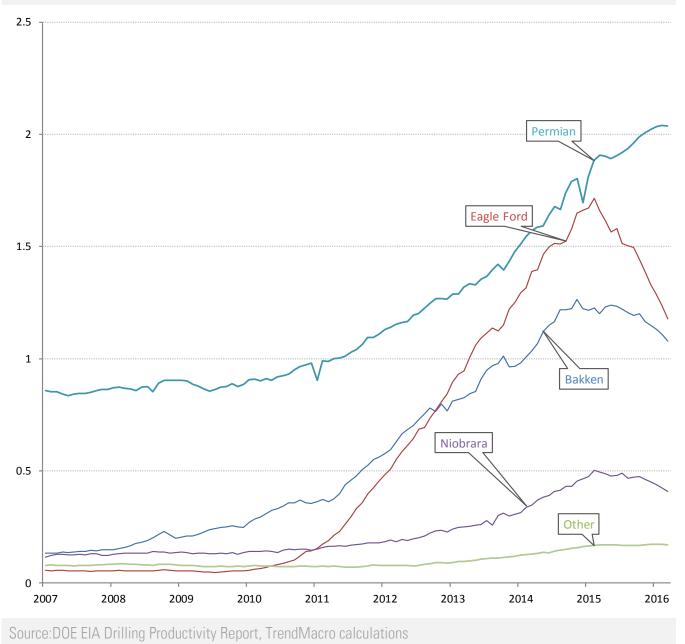


Trend Macrolytics, LLC Donald Luskin, Chief Investment Officer Thomas Demas, Managing Director Michael Warren, Energy Strategist

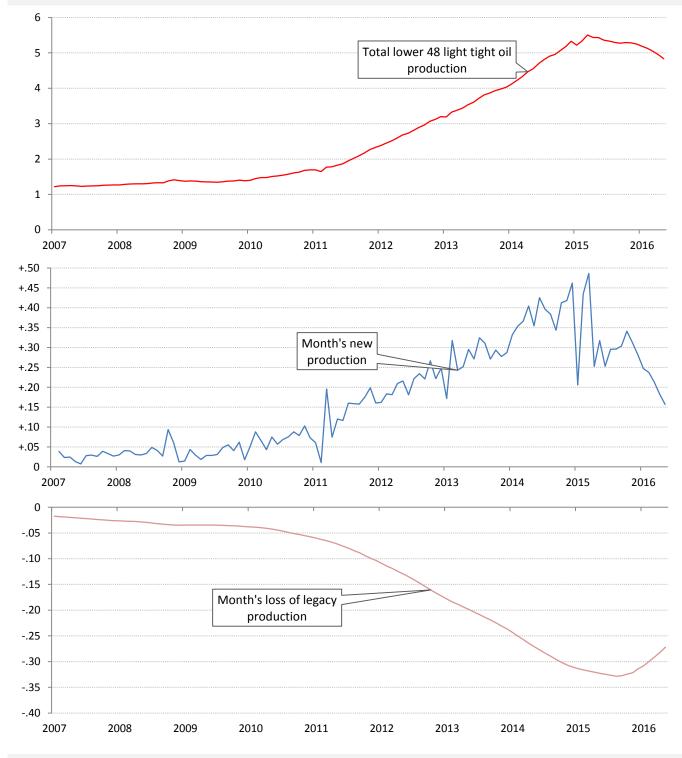
## Data Insights: Oil

Tuesday, April 12, 2016

The light tight oil revolution -- and the rollover Production in major US shale plays, millions of barrels/day

