CoBANK™

OUTLOOK Economic Data and Commentary

January 2014 Volume 11 Number 1

New Leadership at the Federal Reserve

On February 1, Janet Yellen will be sworn in as the 15th Chair of the Board of Governors of the Federal Reserve System. No newcomer to the Fed – she is currently vice chair and a former Federal Reserve Bank of California president – Yellen succeeds two-term Fed Chair Ben Bernanke, who presided over the Fed during the country's recovery from the worst financial disaster since the Great Depression. Yellen is not stepping into the center of the economic firestorm that Bernanke experienced, but she is inheriting an economy with still-uncertain levels of growth, high but declining unemployment, and a lower-than-normal rate of inflation.

And while many economists expect the recovery to continue, Yellen will have the delicate task of maintaining growth while reducing and eventually eliminating the Fed's unconventional bond-buying program – dubbed "quantitative easing" – and unwinding what has become a massive balance sheet. Just this week, the Fed again reduced the monthly stimulus program by another $10 billion.

In order to better understand the Fed's challenges and how Yellen is likely to address them, *OUTLOOK* recently spoke with Darrell Duffie, Dean Witter Distinguished Professor of Finance at the Graduate School of Business at Stanford University.

Dr. Duffie has been on the finance faculty at Stanford since receiving his doctorate from Stanford in 1984. He is a member of The Federal Reserve Bank of New York Financial Advisory Roundtable and has authored several books and many research articles on topics in finance and related fields.

OUTLOOK: Let's start with your view of the current economy in general. Do you think there will be any disruptions in the continuing recovery?

Darrell Duffie: The most likely path is continued improvement, but it can always be punctuated by bad news. It could be that economic growth is not as firm as we think and we could see some surprises. However, the financial system is in much better shape than it was five years ago. It's much more stable and it's better designed. Regulations are better. U.S. banks are better capitalized and more liquid. Bad practices have been cut back quite a lot. I don't think we're as likely to see surprises coming from that direction.

Still, there are plenty of potential potholes in the road ahead. Unemployment might not go down as fast as we hope and growth may stall. Inflation is too low right now, which could be problematic if people start to fear deflation. That could reduce growth, which is a problem. In several years, we might start worrying about inflation.

OUTLOOK: Remind us of the Fed's primary role in the economy.

DD: The Fed is a central bank. Central banks started with a mandate to counter financial instability caused by a number of banking crises. Financial stability is still a very important part of the Fed's mandate.

With regard to monetary policy, the Fed has a very clear dual mandate, which is to promote maximum employment and price stability. People read "maximum employment" differently, but it means basically low unemployment. There are a few recent Fed papers that suggest full employment for the U.S. currently equates to an unemployment rate of about 5 percent, but that changes with the economy.

OUTLOOK: How has the role of the Fed changed over the years?

DD: Going back to its origins 100 years ago, the Fed was charged with establishing an elastic money supply that could expand or contract as necessary in order to reduce the number of banking crises and create more financial stability. Despite that, it didn't really do much at the beginning of the Great Depression to meet its mandate. It allowed the money supply to shrink, which exacerbated the financial crisis of those days and actually contributed to the Great Depression.

From about World War II until 2006, the Fed had a very traditional mandate to moderate inflation and maintain high employment. It didn't really worry that much about financial instability during that period because we didn't have any major banking crises.

Then, of course, the Fed's mandate and its role changed dramatically in the recent financial crisis, when financial stability came front and center. Perhaps its most important role since then has been gradually getting back toward a traditional monetary policy role. The Fed is doing that by tapering its bond-buying program through which it has put trillions of dollars into the system to spur growth.

About this article

Darrell Duffie is the Dean Witter Distinguished Professor of Finance at the Graduate School of Business at Stanford University.

Dr. Duffie has been on the finance faculty at Stanford since receiving his doctorate from the school in 1984. He also is a member of The Federal Reserve Bank of New York Financial Advisory Roundtable and has authored several books and many research articles on topics in finance and related fields.

In addition to his work at Stanford University, Dr. Duffie is a Fellow and member of the Council of the Econometric Society, a Research Fellow of the National Bureau of Economic Research, a Fellow of the American Academy of Arts and Sciences, and a member of the board of directors of Moody's Corporation since 2008.

