



Oil and the U.S. Economy: Does Shale Change the Picture?

Mine Yücel

Federal Reserve Bank of Dallas

Increased energy production from shale

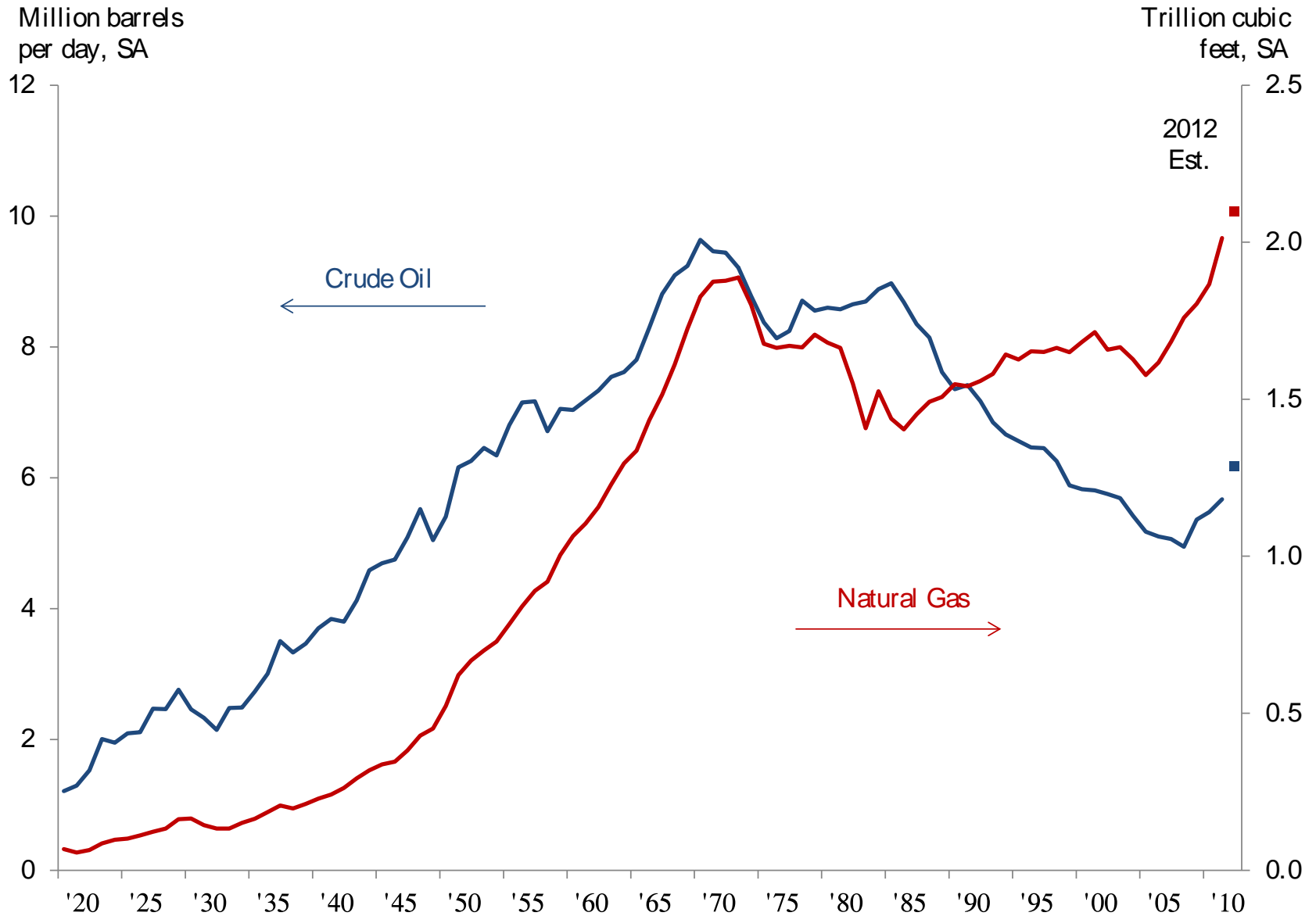
Oil

- Global market
 - Will not necessarily protect from oil price shocks or price volatility
 - May not lower prices for consumers (depends on OPEC's reaction)
- Lower trade balance
- Increase regional growth and employment
- Decrease vulnerability oil supply shocks

