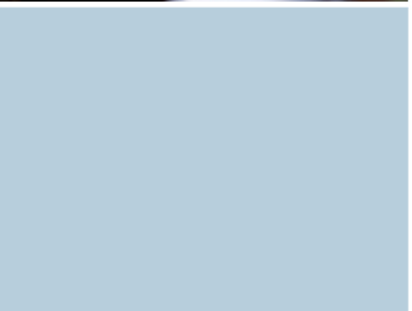




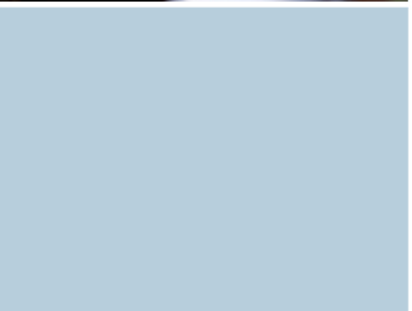
The Oil and Economic Recovery



SMU | COX
SCHOOL OF BUSINESS



The Imagination Economy



U.S. Economic Stages

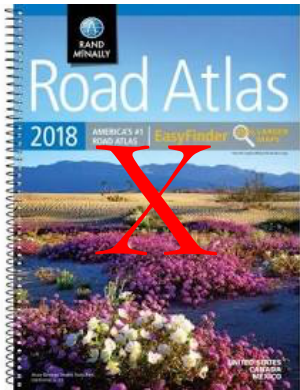
- Agrarian
- Industrial
- Service
- Information
- Imagination

What is the Imagination Economy?

- Low barriers to entry
- Access to capital
- Entrepreneurship
- Best ideas win
- New ways of doing things replace old ways very quickly



Example



Example -- Uber



Example -- Amazon

- Bookstores
- Music stores
- Electronics stores
- Grocers
- Retailers
- Shopping malls
- Sporting goods stores
- Cities lining up for Amazon HQ2

Other Examples

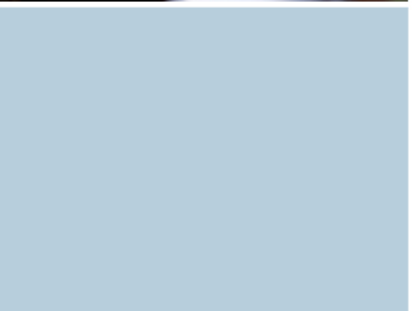
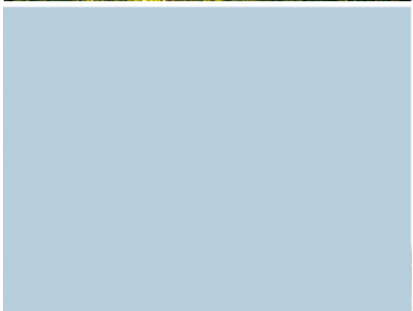
- AirBnB
- Shared Workspaces
- Gourmet Foodhalls
- Grocery Delivery

Amazon Style Creative Destruction Will Hit These Industries

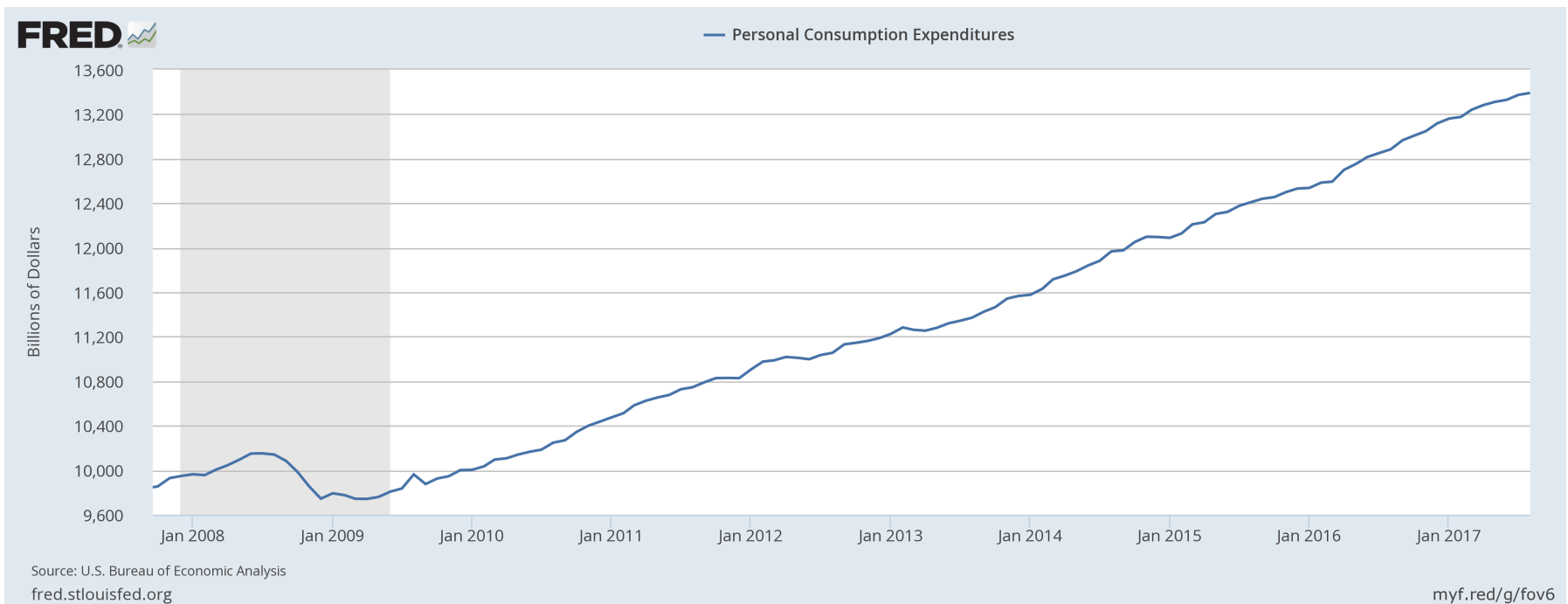
- Oil and Gas
- Electricity Suppliers
- Manufacturing
- Residential Real Estate
- Higher Education
- Elementary and Secondary Education
- Government