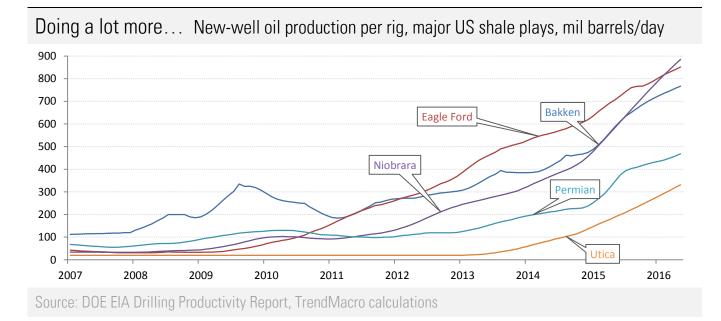


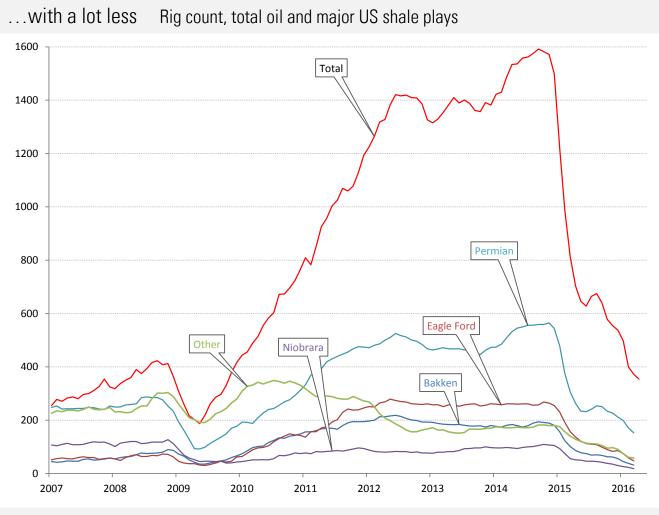
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## Inside the rollover: depleting legacy, diminishing new production Aggregate production in major US shale plays, millions of barrels/day

Source: DOE EIA Drilling Productivity Report, TrendMacro calculations

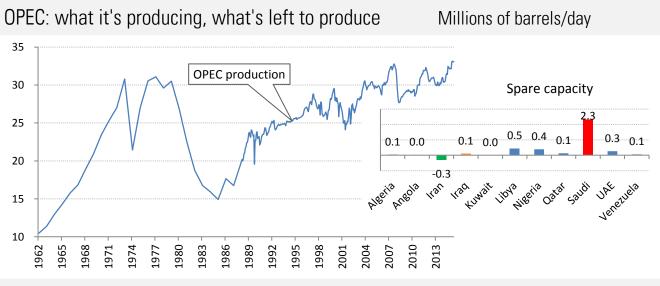




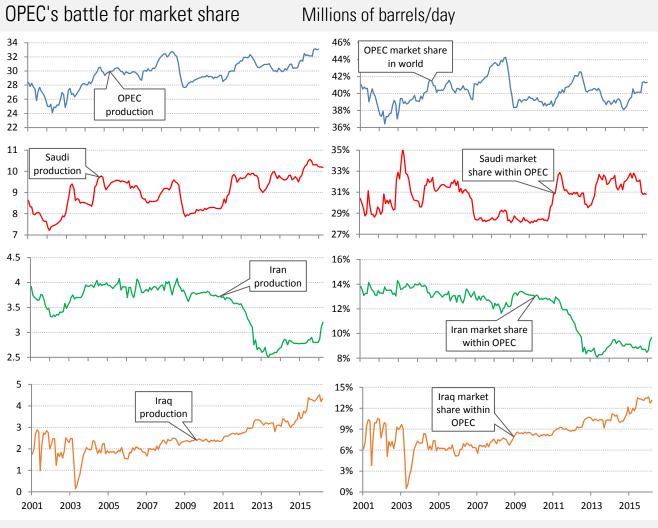
Source: DOE EIA Drilling Productivity Report, Baker Hughes, TrendMacro calculations

## US crude oil production -- deep history, and the modern transformation of sources Millions of barrels/day Recession 10 8 Mynum Total US production 6 4 2 Differentiated source data available Jan 1981 0 2950 2960 2976 1968 1928 1932 1936 1940 1944 1948 1951 2972 1964 ~980 ~9<sup>20</sup> ~92h 10 Total 8 Lower 48 light tight 6 Lower 48 4 Gulf of Mexico conventional Alaska 2 10 0 2013 2014 2015 2016 9 8 Lower 48 light tight 7 Lower 48 conventional 6 5 4 Gulf of Mexico Alaska Separate light tight data available Jan 2007 3 2 1 0 1981 1983 1985 1987 1989 1991 1993 1995 1997 1999 2001 2003 2005 2007 2009 2011 2013 2015

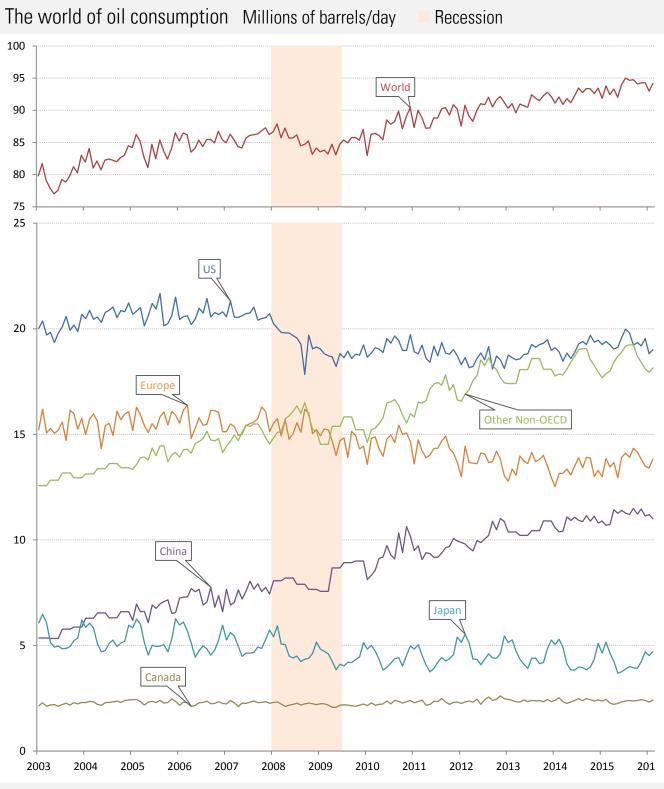
## Source: DOE EIA Short Term Energy Outlook, Drilling Productivity Report, TrendMacro calculations



