OUTLOOK Economic Data and Commentary

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Can Cheap Oil Cause A Recession?

For consumers with none-too-distant memories of filling up their gas tanks at $4 per gallon, the sharp plunge in oil prices has come as a welcome gift. It's a chance to save a little money, drive a little farther, and maybe even splurge on that new SUV – which, in turn, is good news for automakers and other industries that are buffeted when oil prices rise.

But is it possible to have too much of a good thing? Yes, says Donald Luskin, founder and chief investment officer of Trend Macrolytics LLC, a research firm and strategic consultancy to major financial companies. While energy prices have always fluctuated, the recent drop, starting in June 2014, is more than a temporary lull, he says. Rather, it represents a fundamental disruption of the energy industry. While an endless supply of cheap fuel holds tantalizing prospects for economic growth, the near-term could be rockier. In a recent op-ed column in the *Wall Street Journal*, Luskin argued that the United States and global economies are headed into what would be the first recession ever to be caused by falling oil prices.

Luskin spoke with *OUTLOOK* about technology behind the world's newfound abundance of oil, the temporary pains it's causing at home and abroad, and why he believes that, once the recession ends, cheap oil will usher in a new era of prosperity.

OUTLOOK: What makes you think the U.S. and global economies may be headed toward recession?

Donald Luskin: I'm looking at a few classic indicators. Corporate earnings in the United States peaked in the summer of 2014 and they've been falling ever since. Whenever corporate earnings fall like that, like clockwork 18 months later there's a recession. That's true pretty much everywhere in the world. Another classic indicator is widening credit spreads on bonds, indicating market nervousness on the risk of default. Inventory-to-sales ratios right now are the highest in the modern era. In terms of GDP, that means we're storing up trouble, because inventories that have been made in past quarters don't need to be made in future quarters, and might even result in fire sales. Also, capital expenditures, which are the seed corn of growth, never really recovered all that well from the Great Recession of 2008. These are the types of things that always come before a recession.

This Month's Expert

Donald Luskin is founder and chief investment officer of Trend Macrolytics LLC, a strategic consultancy to large financial firms. Previously, Luskin served as vice chairman and co-chief investment officer of Barclays Global Investors, where he pioneered target-date mutual funds, now a staple investment for people saving for retirement. Luskin was also the CEO and co-founder of MetaMarkets.com, and manager of the pathbreaking OpenFund – described as the world's first "interactive mutual fund."

A passionate believer in free market capitalism, Luskin is a regular commentator on CNBC, and co-author of the book *I Am John Galt,* comparing various modern-day business people, entrepreneurs, pundits and politicians with author and philosopher Ayn Rand's heroes and villains. A regular contributor to the *Wall Street Journal*, Luskin has also written for *Reason, the Harvard Business Review, National Review,* and other publications.

OUTLOOK: How much are falling oil prices are to blame?

DL: A year and a half ago, the energy sector represented 10 percent of the total market capitalization of the S&P 500 and 11 percent of its earnings. It's now at about 5 percent of market cap and about 3 percent of earnings. Pretty much all of the earnings over the last 12 months in the energy sector could be understood as coming from a single company, Exxon Mobil. If you look at the entire rest of the S&P 500 energy sector, 39 other companies, some have made a little money, some have lost, but it all zeroes out. Even with Exxon Mobil, the entire earnings of the energy sector has been reduced to far less than those of a single technology company, Apple. Credit spreads became as narrow as they were going to get in the last week of June 2014, when oil hit a peak of $116 a barrel. Oil's been falling ever since, and the credit spreads have been widening.

In every business cycle there is always some sector whose earnings collapse first. Every time, investors' first reaction is, "That's an isolated sector." It's just the banks, or, it's just technology. That's like going to a doctor and he finds a suspicious mole and you say, oh, that's just a spot. No, you'd better pay attention. Everything connects. In some sense we are all linked together. That's how a recession starts.

OUTLOOK: Aren't recessions more commonly associated with rising energy prices?