Dr. Duffie was the 2009 president of the American Finance Association. He currently chairs the Market Participants Group, charged by the Financial Stability Board with recommending reforms to LIBOR, Euribor, and other interest rate benchmarks. His recent books include "How Big Banks Fail," "Measuring Corporate Default Risk," and "Dark Markets."

Yellen's fellow economists often speak about her in "activist" terms, suggesting she's not of the more conservative, laissez-faire school of economics.

OUTLOOK: How do you compare the policies of former Fed Chairmen Alan Greenspan and Ben Bernanke to what we can anticipate from Janet Yellen?

DD: I would put Bernanke and Yellen in one camp, and Greenspan in another. Alan Greenspan was a self-professed libertarian. He was much more laissez-faire. He had some second thoughts about that once he left the Fed, but he basically believed that market participants would not take undue risks that could harm themselves. Bernanke and Yellen are much more activist as far as their central banking mandate goes. They're willing to use monetary policy, and macro- and micro-prudential policy, quite aggressively in the banking system when they feel it's needed.

Bernanke and Yellen are also alike in their approach to communication. They are strongly pro-transparency, and look very positively on providing clarity, forward guidance and lots of information to the market. Alan Greenspan spoke a lot, but he was often more guarded in terms of communicating specific future policy, perhaps viewing ambiguity as a virtue.

OUTLOOK: In general, what can we expect to see from Janet Yellen? How aggressive will the Fed be under her leadership in trying to stimulate growth?

DD: I don't see a major change in her approach from what we've seen in the last few years with Chairman Bernanke, and the actions and policy statements of the Federal Open Market Committee (FOMC), which is the group within the Fed that sets monetary policy.

She believes in the role of government when there's clear evidence that markets are not working well enough on their own and regulation or policy can be used to correct negative externalities, support positive externalities or reduce frictions.

Her fellow economists often speak about her in "activist" terms, suggesting she's not of the more conservative, laissez-faire school of economics.

OUTLOOK: What challenges will Chairman Yellen face early on?

DD: For the time being, she's not going to be heavily challenged by sudden changes in the macroeconomy. I think she's coming into her position at a helpful time, giving her a chance to lay down her own leadership style, gain the consensus of the FOMC and continue to normalize monetary policy as the economy improves.

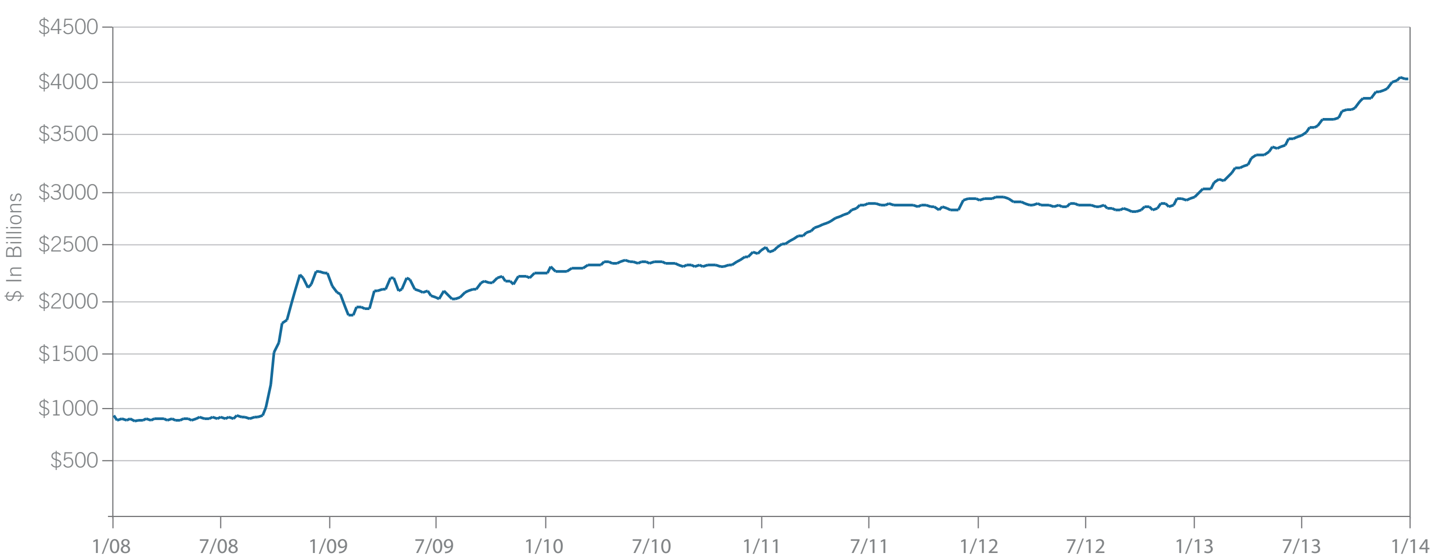
Overall, her biggest challenges will be managing the tradeoffs in using monetary policy to meet the "full employment" mandate, and in managing the volatility associated with reducing the Fed's balance sheet.