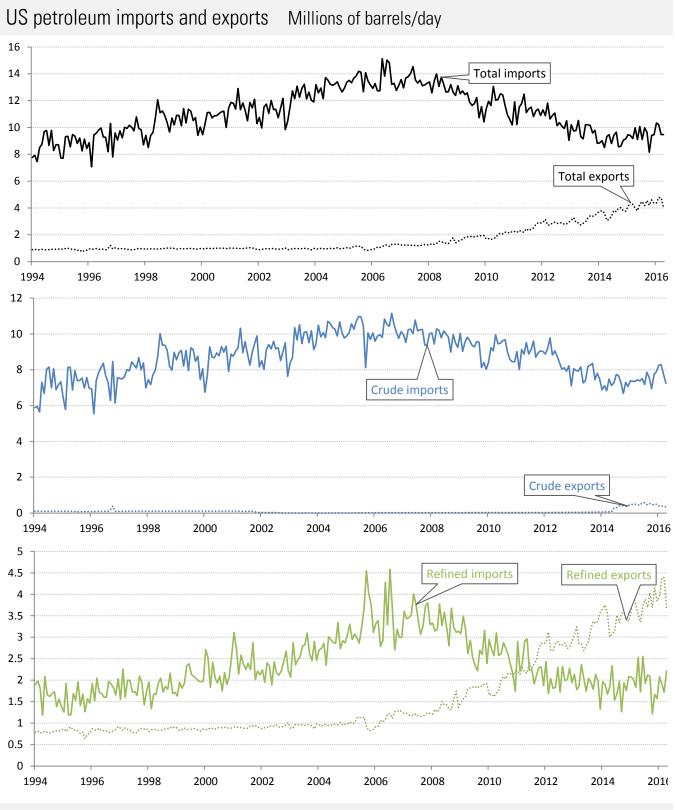
Source: Bloomberg News, TrendMacro calculations



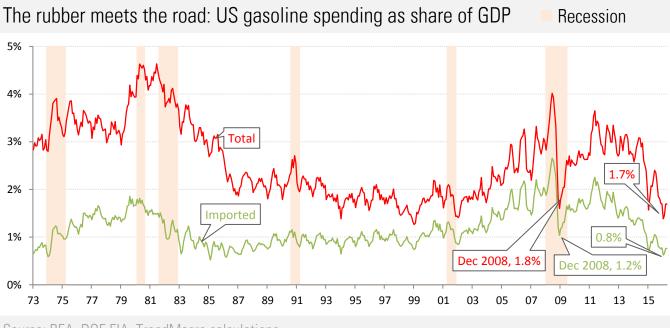
Source: DOE IEA International Petroleum Monthly Report, TrendMacro calculations



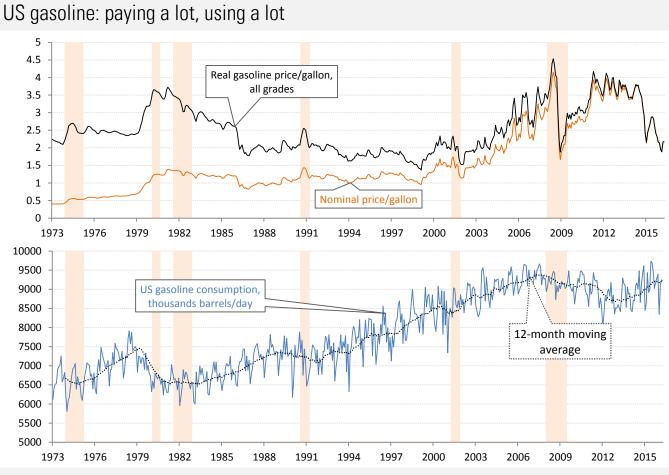
Source: DOE EIA Short Term Energy Outlook, TrendMacro calculations



Source: DOE Weekly Petroleum Status Report, TrendMacro calculations



Source: BEA, DOE EIA, TrendMacro calculations



Source: DOE EIA Weekly Petroleum Status Report, Weekly Retail Gasoline Survey, TrendMacro calculations