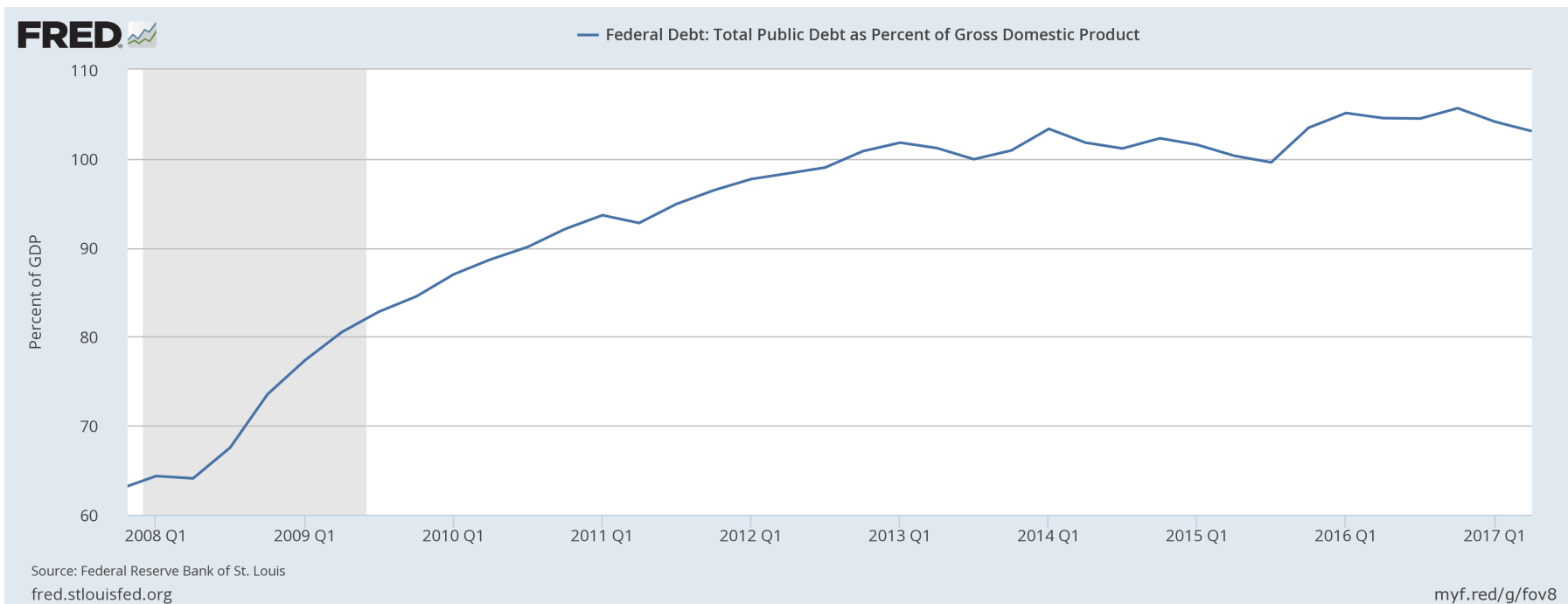
Current Economic Conditions



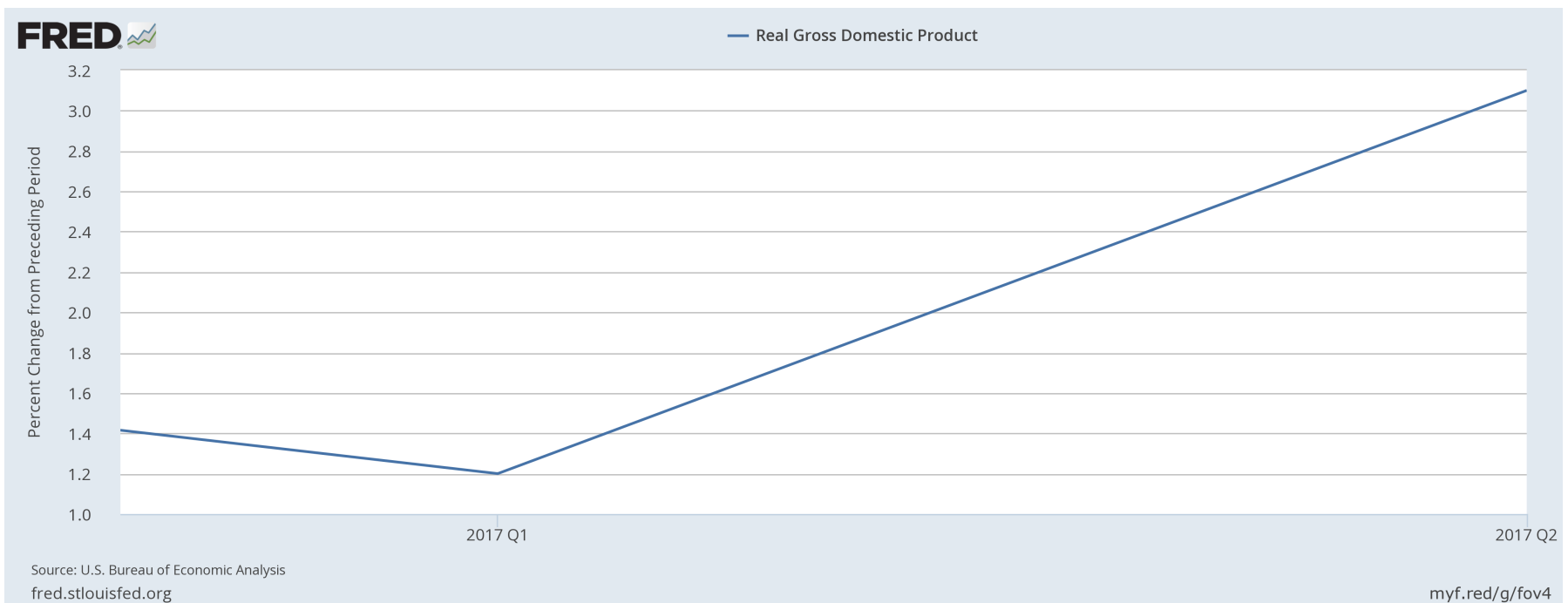
Consumption Continues to Rise



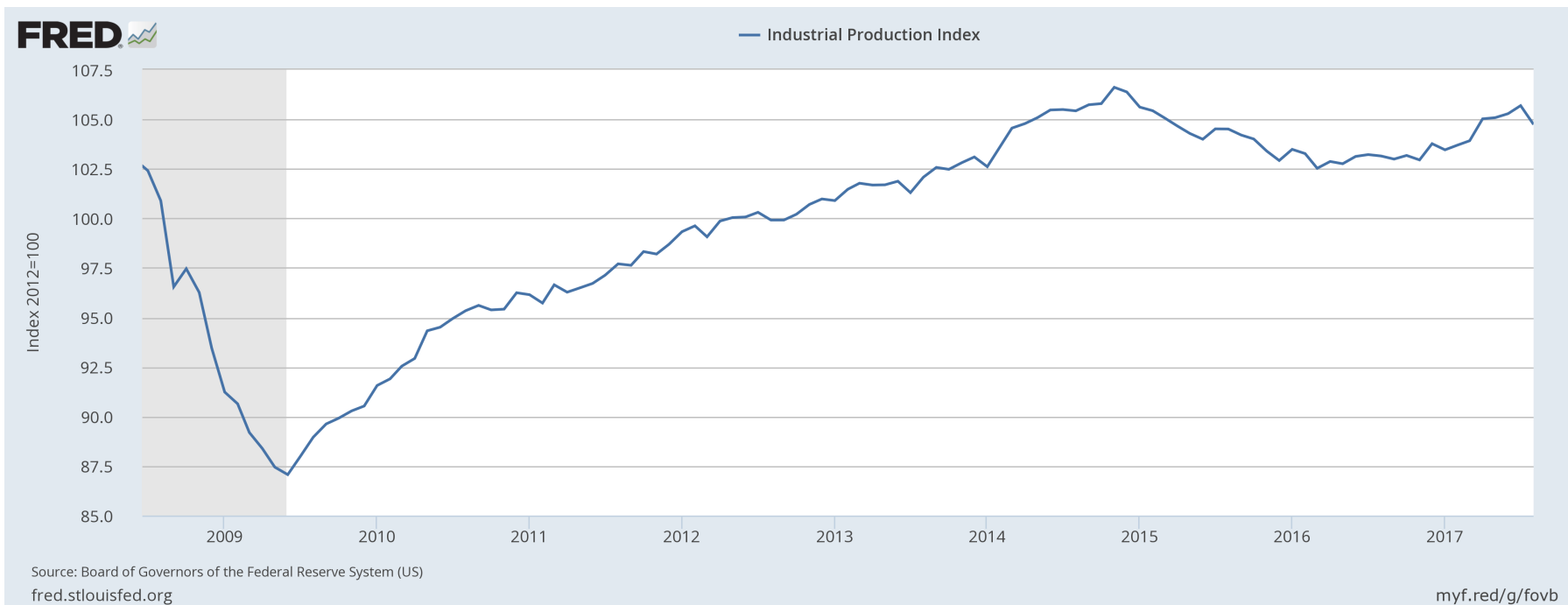
Debt as a % of GDP Declining



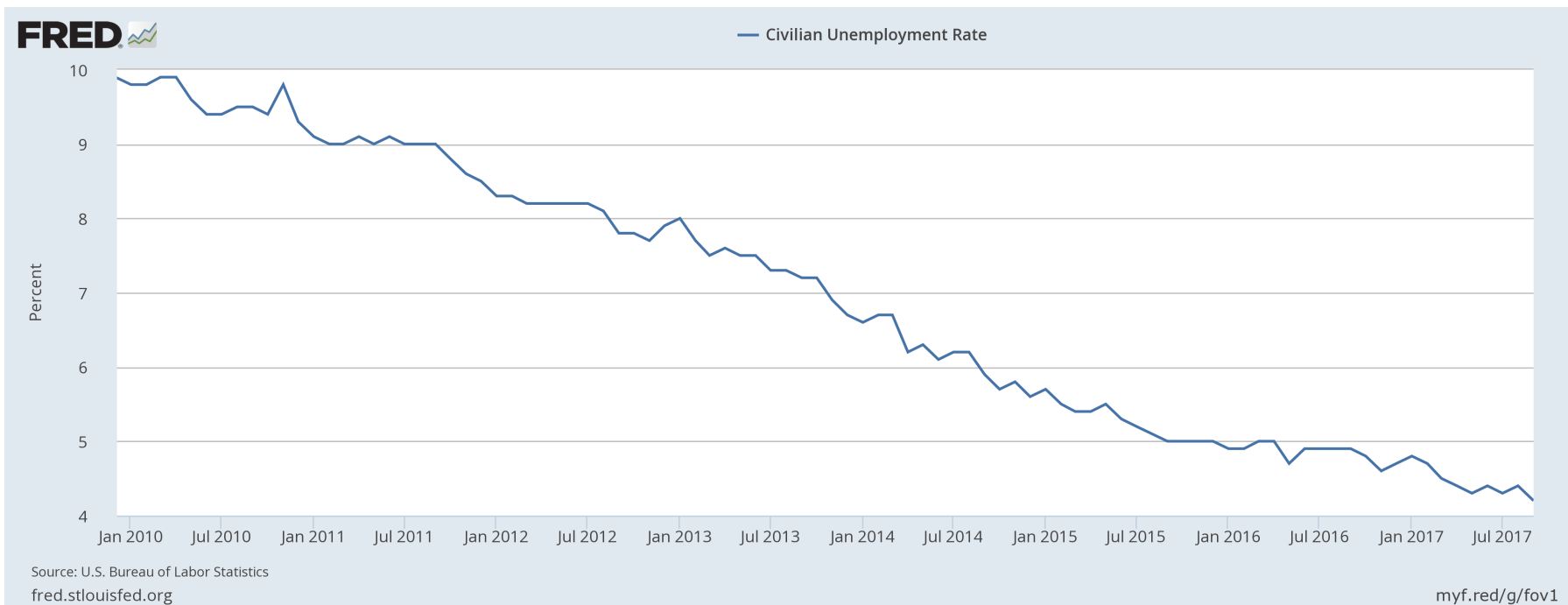
GDP Increasing As Expectations Have Risen