OUTLOOK: Will Yellen's leadership be vastly different than Chairman Bernanke's?

DD: It will not be vastly different. In fact, I think they are temperamentally close in leadership style. They both favor very open communication. They're both very straightforward people. What they say is what you get. They're both from academic backgrounds, very collegial, and not interested in creating dissension, but rather leading by creating consensus. Janet Yellen's not the same person, of course, and they come from different backgrounds in other ways. But in terms of leadership style, I don't see a truly major change.

THE FED'S BALANCE SHEET

Since January 2008, as financial markets began to experience turmoil, the Federal Reserve's balance sheet has grown.
Total assets of the Federal Reserve have increased significantly from about $900 billion in 2008 to more than $4 trillion today.



Source: Federal Reserve

> The Fed is, by design, as insulated as possible from political matters. I have every reason to believe Yellen will not let politics guide her role as chair. She would have no reason to do that, and she has a lot of integrity.

OUTLOOK: Bernanke is Republican and Yellen is a Democrat. Will Yellen's political affiliation make any kind of significant difference in her tenure?

DD: I don't think any Fed chair brings politics to the job. The Fed is, by design, separated from the administration and Congress in order to be as insulated as possible from political matters. I have every reason to believe she will not let politics guide her role as chair. She would have no reason to do that, and she has a lot of integrity.

I don't think Bernanke did, either. In fact, we saw lots of evidence of criticism of Ben Bernanke from the Republican Party, which suggests that he wasn't pursuing some sort of political agenda. I wouldn't expect any different from Janet Yellen.

OUTLOOK: The consensus is that the Fed will continue to taper and end its third round of quantitative easing by 2015. What do you believe?

DD: The Fed has always been very cautious about describing the timeframe for tapering, which started in December 2013. It has said that its approach to tapering will be subject to data. Basically, they say we'll start when the macroeconomic data indicate it's appropriate, and we'll continue tapering as long as the macro-economy is improving, but we won't necessarily taper at any particular pace. That said, given the sensitivity of market participants to any changes in timing of tapering, there will be a bias toward a steady rate of tapering.

Right now, as long as the economy continues to improve, I do suspect that tapering will be finished around the end of 2014. However, the Fed has not published any plan to keep tapering going at a steady rate until then. It's only said it would taper as appropriate to the macroeconomic conditions of the day.

OUTLOOK: What are your thoughts on the Fed's balance sheet, which has ballooned from about $900 billion in 2008 to over $4 trillion today? Some economists are concerned that the Fed may have some difficulty shrinking its balance sheet without disrupting the markets.

DD: It depends on what sort of disruptions you're most worried about. I'm not worried about inflation for the next few years because inflation is already well below the 2 percent target, and market prices of bonds suggest expectations of future inflation are well anchored. Inflation is not likely to go above target due to anything associated with tapering, which is designed to be contingent on inflation being under control. I don't see inflation being a big issue for quite a while. If it does become a problem, that would likely not be apparent for a number of years.

With respect to employment, tapering is a pro-stability process that is designed to moderate with unemployment and other growth-related data. I don't see a problem there.

There could be some problems with volatility and bond yields. So far, we've seen some stuttering in the bond markets as a result of the Fed's communication on tapering. Investors tend to have twitchy fingers when they react to any Fed communication on tapering.

If tapering doesn't go really smoothly – meaning not at a very constant rate – bond markets could react, and you could see some yield volatility which would cause profit-and-loss risks for some investors, particularly levered investors. This also applies to the use of all of the other monetary tools of the Fed until the balance sheet of the Fed is normalized, which will take many years.