Natural Gas

- Domestic market
- Higher output lowers prices

U.S. Oil and Gas Production



Surge in shale resources

Shale Play	Technically Recoverable Resources	
	Oil (Billion barrels)	Gas (TCF)
Monterey/Santos	14	-
West Coast Total	14	-
Haynesville	-	66
Eagle Ford	2	50
Gulf Coast Total	2	116
Fayetteville	-	13
Woodford	-	22
Mid-Continent Total	-	38
Barnett	-	43
Barnett-Woodford	-	32
Southwest Total	3	76
Bakken	5	-
Niobrara	7	-
Rocky Mountain Total	12	-
Marcellus	-	141
Northeast Total	-	156
TOTAL	33	482

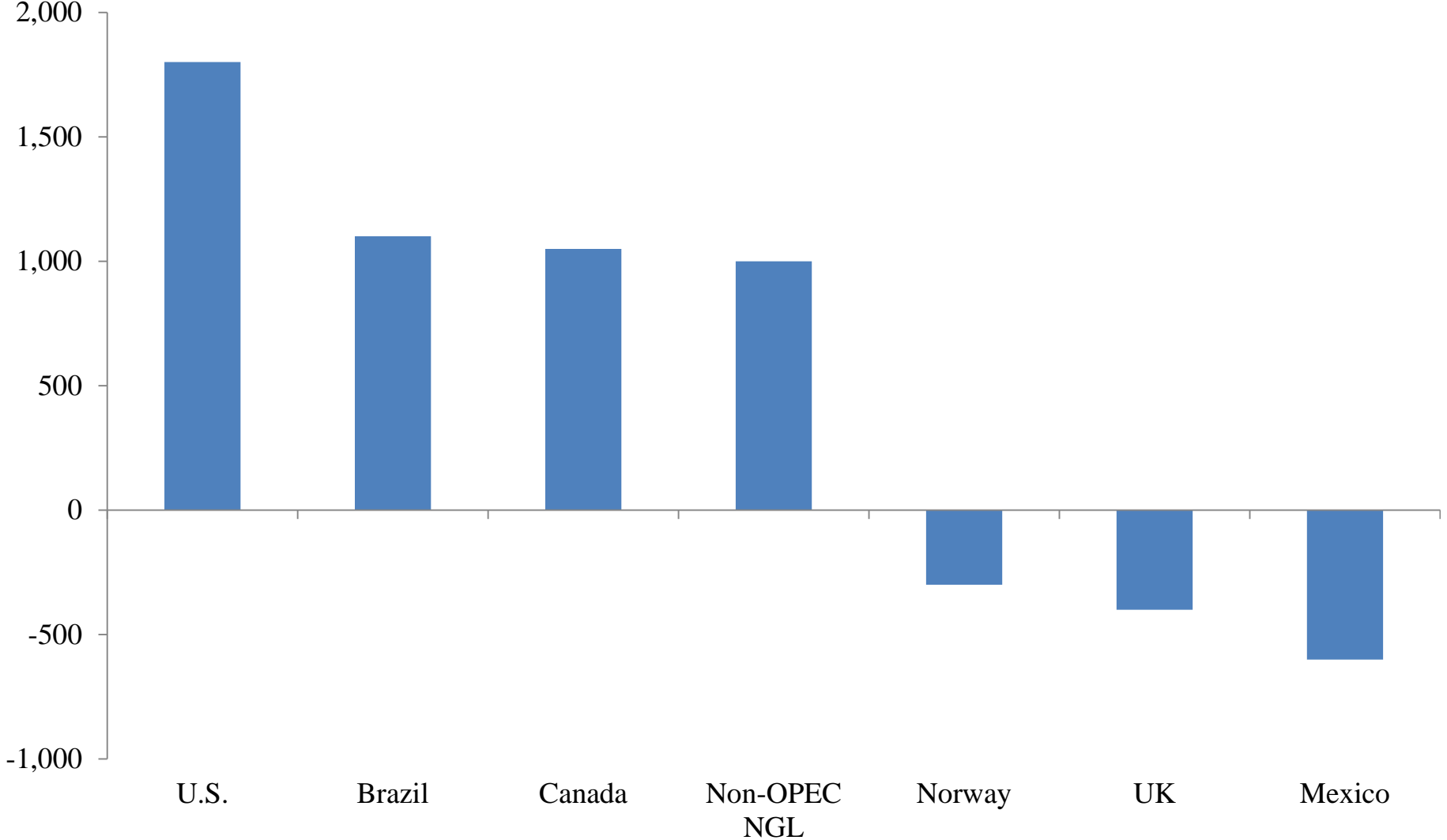
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Non-OPEC Output: A Changing of The Guard