Industrial Production Headed Back Up

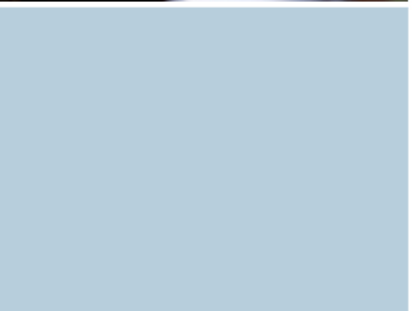


Unemployment Falling

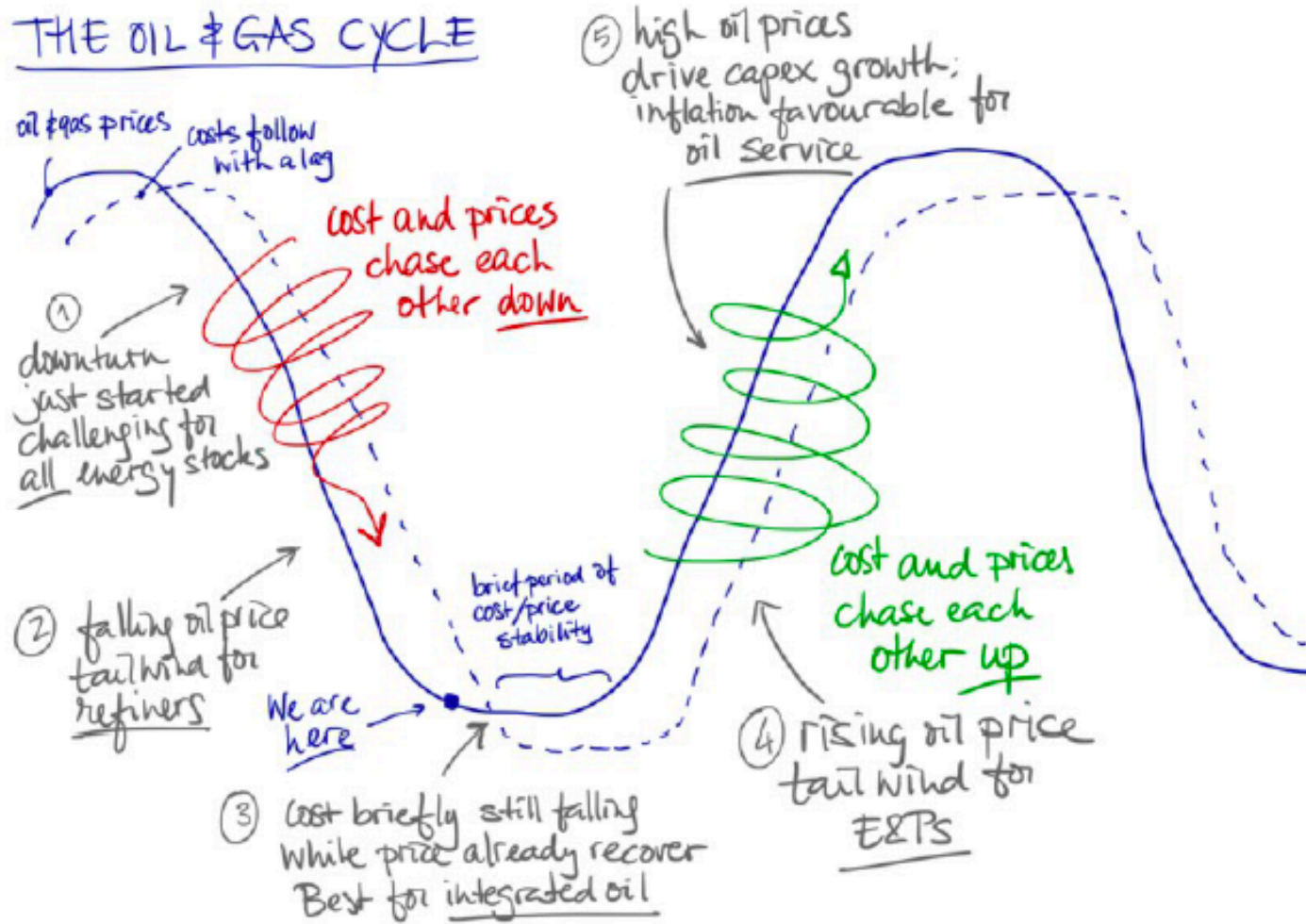




Worst Downturn in A Generation



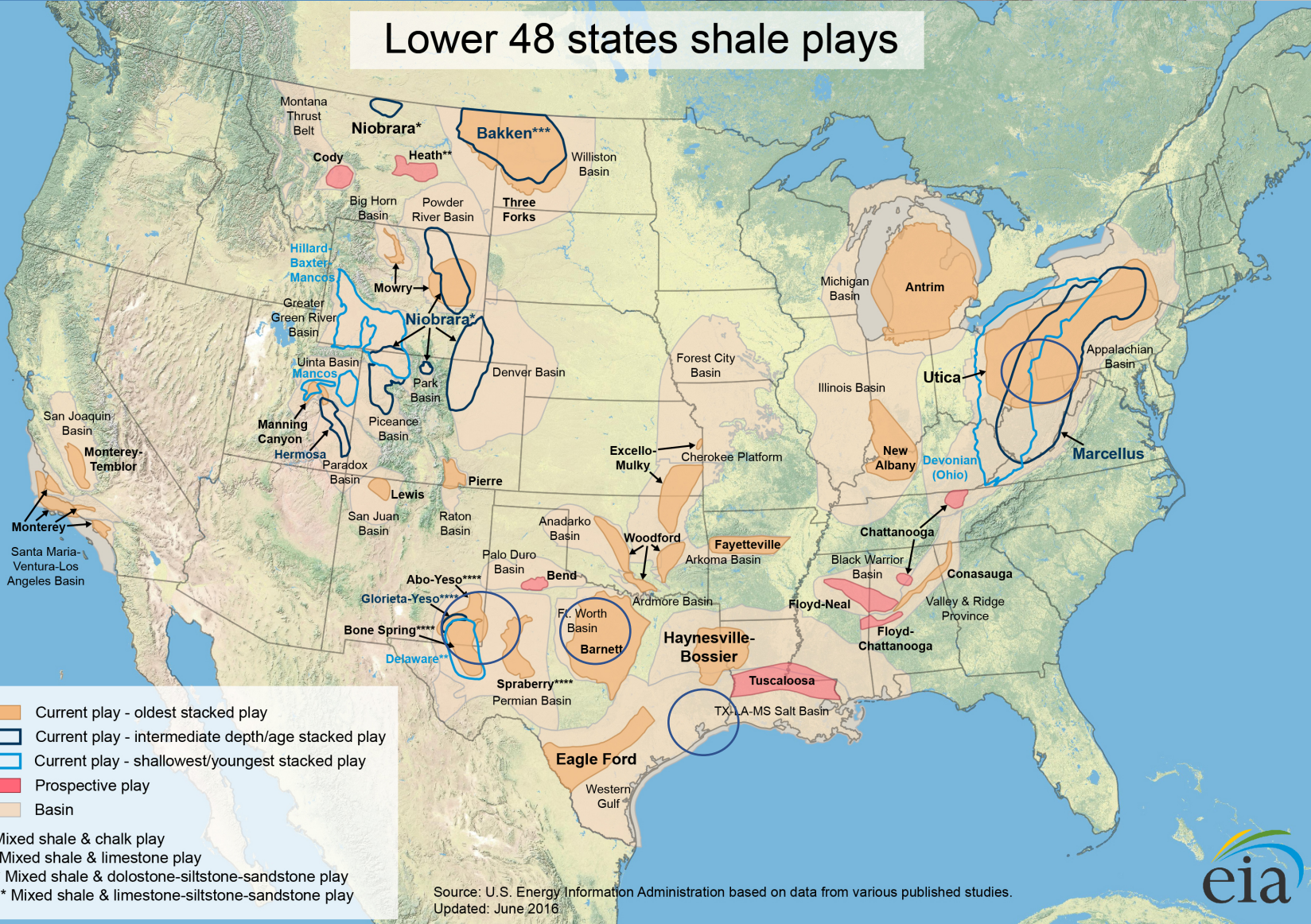
THE OIL & GAS CYCLE



Source: Morgan Stanley Research



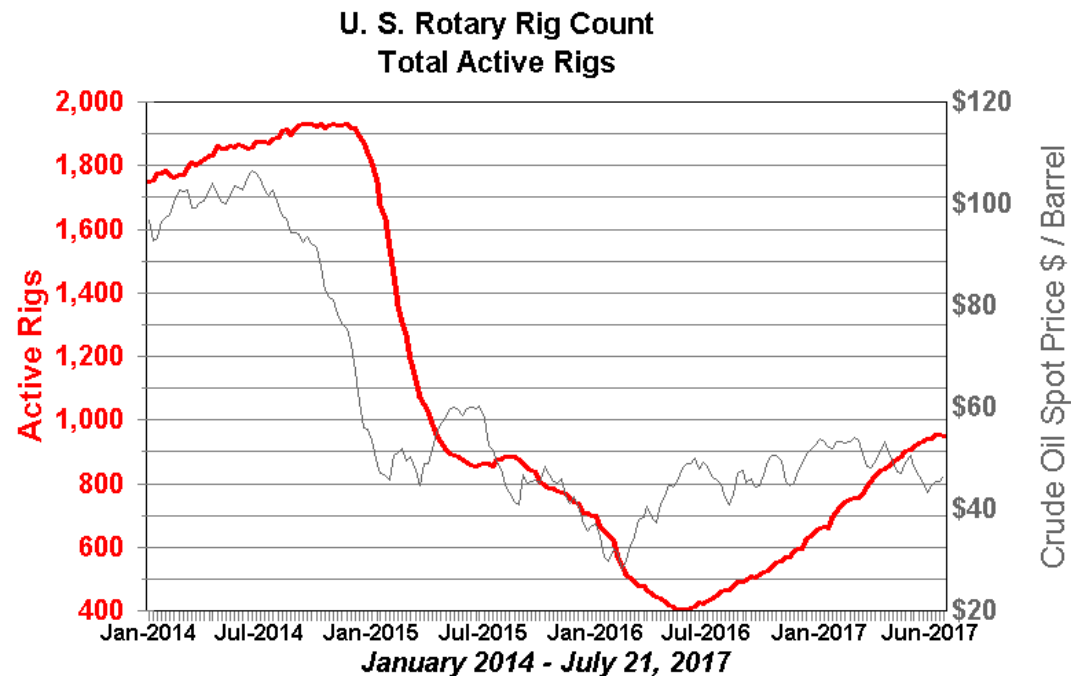
Lower 48 states shale plays



Source: U.S. Energy Information Administration based on data from various published studies.
 Updated: June 2016



The Downturn – Rig Count and Price Plummeted



WTRG Economics ©2017

Sources: Baker-Hughes, Energy
Information Administration (DOE),
WTRG Economics

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(479) 293-4081

U.S. Oil Production is Recovering

Shale Be Coming Round the Mountain

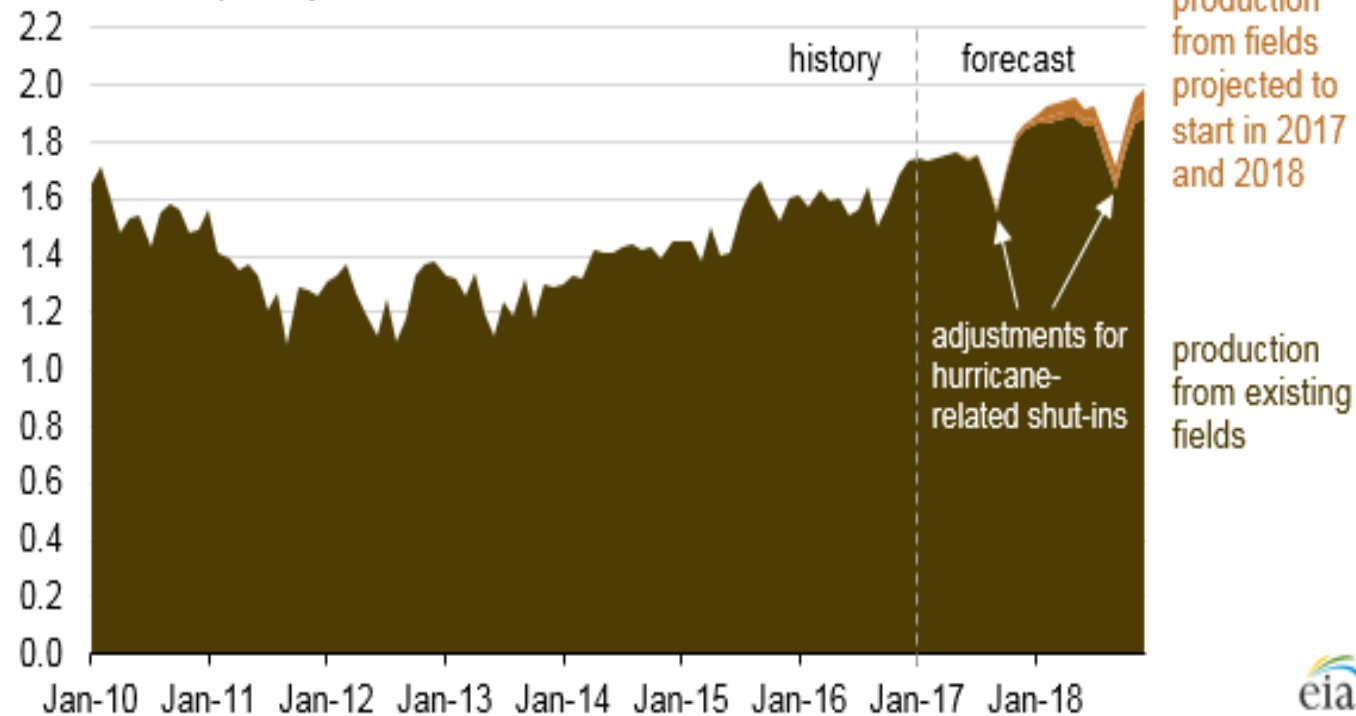
U.S. crude oil production, thousand barrels a day