DL: That's true. Historically, when oil prices are high, productivity is low, and when oil prices are low, productivity growth is high. If you want growth and wealth and productivity, you have to have lower oil prices. If I'm right and we're going into recession caused by low oil prices – that's something we've never seen before.

OUTLOOK: Why are we bucking the historical trend, in your opinion?

DL: Thanks to the emergence of fracking technology, the world is awash in oil. In the United States, oil production had been declining for decades. But in the last four years the surge of oil production has been equal to the decline in oil production of the previous 40 years. It's like a reverse cliff. Oil has dropped about $80 per barrel from its highs in 2014. Based on the world daily consumption of oil, that's $7 billion to $8 billion in lost earnings per day – or $3 trillion a year, just like that. The oil business always goes through cycles, but there's never been a technology shock like this. The oil business has never moved at this speed. And, unlike previous cycles, this drop in prices seems permanent, since fracking is here to stay.

DECLINE IN BRENT CRUDE OIL PRICES

DOLLARS PER BARREL

Source: Bloomberg

OUTLOOK: How severe might this recession be in the United States?

DL: I don't think we're looking at another Great Recession, with 10 percent unemployment, and banks failing all over the world. I think we'll see a backing up in the unemployment rate, from the current 5 percent into the high fives. We could have a wave of defaults in junk bonds, and just this general fear and pulling back in economic activity and financial liquidity.

The unusual situation here is that low prices mean consumers are spending less on necessities like heating oil and gasoline. We don't know what it's like to go into a recession where the consumer has so much resiliency. This could be a unique recession where the customer doesn't hurt all that much – a corporate recession. It probably won't be that long or be terribly deep. What has to happen are some failures and restructurings in the energy industry – you have to get that out of your system. That clears the deck for credit conditions to loosen up again.

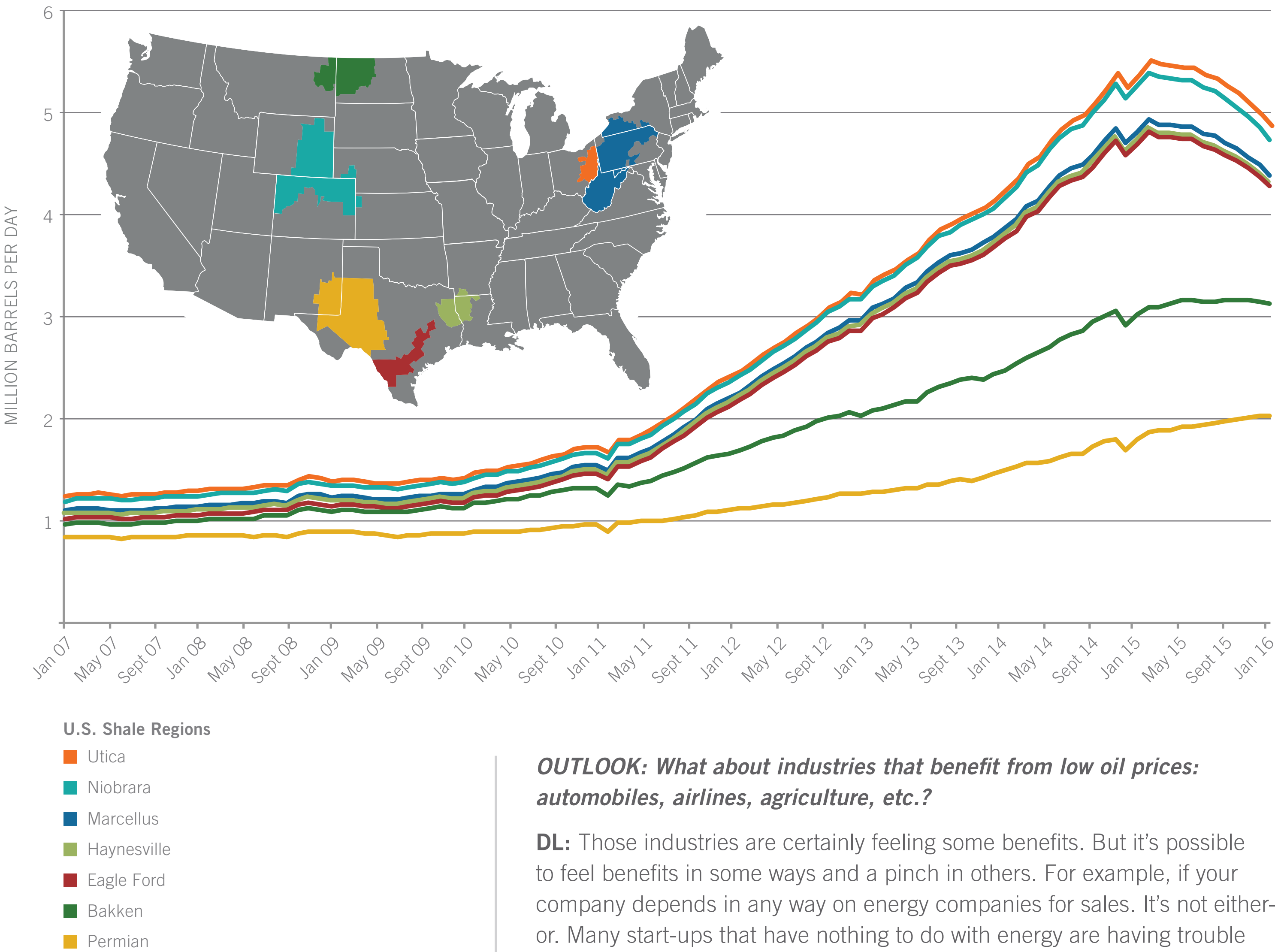
OUTLOOK: Looking globally, who's at greatest risk?