Forecasted 2016 Output – 2010 Actual Output

Thousands of
barrels per day

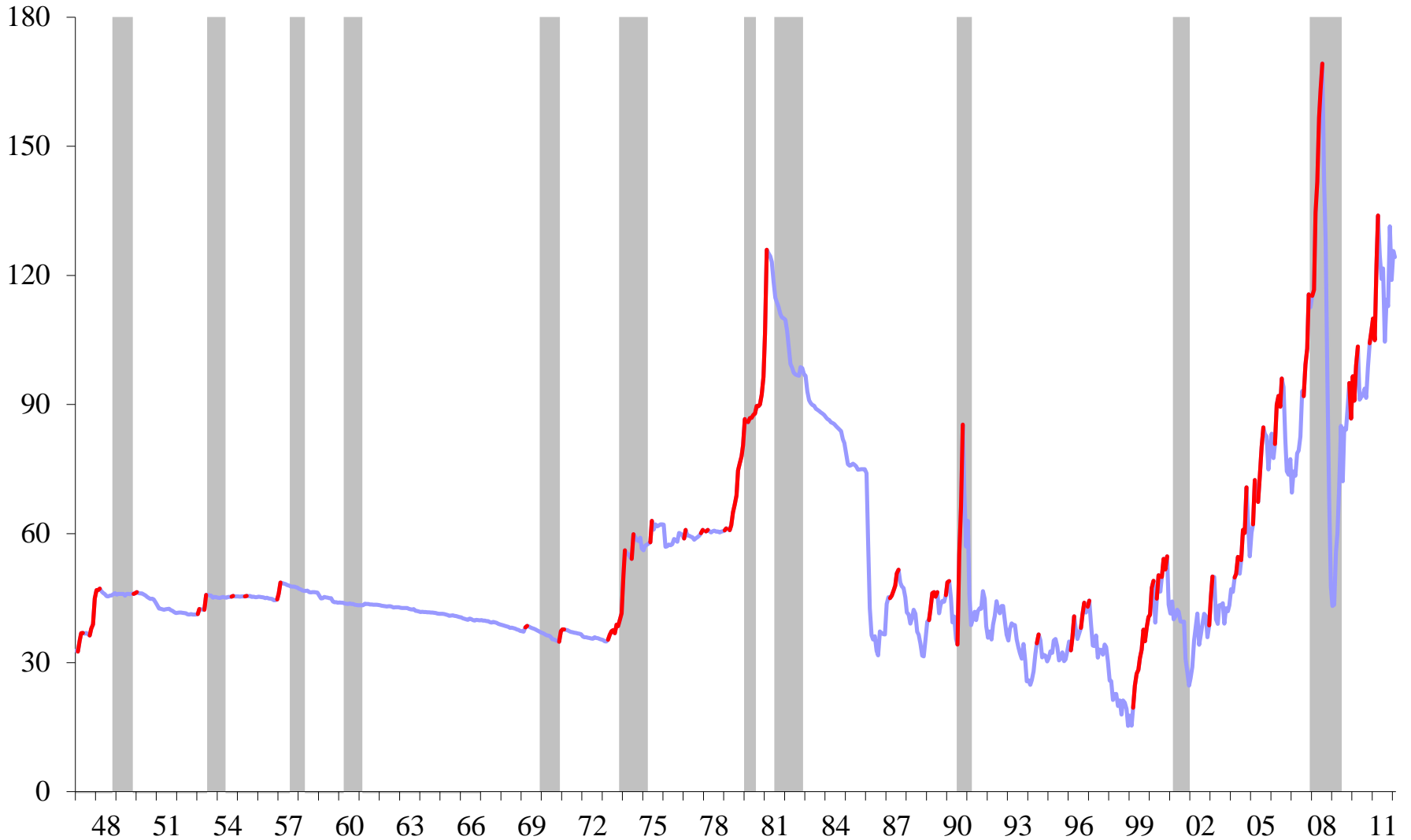


Increased oil and gas output: what does it mean for the U.S. economy?

