning from our new work on fiscal policy.

The EHA was having a session at the Lyndon Johnson Presidential Library in

Views took an unfortunate turn in the 1960s and '70s. Policymakers started to believe that budget balance was not important even over an extended horizon. … I think these are wrong turns that we haven't corrected yet—as evidenced by our ever-worsening long-term fiscal outlook. (CR)

Austin, Texas, and they wanted a talk about macro policy in the 1960s. The question I focused on was, What went wrong? And the answer is, Basically, bad ideas. There was a revolution in ideas, but it was a misguided revolution.

We've already talked about the change in ideas about short-run stabilization—thinking we could buy ourselves lower unemployment by just accepting some inflation. The thing I added in this paper was the long-run fiscal side. We not only had a revolution in our views about how the macroeconomy works in the short run, but also a change in views about the importance of long-run budget balance. The paper looked at how that evolved.

What's very striking is that we had a pretty sensible long-run fiscal view in the 1950s—the budget should be balanced over the medium run, but not each and every year and not in exceptional circumstances. And, policy choices reflected that view—the budget was balanced on average, but not in recessions and not during wars.

But views took an unfortunate turn in the 1960s and '70s. Policymakers started to believe that budget balance was not important even over an extended horizon, and that tax cuts would pay for themselves. And views took another wrong turn in the 1980s, when policymakers added notions such as the starve-the-beast hypothesis that tax cuts would force spending cuts. I think these are wrong turns that we haven't corrected yet—as evidenced by our ever-worsening long-term fiscal outlook. That's the big picture that came out of this study.

Region: Thank you both very much.

—Douglas Clement
June 25, 2008