OUTLOOK: Many experts predicted inflation would result from the Fed's quantitative easing program? Why do you think it has not materialized? Is it a long-term risk in the future?

DD: The Fed has used its post-crisis ability to pay interest to banks that maintain reserve deposits at the Fed as an incentive for banks to keep those reserves rather than using them to bid up the prices of other assets. I think some commenters had not understood this. In the long term, the Fed might find itself forced to pay banks much higher interest rates to accomplish this. This might involve some tough tradeoffs for the Fed, because very high interest rates could stall growth or even cause a recession.

QUANTITATIVE EASING DEFINED

Quantitative easing is an unconventional monetary policy in which a central bank purchases government securities or other securities from the market to lower interest rates and increase the supply of money in an economy. It floods financial institutions with capital to promote increased lending and liquidity. It does not involve the printing of new banknotes. In December, the Federal Reserve started "tapering" its monthly purchases of government and mortgage bonds from $85 billion each month to $75 billion. In January, it reduced the program further, to $65 billion per month.

Source: The Economist and Business Insider

"Yellen has spoken about the benefits of providing clear forward guidance to markets, so that they know not just roughly when they're planning to raise interest rates, but under what conditions they're going to raise them.

OUTLOOK: How will the Fed go about unwinding its balance sheet? What tools does it have at its disposal?

DD: First, the balance sheet signifies a new era; it's the biggest technical challenge facing the Fed. But with that, the Fed has a range of tools – including some new ones – that make it much better equipped than before.

First of all, their communication is a critically important tool. There was some concern about it back in May when the Fed announced the possibility of tapering. The markets experienced a period of volatility and yields jumped unexpectedly in quite a large amount. I think the Fed is going to continue to rely on communications but look to do even better on clearly signaling its plans.

Janet Yellen has spoken very actively about the benefits of providing clear forward guidance to markets, so that they know not just roughly when they're planning to raise interest rates, but under what conditions they're going to raise them. She has emphasized that distinction, and the importance of forward guidance as a tool of transparency, promoting monetary stability, and meeting the Fed's dual mandate.

OUTLOOK: What kinds of balance sheet actions do you expect to see from the policy perspective?

DD: As I mentioned, since the financial crisis the Fed is able to pay interest on the overnight balances that commercial banks held at the Fed – interest on their excess reserves. This is a powerful anti-inflation tool.

The Fed has also introduced a long-term facility to take deposits of reserves from banks for one year, not unlike a certificate of deposit. It's a new tool – a blunter tool – and the Fed hasn't tipped its hand that it will use it actively. Doing it overnight, on a daily basis, offers more flexibility but a longer-term option does exist now.

OUTLOOK: What other kinds of tools does it have?

DD: The Fed can control short-term interest rates through a very powerful new facility that allows the Fed to borrow money from a wide range of major market participants, who are now able to enter reverse repurchases with the Fed.

Before the financial crisis, the Fed would do this sort of transaction only with a small set of banks, the primary dealers. It has now given itself the ability to directly reach a much wider set of market participants, not just dealer banks, but also asset managers, money market funds, the giant government mortgage agencies, and others. It's another tool for conducting monetary policy.

With a reverse repurchase agreement, the Fed sells its treasuries and agency securities to these market participants in exchange for cash. Simultaneously, the Fed agrees to buy back these securities the next day at a slightly higher price. The difference in the purchase and sale prices is the effective interest rate on an overnight loan to the Fed. The interest rate that the Fed offers on these reverse repos sets a floor on overnight risk-free rates available to a wide market. With this, there is no risk of interest rates falling below the floor chosen by the Fed. Each authorized market participant, of which there are now over a hundred, is allowed to enter any quantity of these reverse repos up to a cap that is set by the Fed. The Fed can adjust the interest rate, the size cap, and the set of authorized market participants.

This facility allows the Fed to conduct monetary policy much more directly and rapidly than it could before. For now, the Fed has said that it is merely testing its new reverse repo facility, as a temporary tool, in case it is ever needed. I wouldn't be surprised to see the Fed announce, perhaps in the next few months, that it will make this facility a regular part of its monetary policy tool kit.

OUTLOOK: Do you foresee any potential volatility in the stock market as far as tapering goes?