Source: Energy Information Administration
THE WALL STREET JOURNAL

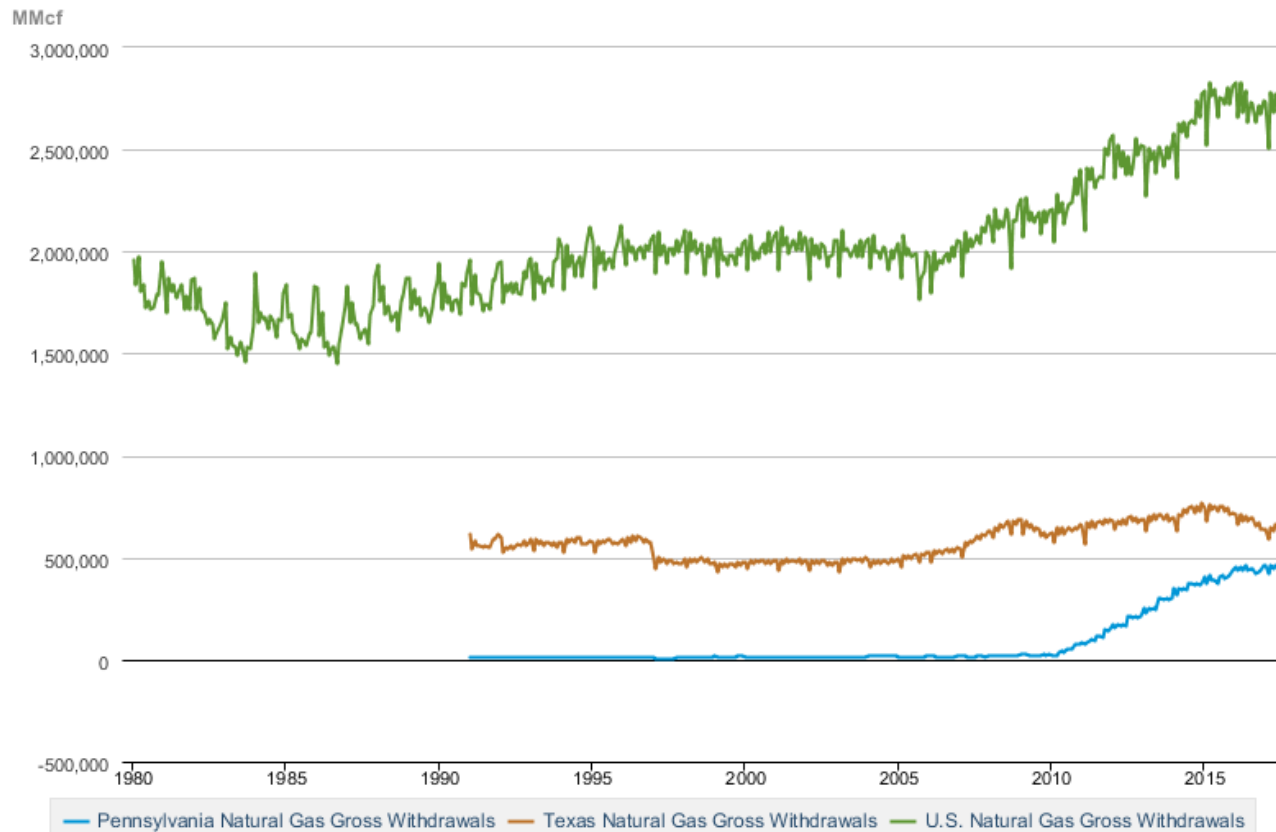
Offshore is Creeping Up as Well

Monthly oil production from U.S. Federal Gulf of Mexico
million barrels per day



U.S. Gas Production

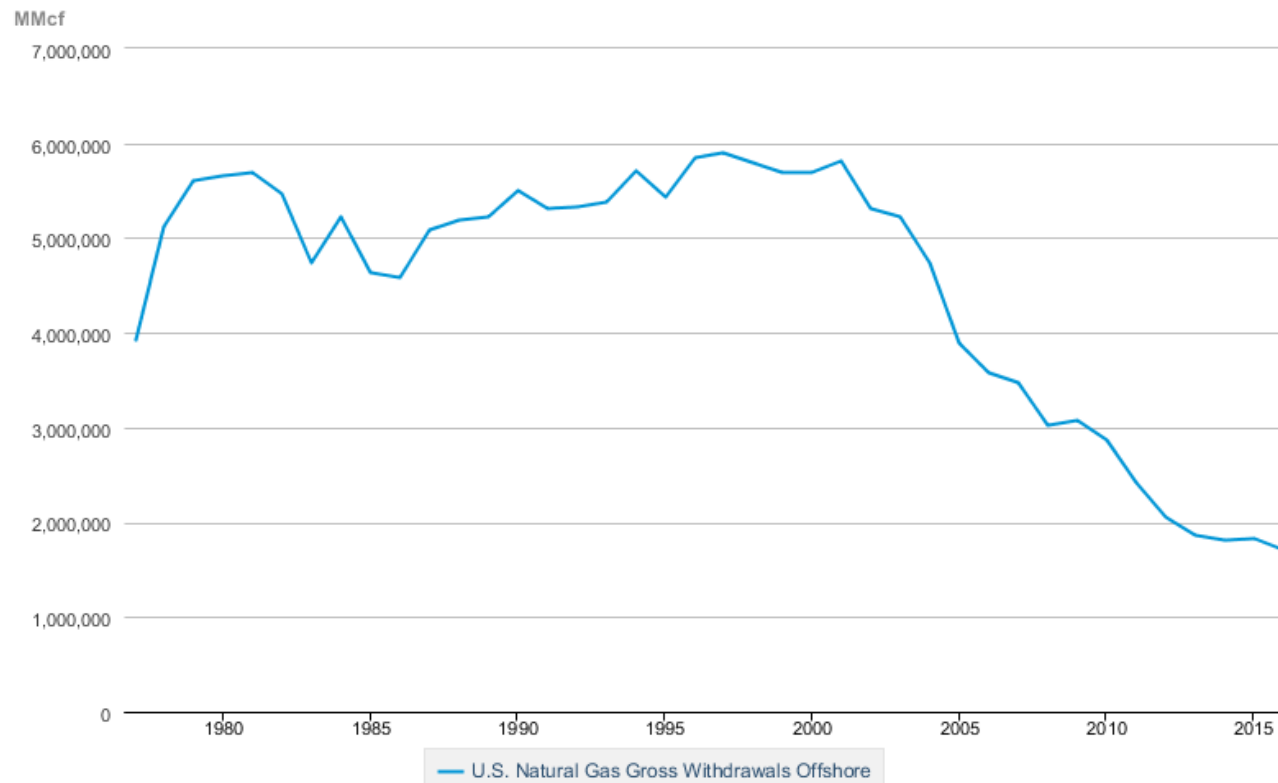
Natural Gas Gross Withdrawals and Production