DL: The countries hurting the most are those whose entire economies are essentially just oil companies, such as Russia, Saudi Arabia, Nigeria, and Venezuela. Russia is in what anyone would call a depression right now. Even Saudi Arabia has come to debt markets to finance a deficit for the first time in a long, long time. They're talking about an austerity budget – though that's probably a relative term in Saudi Arabia. Oil is a commodity, of course, and the slump has inevitably begun to affect other commodities, which is bad news for commodity exporters. Chile is not a big energy exporter, but it is certainly a commodity exporter, and it is at risk of true economic failure.

That pain can spread pretty quickly. Consider the United Arab Emirates, who are trying to build out Emirates Airlines as the world's most luxurious airline fleet, with super first class with a private shower. These are wonderful contracts for Boeing and Airbus. Countries like Abu Dhabi are in competition to build the world's tallest building. They're not doing that with technology from Abu Dhabi; they're doing that with Europe, the United States and Japan. All that stuff potentially stops. Even something as simple as the amount of jewelry that gets bought at Harrod's in London. These start affecting real people, and it happens pretty quickly.

GROWTH IN FRACKING

U.S. OIL PRODUCTION FROM MAJOR SHALE REGIONS



Source: Energy Information Administration

OUTLOOK: What about industries that benefit from low oil prices: automobiles, airlines, agriculture, etc.?

DL: Those industries are certainly feeling some benefits. But it's possible to feel benefits in some ways and a pinch in others. For example, if your company depends in any way on energy companies for sales. It's not either-or. Many start-ups that have nothing to do with energy are having trouble raising capital. If you're an entrepreneurial company, and you need to raise money in the non-investment-grade bond market, money's costing you 350 basis points more versus Treasuries than it did just a year and a half ago, thanks to the widening spreads I mentioned earlier. There are a lot of unborn businesses right now that would have made sense at lower spreads but don't now. So this affects everyone in some ways.

To think about it in country terms – there are countries with no native energy industry at all, such as Germany or Japan, that typically are hurt by higher oil prices. You would think they'd just be doing great. In fact, if you look at the most significant indicator of economic health – earnings from the corporate sector – Germany and Japan stopped doing great about five months ago.

"We're looking for equilibrium where production and consumption can live together as friends.

OUTLOOK: Why has fracking changed the energy landscape so drastically?