DD: That's quite possible but, again, the tapering approach is pro-stability. If the stock market were to react very adversely, reflecting a very weak economy, then tapering could be slowed somewhat by the Fed. And, conversely, if growth seemed to suddenly take off, then tapering could be accelerated somewhat. I don't anticipate either of these scenarios. Anyway, there isn't that much more tapering to be done. Assuming the current rate of tapering of $10 billion per FOMC meeting, the whole process would be over before the end of the year.

OUTLOOK: What are Yellen's views about bank supervision in general?

DD: She's very much in favor of exercising the policy levers related to bank capital requirements and liquidity requirements. She hasn't been as strongly in favor of strict size limits on banks, or strict activity limits on banks. She's more reticent about those more direct activity type restrictions.

Overall, she is a strong believer in supervision and oversight, and I see continuity in that area.

OUTLOOK: How do you think she will do with the more political aspects of her role as Fed chair?

DD: I think she'll do fine. She's very collegial; she listens very well. She's not the sort of person that's going to get pushed around, so she'll provide clear leadership. On the other hand, she's not going to force her own views on anyone. I expect that her demeanor will be perfect as chair.

OUTLOOK: Let's look into your crystal ball. Alan Greenspan experienced tremendous economic growth culminating in the dot-com bubble. Ben Bernanke experienced the growth coming out of the dot-com bubble, which culminated in the 2008 financial crisis. What will Janet Yellen experience?

DD: Right now, the macroeconomic environment is weak but recovering. Unemployment is not nearly as high as it was, but it's still above traditional norms for full employment. We have very low inflation and there's no sign of economic overheating. The output gap is still quite large, meaning the economy has much more capacity to grow. That gap will continue to shrink, and eventually we'll get back to more normal conditions, when monetary policy can begin to take a more conventional form. I think that's the most likely scenario for her tenure as chair. There is always the chance, starting a number of years down the road, of a need for the Fed to control inflation by raising interest rates quite significantly, risking a recession.

Beyond that, there are always things that can hit you out of left field. We could have another crisis in the Eurozone. There could be a crisis in Japan or China. Of course, there's always the possibility of a war or natural catastrophe that could have a big economic impact.

However, the Great Depression aside, the Fed has generally been very deft during financial crises. Under Bernanke, the Fed reacted very quickly and effectively. I have no reason to believe that Janet Yellen wouldn't respond just as effectively in the face of another crisis.

Interest Rates and Economic Indicators

The interest rate and economic data on this page were updated as of 12/31/13. They are intended to provide rate or cost indications only and are for notional amounts in excess of $5 million except for forward fixed rates.

KEY ECONOMIC INDICATORS

Gross Domestic Product (GDP) measures the change in total output of the U.S. economy. The Consumer Price Index (CPI) is a measure of consumer inflation. The federal funds rate is the rate charged by banks to one another on overnight funds. The target federal funds rate is set by the Federal Reserve as one of the tools of monetary policy. The interest rate on the 10-year U.S. Treasury Note is considered a reflection of the market's view of longer-term macroeconomic performance; the 2-year projection provides a view of more near-term economic performance.

ECONOMIC AND INTEREST RATE PROJECTIONS

Source: Insight Economics, LLC and Blue Chip Economic Indicators

				US Treasury Securities	
2013	**GDP**	**CPI**	**Funds**	**2-year**	**10-year**
Q4	1.60%	1.10%	0.08%	0.38%	3.03%
2014	**GDP**	**CPI**	**Funds**	**2-year**	**10-year**
Q1	2.50%	1.80%	0.09%	0.43%	3.02%
Q2	2.70%	1.90%	0.11%	0.55%	3.14%
Q3	2.90%	2.10%	0.15%	0.70%	3.28%
Q4	2.90%	2.00%	0.19%	0.83%	3.39%

PROJECTIONS OF FUTURE INTEREST RATES

The table below reflects current market expectations about interest rates at given points in the future. Implied forward rates are the most commonly used measure of the outlook for interest rates. The forward rates listed are derived from the current interest rate curve using a mathematical formula to project future interest rate levels.