Source: U.S. Energy Information Administration

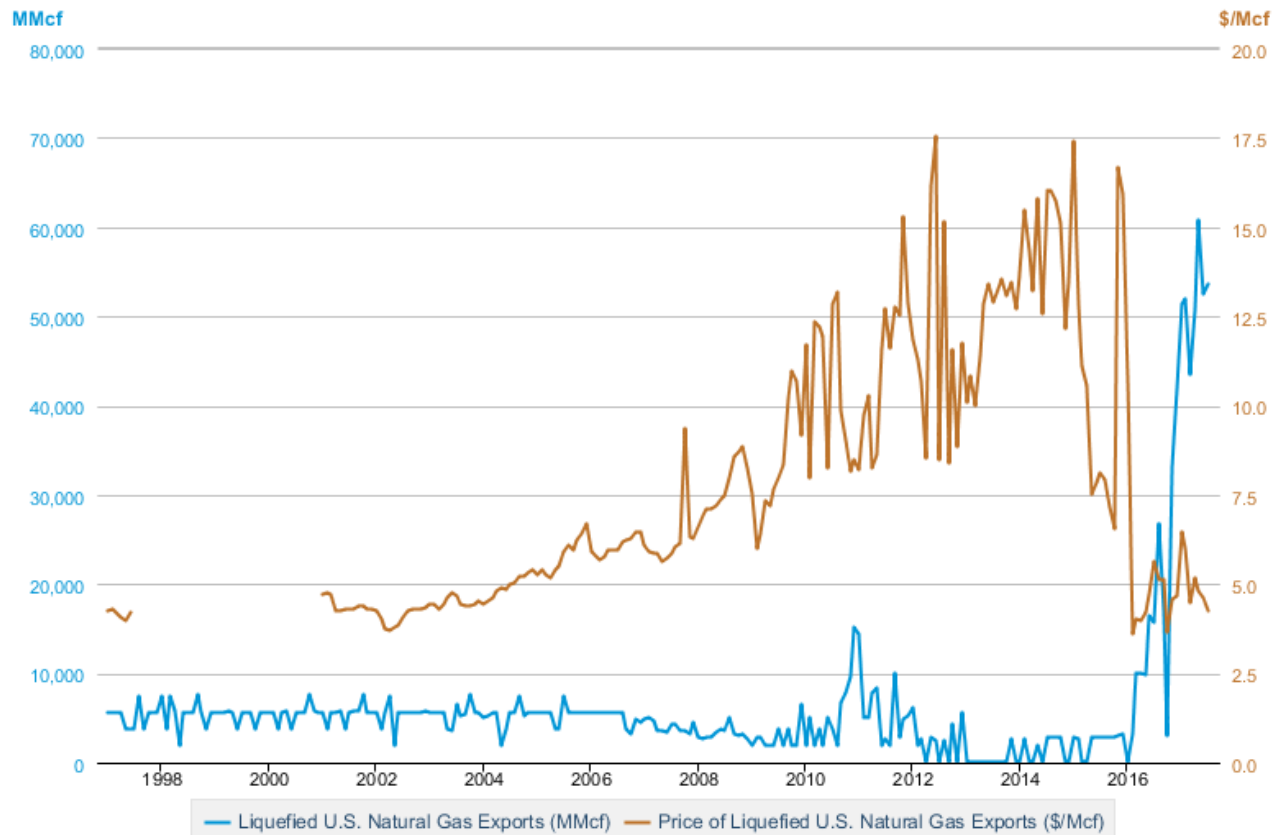
Offshore Declining

Offshore Gross Withdrawals of Natural Gas



Exports Rising But Margin Compression

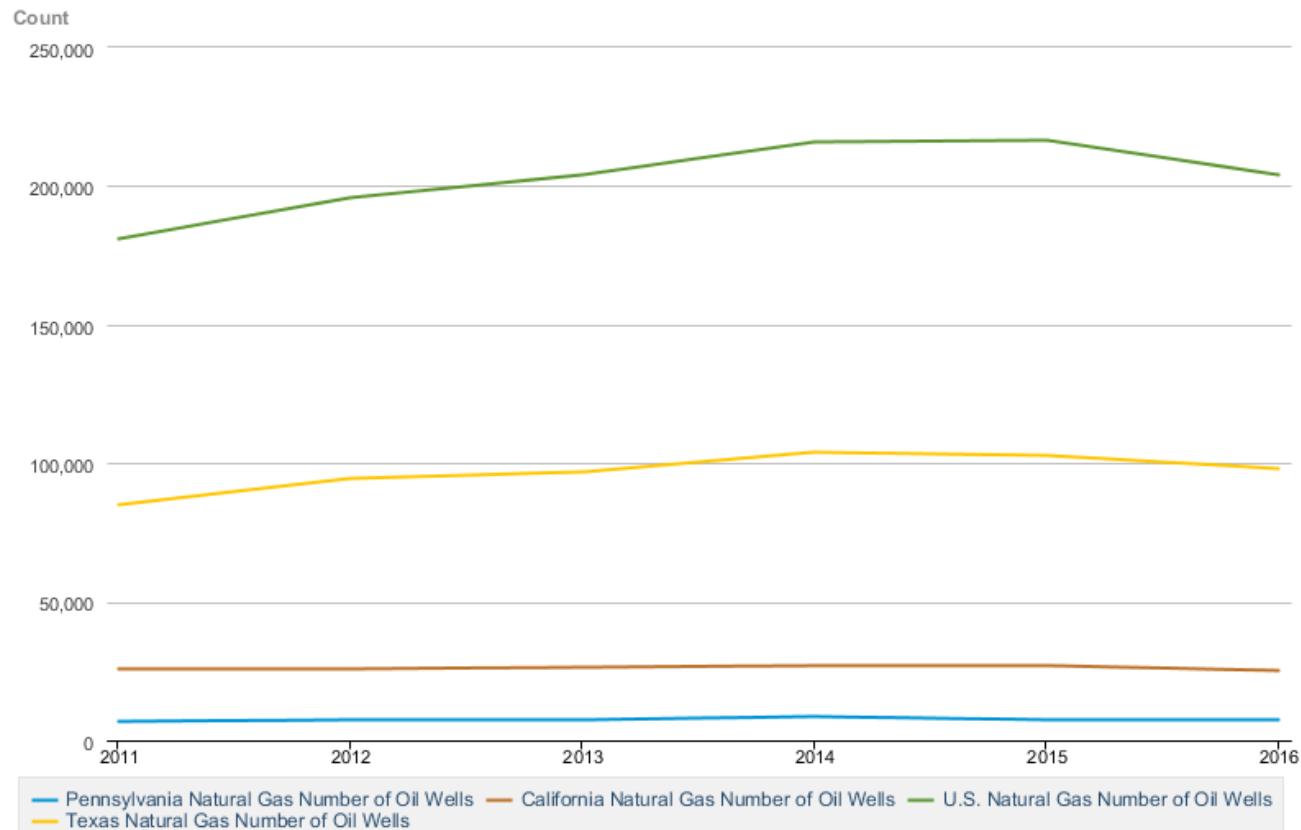
Natural Gas Summary



Source: U.S. Energy Information Administration

Number of Wells Declining

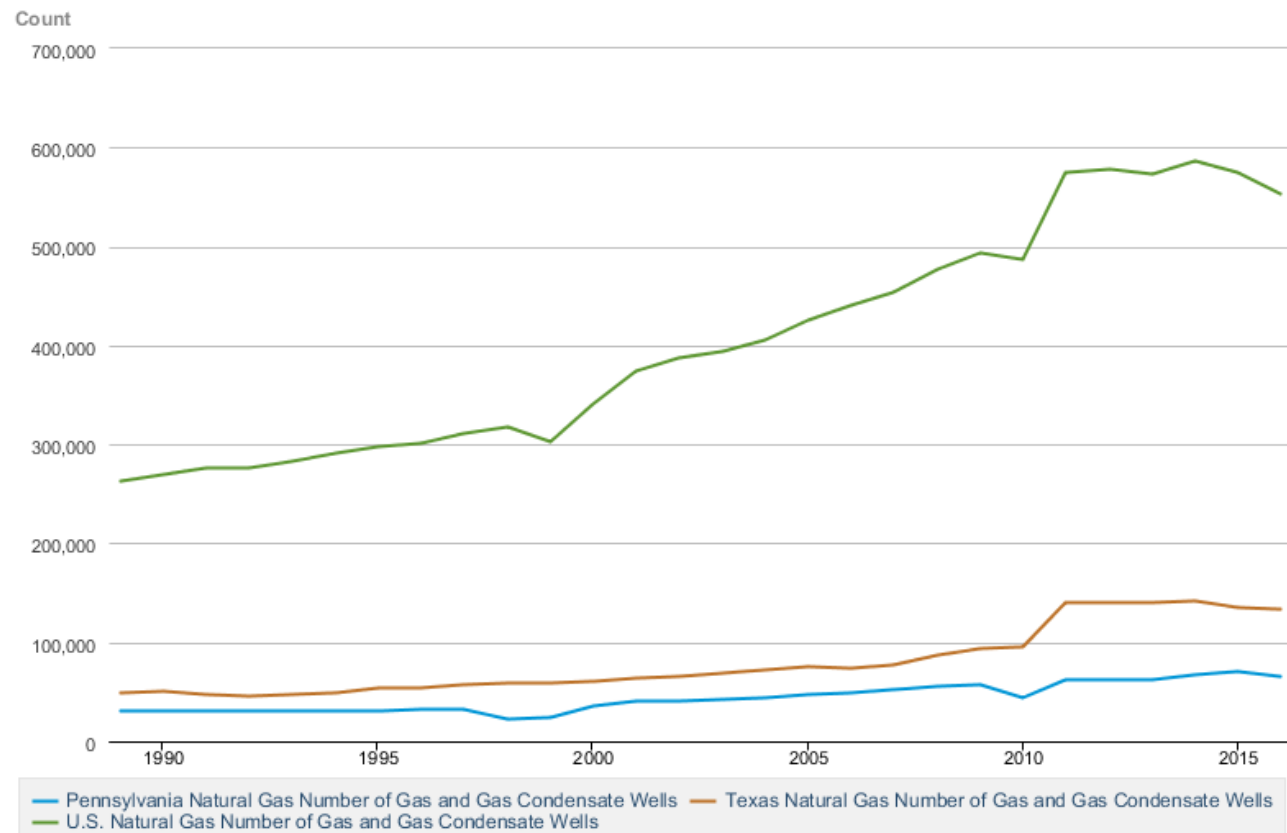
Number of Gas Producing Oil Wells



Source: U.S. Energy Information Administration

Number of Wells Declining

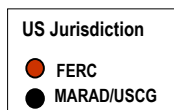
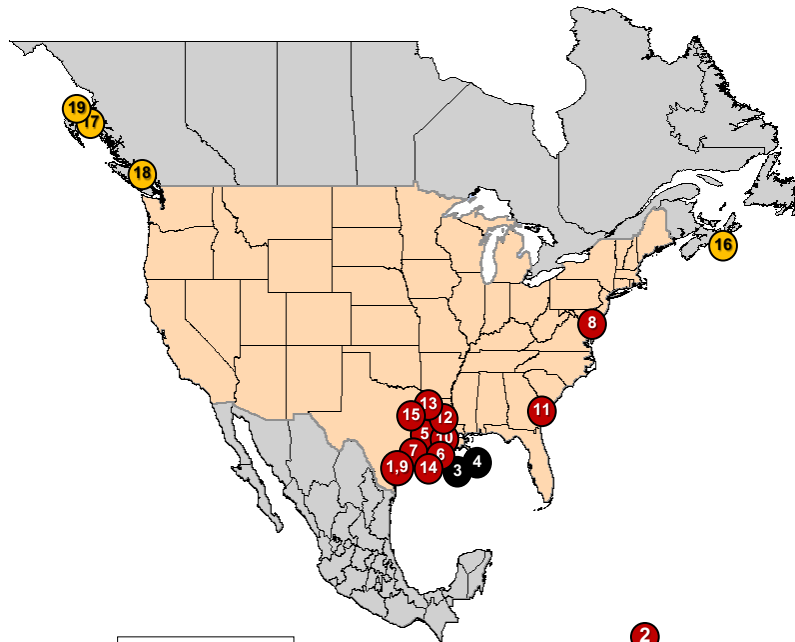
Number of Producing Gas Wells



Source: U.S. Energy Information Administration

How Many Will Be Built

North American LNG Import/Export Terminals Approved



As of May 1, 2017

Import Terminals

U.S.

APPROVED - UNDER CONSTRUCTION - FERC

1. Corpus Christi, TX: 0.4 Bcfd (Cheniere – Corpus Christi LNG) (CP12-507)

APPROVED – NOT UNDER CONSTRUCTION - FERC

2. Salinas, PR: 0.6 Bcfd (Aguirre Offshore GasPort, LLC) (CP13-193)

APPROVED - NOT UNDER CONSTRUCTION - MARAD/Coast Guard

3. Gulf of Mexico: 1.0 Bcfd (Main Pass McMoRan Exp.)
4. Gulf of Mexico: 1.4 Bcfd (TORP Technology-Bienville LNG)

Export Terminals

U.S.

APPROVED - UNDER CONSTRUCTION - FERC

5. Sabine, LA: 0.7 Bcfd (Cheniere/Sabine Pass LNG) (CP11-72 & CP14-12)
6. Hackberry, LA: 2.1 Bcfd (Sempra–Cameron LNG) (CP13-25)
7. Freeport, TX: 2.14 Bcfd (Freeport LNG Dev/Freeport LNG Expansion/FLNG Liquefaction) (CP12-509) (CP15-518)
8. Cove Point, MD: 0.82 Bcfd (Dominion–Cove Point LNG) (CP13-113)
9. Corpus Christi, TX: 2.14 Bcfd (Cheniere – Corpus Christi LNG) (CP12-507)
10. Sabine Pass, LA: 1.40 Bcfd (Sabine Pass Liquefaction) (CP13-552) ★
11. Elba Island, GA: 0.35 Bcfd (Southern LNG Company) (CP14-103)

APPROVED – NOT UNDER CONSTRUCTION - FERC

12. Lake Charles, LA: 2.2 Bcfd (Southern Union – Lake Charles LNG) (CP14-120)
13. Lake Charles, LA: 1.08 Bcfd (Magnolia LNG) (CP14-347)
14. Hackberry, LA: 1.41 Bcfd (Sempra - Cameron LNG) (CP15-560)
15. Sabine Pass, TX: 2.1 Bcfd (ExxonMobil – Golden Pass) (CP14-517)