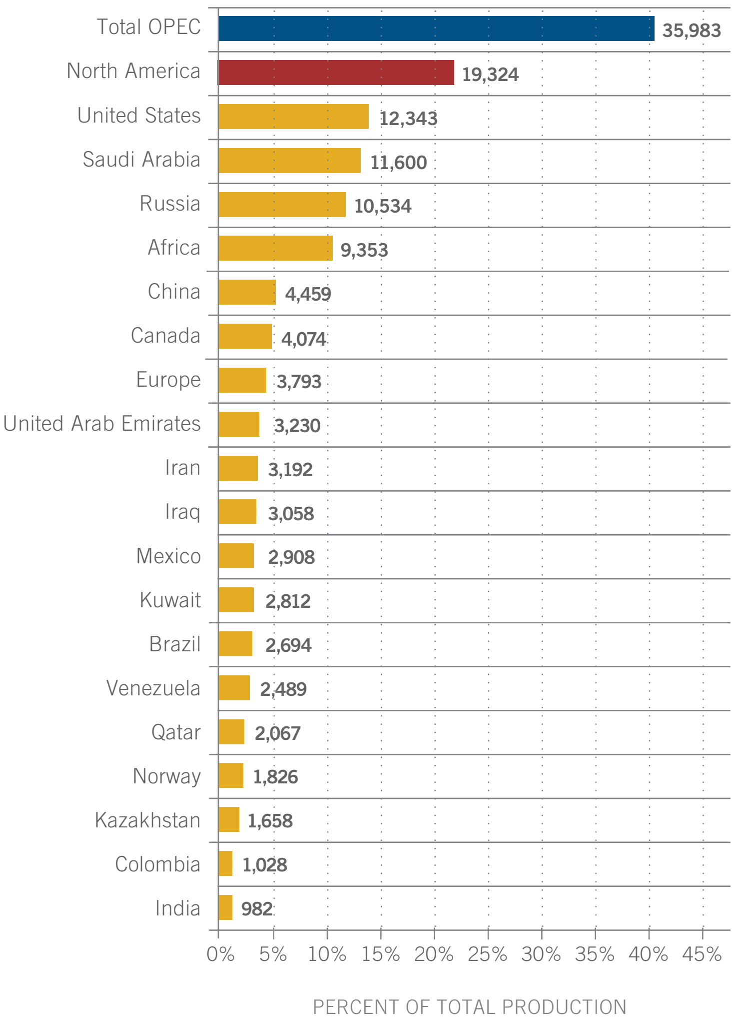
DL: As recently as five years ago, if you did not believe in "peak oil" – the idea that the world was quickly running out of fossil fuels – you were considered naïve. Peak oil was a fact. Well, it turned out not to be a fact. Unlike those giant underground bathtubs of oil we've been draining for so long, and are running out of, shale is everywhere. It is all over North America. There's shale in Brazil, Saudi Arabia, and Russia. The best shale in the world is in Argentina, and if they can get their act together under a new president, it's amazing to think what could happen there. Europe has a small land mass compared with the United States, but they've got the potential to produce almost as much oil from shale as we do. The largest formations in Europe are under Poland. The second largest, believe it or not, are right under Paris – so that's probably not going to be exploited right away. But what has become clear is that we are never going to run out of hydrocarbons. And suddenly here we are with an embarrassment of riches. We've had this wonderful breakthrough and we're trying to figure out what to do with it, and how to profit from it.

OUTLOOK: What about the environmental movement that's been gaining steam recently, calling for reducing our dependence on fossil fuels?

DL: We've done very well over the years by extracting wealth, productivity and growth out of fossil fuels. And you can use that wealth to find ways to limit damage to the environment. I grew up in Los Angeles in the 1960s and I vividly remember summer days when the sky was a disgusting sulfurous yellow and your eyes would burn and tear – much like in Beijing today. Since then, the population of Los Angeles has quintupled, the number of automobiles has quadrupled, and the skies are generally a beautiful blue every day. It's not because they're using less oil in Los Angeles. They're using much more. It's just that they figured out some ways to remediate the problems. A lot of the cleaning up of Los Angeles had to do with standards that the government imposed.