IMPLIED FORWARD SWAP RATES

Years Forward	3-month LIBOR	1-year Swap	3-year Swap	5-year Swap	7-year Swap	10-year Swap
Today	0.24%	0.31%	0.88%	1.74%	2.42%	3.02%
0.25	0.27%	0.36%	1.04%	1.92%	2.56%	3.13%
0.50	0.33%	0.44%	1.23%	2.10%	2.71%	3.25%
0.75	0.39%	0.54%	1.44%	2.30%	2.87%	3.37%
1.00	0.46%	0.68%	1.66%	2.49%	3.03%	3.49%
1.50	0.74%	1.08%	2.13%	2.87%	3.32%	3.72%
2.00	1.18%	1.62%	2.62%	3.25%	3.62%	3.94%
2.50	1.75%	2.18%	3.03%	3.55%	3.86%	4.12%
3.00	2.31%	2.73%	3.45%	3.86%	4.10%	4.30%
4.00	3.20%	3.56%	4.00%	4.27%	4.43%	4.54%
5.00	3.80%	4.12%	4.39%	4.54%	4.64%	4.70%

HEDGING THE COST OF FUTURE LOANS

A forward fixed rate is a fixed loan rate on a specified balance that can be drawn on or before a predetermined future date. The table below lists the additional cost incurred today to fix a loan at a future date.

FORWARD FIXED RATES

Cost of Forward Funds

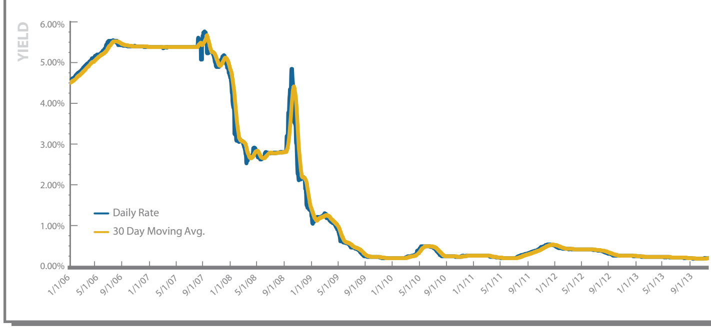
Forward Period (Days)	Average Life of Loan			
	2-yr	3-yr	5-yr	10-yr
30	7	9	9	7
90	16	23	24	16
180	29	44	45	30
365	75	95	94	60

Costs are stated in basis points per year.

SHORT-TERM INTEREST RATES

This graph depicts the recent history of the cost to fund floating rate loans. Three-month LIBOR is the most commonly used index for short-term financing.

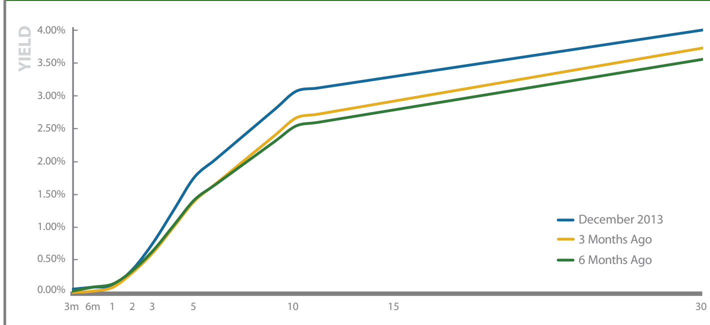
3-MONTH LIBOR



RELATION OF INTEREST RATE TO MATURITY

The yield curve is the relation between the cost of borrowing and the time to maturity of debt for a given borrower in a given currency. Typically, interest rates on long-term securities are higher than rates on short-term securities. Long-term securities generally require a risk premium for inflation uncertainty, for liquidity, and for potential default risk.

TREASURY YIELD CURVE



CoBank Schedules Year-End Financial Conference Call and Webcast

CoBank will hold a conference call and webcast at 12 p.m. Mountain Standard Time on Tuesday, February 25, 2014 to discuss year-end financial results.

The call will feature remarks from CoBank Chief Executive Officer Bob Engel, Chief Financial Officer David Burlage and Board Chairman Everett Dobrinski. Customer-owners and other participants will be able to submit questions during the call.

Joining via phone:

Dial-in number: 866-543-6403
Passcode: 37269232

Joining via the Internet:

To register, click HERE.

Instructions will be provided on how to submit questions during the webcast. In addition, you can submit questions in advance by emailing them to **corp.comm@cobank.com.**

If you have additional questions, please contact CoBank Corporate Communications at 800-542-8072 x 32239.