Canada

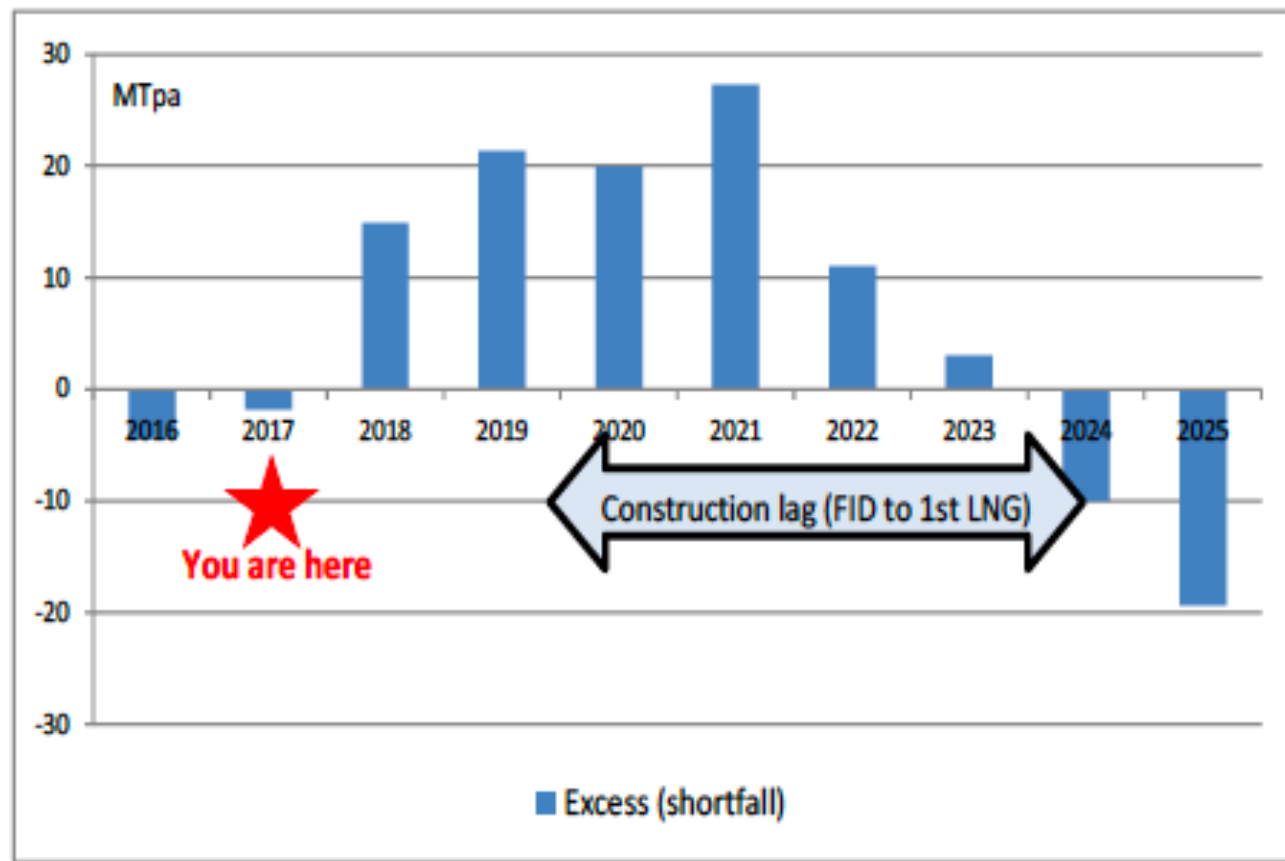
APPROVED – NOT UNDER CONSTRUCTION

16. Port Hawkesbury, NS: 0.5 Bcfd (Bear Head LNG)
17. Kitimat, BC: 3.23 Bcfd (LNG Canada)
18. Squamish, BC: 0.29 Bcfd (Woodfibre LNG Ltd)
19. Prince Rupert Island, BC: 2.74 Bcfd (Pacific Northwest LNG)