OIL PRODUCTION BY COUNTRY, 2015

IN THOUSANDS OF BARRELS PER DAY



Source: AdvisorPerspectives.com

OUTLOOK: Who's going to produce all this oil if the prices are so low that nobody can make money?

DL: We're looking for equilibrium where production and consumption can live together as friends. This happens all the time in commodity situations. It's why farming is such a miracle. One year a crop fails, the next year farmers overplant and you get a bumper crop – and prices go down. But along the way they deliver this wonderful wealth to the world, this golden wheat. It's always been that way. Well, agriculture has had a couple of thousand years to get used to it. It's driven on an annual seasonal basis, and we know that the weather is a random number generator that makes this a risky business. So we've figured out futures markets to hedge.

OUTLOOK: How will the oil industry find that equilibrium?

DL: We'll have to see some decline in oil production. We need to have some of these people who can't frack profitably at these prices stop trying. And when they do, the supply will be less and the equilibrium of supply and demand can find a bit higher price, somewhere between $45 and $60 per barrel. That's where supply and demand curves can intersect in a non-catastrophic way.

But a key part of that equilibrium will come from the fact that as fracking technology keeps improving, the cost of producing will decline further, so that producers can make money at lower oil prices. In recent years, the break-even price has already fallen sharply from the $90 per barrel range to the high $50s today. Over the next five or six years, we'll likely see that break-even price go down still further. Prices that seem catastrophically low to producers today will actually make them happy.

If we wait long enough, the people who have borne the losses can lick their wounds, declare bankruptcy and start over. Five years from now, this could be such a different world. People are going to stop talking about secular stagnation. So, give us five years and things will be great. The problem is, we're going to have to have a recession first.

Interest Rates and Economic Indicators

The interest rate and economic data on this page were updated as of 12/31/15. 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	
2016	**GDP**	**CPI**	**Funds**	**2-year**	**10-year**
Q1	2.50%	1.60%	0.42%	1.16%	2.37%
Q2	2.70%	2.20%	0.56%	1.38%	2.58%
Q3	2.60%	2.30%	0.69%	1.55%	2.69%
Q4	2.60%	2.40%	0.86%	1.72%	2.80%
2017	**GDP**	**CPI**	**Funds**	**2-year**	**10-year**
Q1	2.60%	2.40%	1.00%	1.97%	2.97%

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	0.62%	0.85%	1.37%	1.68%	1.90%	2.13%
0.25	0.76%	0.98%	1.47%	1.75%	1.95%	2.17%
0.50	0.90%	1.13%	1.60%	1.83%	2.02%	2.22%
0.75	1.08%	1.30%	1.69%	1.93%	2.11%	2.30%
1.00	1.21%	1.45%	1.76%	1.98%	2.14%	2.32%
1.50	1.53%	1.68%	1.93%	2.12%	2.27%	2.43%
2.00	1.72%	1.82%	2.03%	2.21%	2.33%	2.47%
2.50	1.84%	1.93%	2.13%	2.29%	2.40%	2.53%
3.00	1.97%	2.05%	2.23%	2.37%	2.47%	2.59%
4.00	2.15%	2.23%	2.39%	2.50%	2.59%	2.67%
5.00	2.32%	2.41%	2.53%	2.63%	2.69%	2.74%

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

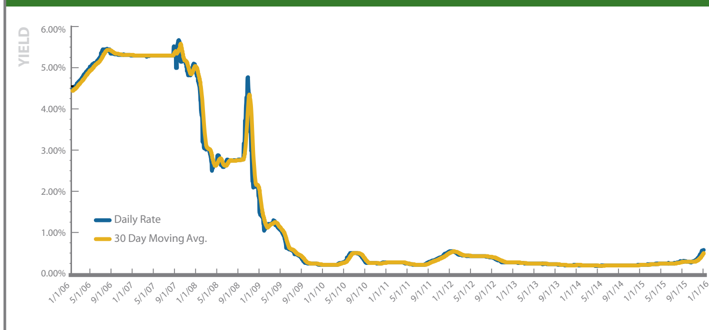
Forward Period (Days)	Average Life of Loan			
	2-yr	3-yr	5-yr	10-yr
30	11	11	9	8
90	20	20	17	14
180	30	32	26	23
365	61	62	51	41

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.