About CoBank

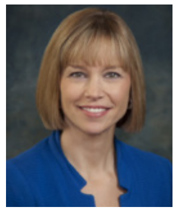
CoBank is a $94 billion cooperative bank serving vital industries across rural America. The bank provides loans, leases, export financing and other financial services to agribusinesses and rural power, water and communications providers in all 50 states. The bank also provides wholesale loans and other financial services to affiliated Farm Credit associations serving more than 70,000 farmers, ranchers and other rural borrowers in 23 states around the country.

CoBank is a member of the Farm Credit System, a nationwide network of banks and retail lending associations chartered to support the borrowing needs of U.S. agriculture and the nation's rural economy. Headquartered outside Denver, Colorado, CoBank serves customers from regional banking centers across the U.S. and also maintains an international representative office in Singapore.

For more information about CoBank, visit the bank's web site at www.cobank.com.

Stephanie Herseth Sandlin Joins CoBank Board

CoBank recently announced that Stephanie Herseth Sandlin, a corporate attorney and former member of Congress from the state of South Dakota, has been named to the board as an appointed director.


Herseth Sandlin

Herseth Sandlin will serve a four-year term on the board as one of four appointed directors, with a term expiring in 2017. A resident of Sioux Falls, South Dakota, she was first elected to the U.S. House of Representatives in 2004 and served four terms.

During her tenure she served on the Agriculture, Natural Resources and Veterans' Affairs committees as well as the Select Committee on Energy Independence and Global Warming. After leaving Congress in 2011, she worked as a principal in the Washington, D.C., law firm of Olsson Frank Weeda Terman Matz. Later she was named general counsel and vice president for corporate development for Raven Industries, a publicly traded technology company based in Sioux Falls serving businesses in agriculture, energy, aerospace and other sectors. She holds bachelor's, master's and law degrees from Georgetown University.


Everett Dobrinski

"I'm delighted to welcome Stephanie as an appointed director," said CoBank Chairman Everett Dobrinski. "Our board will benefit enormously from her breadth of experience in the public and private sectors and her perspective on issues important to rural America."

"It's a privilege to be joining the board of CoBank," Herseth Sandlin said.

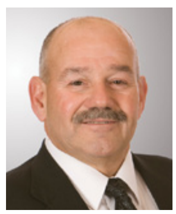
"No business organization does more to support the growth and development of the U.S. rural economy, and I look forward to working with the rest of the board to help the bank fulfill its mission and position itself for continued success."

CoBank also announced board officers for this year.

Dobrinski, who has been chairman since 2008, will continue in the chairman's role in 2014. He is the owner and operator of Dobrinski Farm, a cereal grain and oilseed farm in Makoti, North Dakota. He is also a member of the board of the Farm Credit Council and previously served as chairman of Verendrye Electric Cooperative. In addition, he is a former director of the Dakota Pride Cooperative and a current member of the board for the North Dakota Coordinating Council for Co-ops. Dobrinski was first elected to the CoBank board in 1999.


Dan Kelley

Dan Kelley will again serve as first vice chairman. A director since 2004, he produces corn and soybeans in a family farming partnership near Normal, Illinois. In addition, he serves as a director for Nationwide Bank, Nationwide Mutual Insurance, Evergreen FS, Inc., and Midwest Grain LLC, a grain merchandising company. He is also chairman of the Illinois Agricultural Leadership Foundation and is a director of Farmland Mutual Insurance Company. Kelley is the past chairman and president of GROWMARK Inc., an agricultural and energy cooperative in Bloomington, Illinois.


Tony DeGiusti

Tony DeGiusti will serve as second vice chairman. He is the owner of DeGiusti Farms in Tuttle, Oklahoma, which produces alfalfa and grass hay and wheat. He also owns and operates a cow/calf stocker operation. DeGiusti serves on the board of the Farm Credit Council and is a director of the Grady County Alfalfa Hay Growers Association. DeGiusti previously served on the board of U.S. AgBank, which merged with CoBank in January 2012.

"I look forward to working closely with Dan, Tony and the rest of our directors in the coming year," Dobrinski said. "Our board and executive management team are fully committed to preserving and building the long-term financial strength of the bank so it can continue fulfilling its mission and delivering dependable credit and financial services to our customers."