★ Trains 5 & 6 with Train 5 under construction

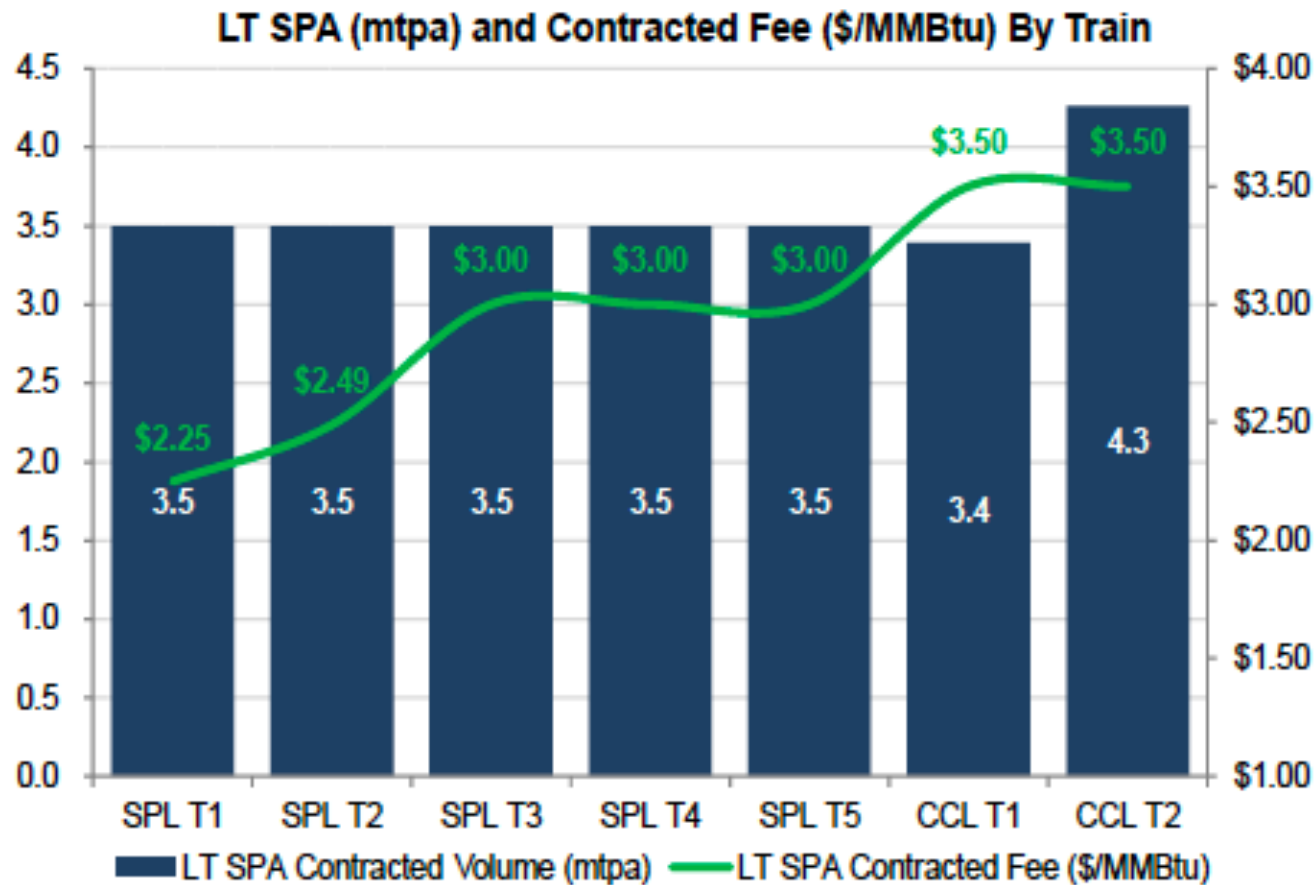
Oversupply on the Horizon

Figure 1: Global LNG SUP/DEM balance



Source: Credit Suisse estimates

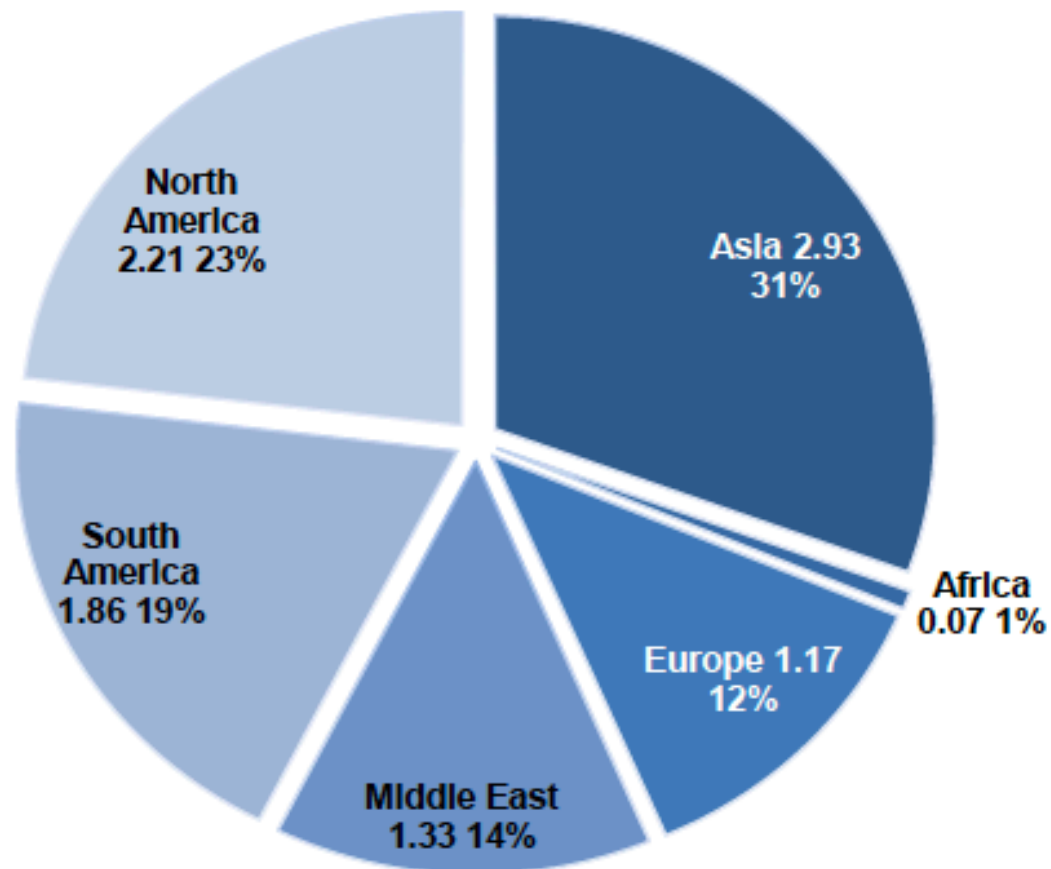
Sabine Pass



Source: Cheniere, Credit Suisse research

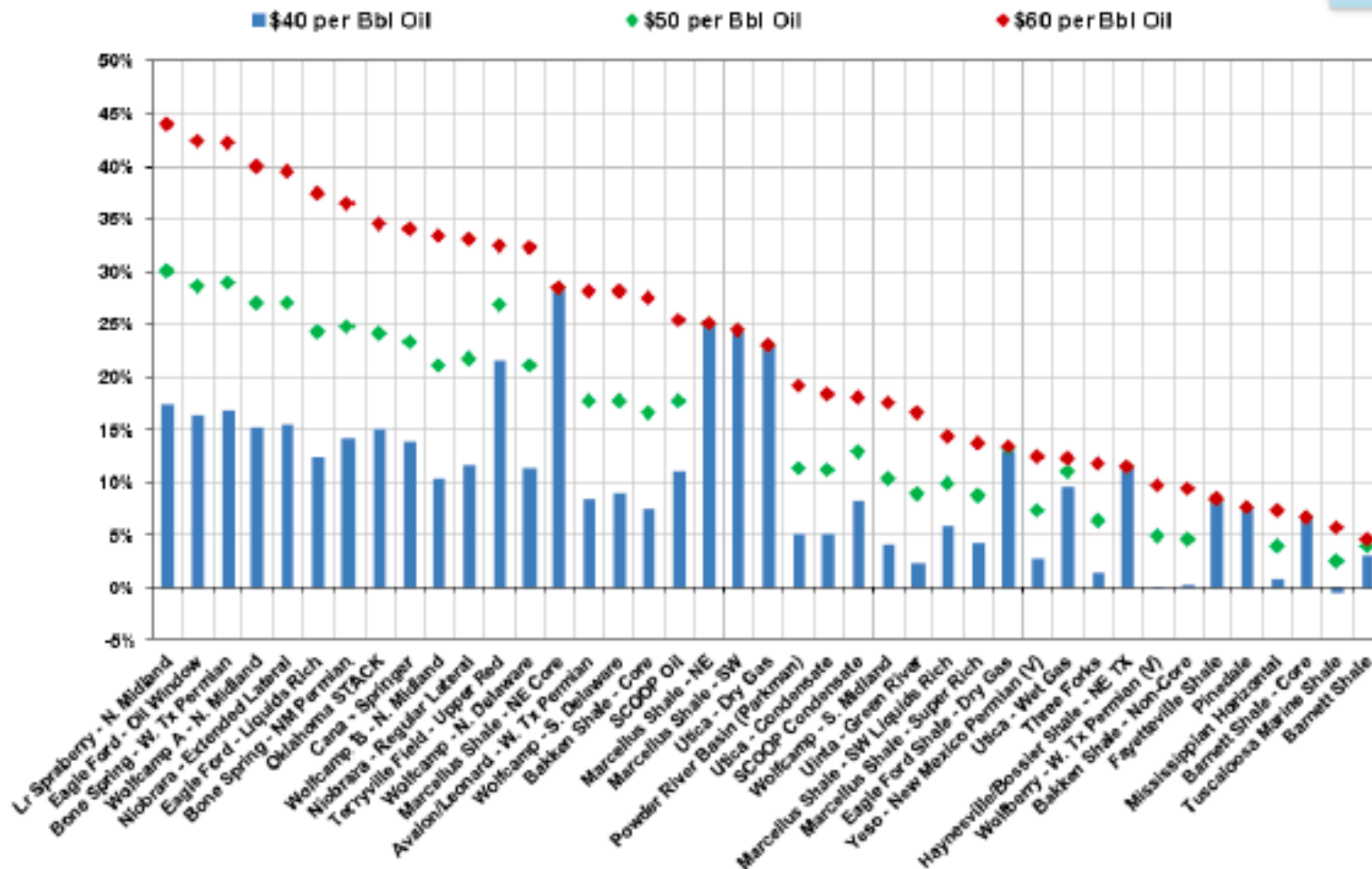
Sabine Pass Destination

Figure 16: Sabine Pass by destination since start-up



Source: Cheniere, Credit Suisse research

High Returns Despite Lower Oil Prices



Source: Credit Suisse

Outlook