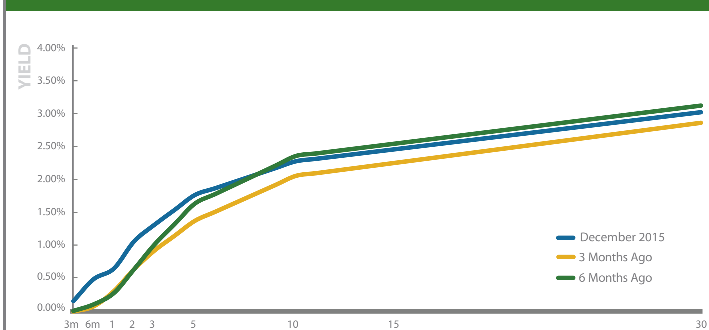
3-MONTH LIBOR



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 Announces Board Downsizing Plan

Board Also Elects Officers for the Coming Year

CoBank has announced plans to downsize its board of directors under a governance restructuring process approved by shareholders in 2015. A total of 10 board seats will be eliminated over the next four years, bringing the number of elected directors on the board from 24 to 14. The seats being eliminated are listed in the table below.

REGION	TYPE OF SEAT	HELD BY	DATE ELIMINATED
Central	One-Stockholder-One-Vote	Jim Magnuson	12/31/18
Central	One-Stockholder-One-Vote	Everett Dobrinski	12/31/19
East	Modified Equity	Andrew Gilbert*	12/31/19
Mid Plains	Modified Equity	Ken Shaw	12/31/17
Mid Plains	Modified Equity	Dan Childs	12/31/18
Mid Plains	One-Stockholder-One-Vote	Clint Roush	12/31/18
Northwest	Modified Equity	Karen Schott*	12/31/19
South	One-Stockholder-One-Vote	Gary Miller	12/31/17
South	One-Stockholder-One-Vote	Dave Reinders	12/31/18
West	Modified Equity	Less Guthrie	12/31/16

** Newly elected board member whose term began January 1, 2016*

At the conclusion of the restructuring process there will be an even balance between directors elected on a one-stockholder-one-vote basis and those elected on a modified equity basis. The board will also have up to four appointed directors and will continue to have two outside directors with no customer or Farm Credit System affiliations.

CoBank also announced board officers for the coming year. Everett Dobrinski, who has been chairman since 2008, will continue in the chairman's role in 2016. 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.

About CoBank

CoBank is a $110 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 75,000 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.

Dan Kelley will continue 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 for Truth About Trade and Technology, an agricultural trade organization. Previously, Kelley served as chairman and president of GROWMARK Inc., an agricultural and energy cooperative in Bloomington, Illinois.

Kevin Still will continue as second vice chairman. Still is president and chief executive officer of Co-Alliance, LLP, a partnership of five cooperatives supplying energy, agronomy and animal nutrition, producing swine and marketing grain in Avon, Indiana. Still is also chief executive officer and treasurer of Midland Co-op, Inc., IMPACT Co-op, Inc., LaPorte County Co-op, Inc., Frontier Co op, Inc., and Excel Co-op, Inc., which are agricultural retail cooperatives. He is vice president and director of Connexities, LLC, a technology provider, and is president of Still Farms, LLC. Still has served on the CoBank board since 2002.

"I look forward to working closely with Dan, Kevin 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."

Dobrinski also thanked retiring directors Mary Fritz, Bill Harris and David Phippen for their years of service to CoBank. All three stepped down from their board seats at the end of 2015.

"Mary, Bill and Dave all have a deep appreciation for the mission of CoBank and the vital role it plays in financing the U.S. rural economy," Dobrinski said. "We are grateful for their many contributions to our board and wish them all the best in their future endeavors."