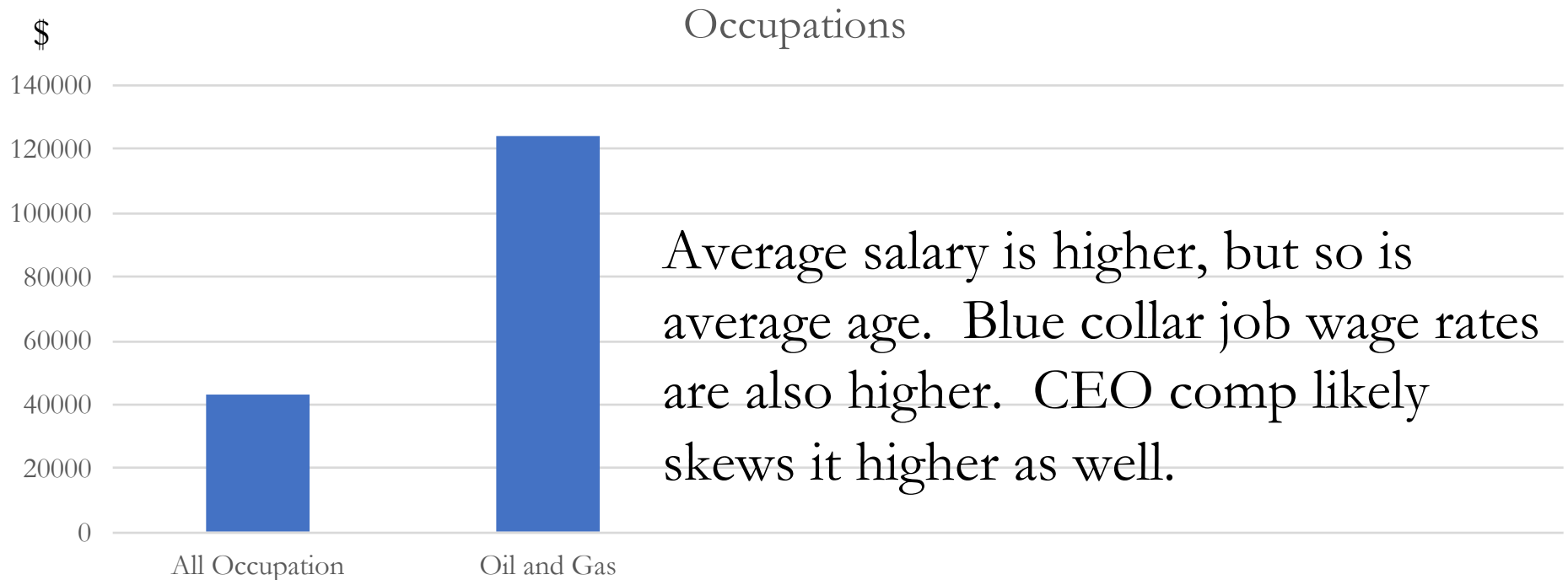
- Priced @\$3.00 mcf
- Storage below 5 year running average
- Rig count flat at best
- Futures market showing \$3.25 this winter
- Export market should grow – margins may compress but we have a good cost position.

New Jobs are Forecasted to Grow for the Next Decade, Even at Current Prices

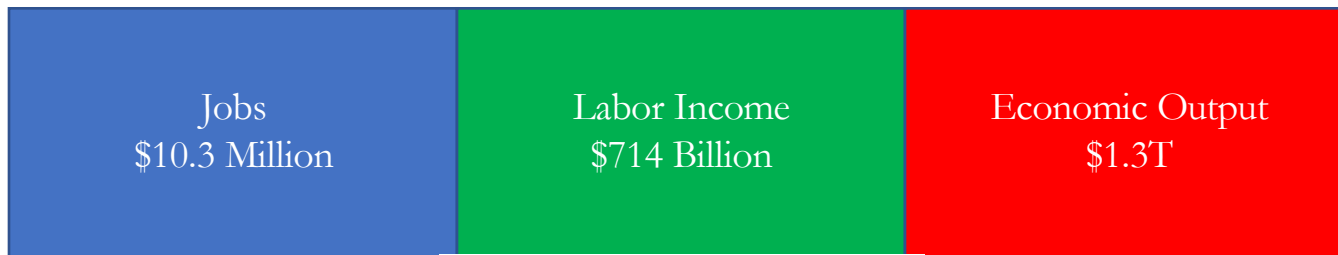


Source: Bureau of Labor Statistics

Texas Oil and Gas Wages Remain High



National Direct and Indirect Economic Contribution



Source: PWC



Thank You
bbullock@smu.edu