- National/international effects
 - Trade balance
 - Dollar
- State and local effects
 - Employment and income growth
 - State fiscal effects
 - Texas example

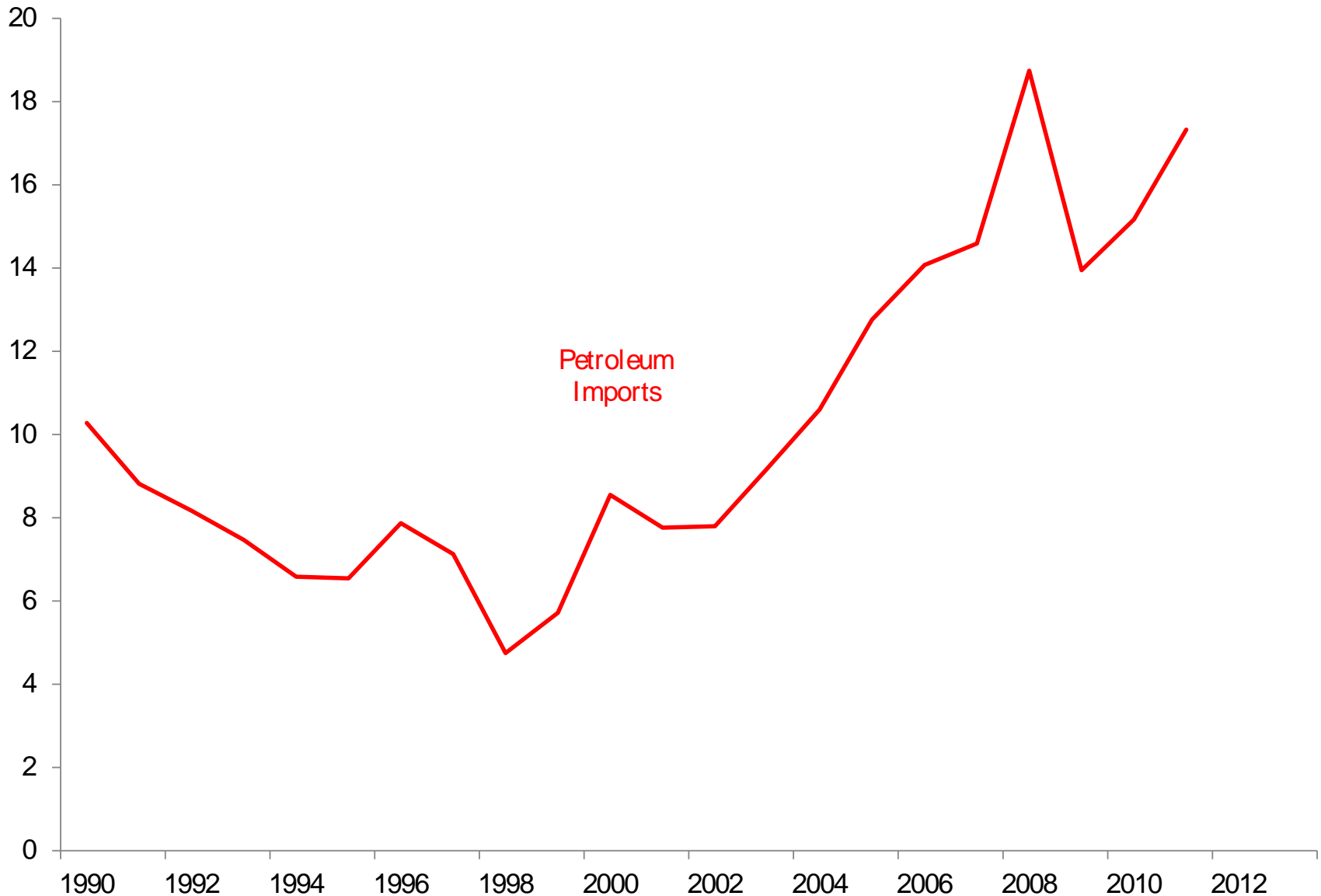
Oil Price Shocks and Recessions

Index, 1982=100



Petroleum as a share of goods imports

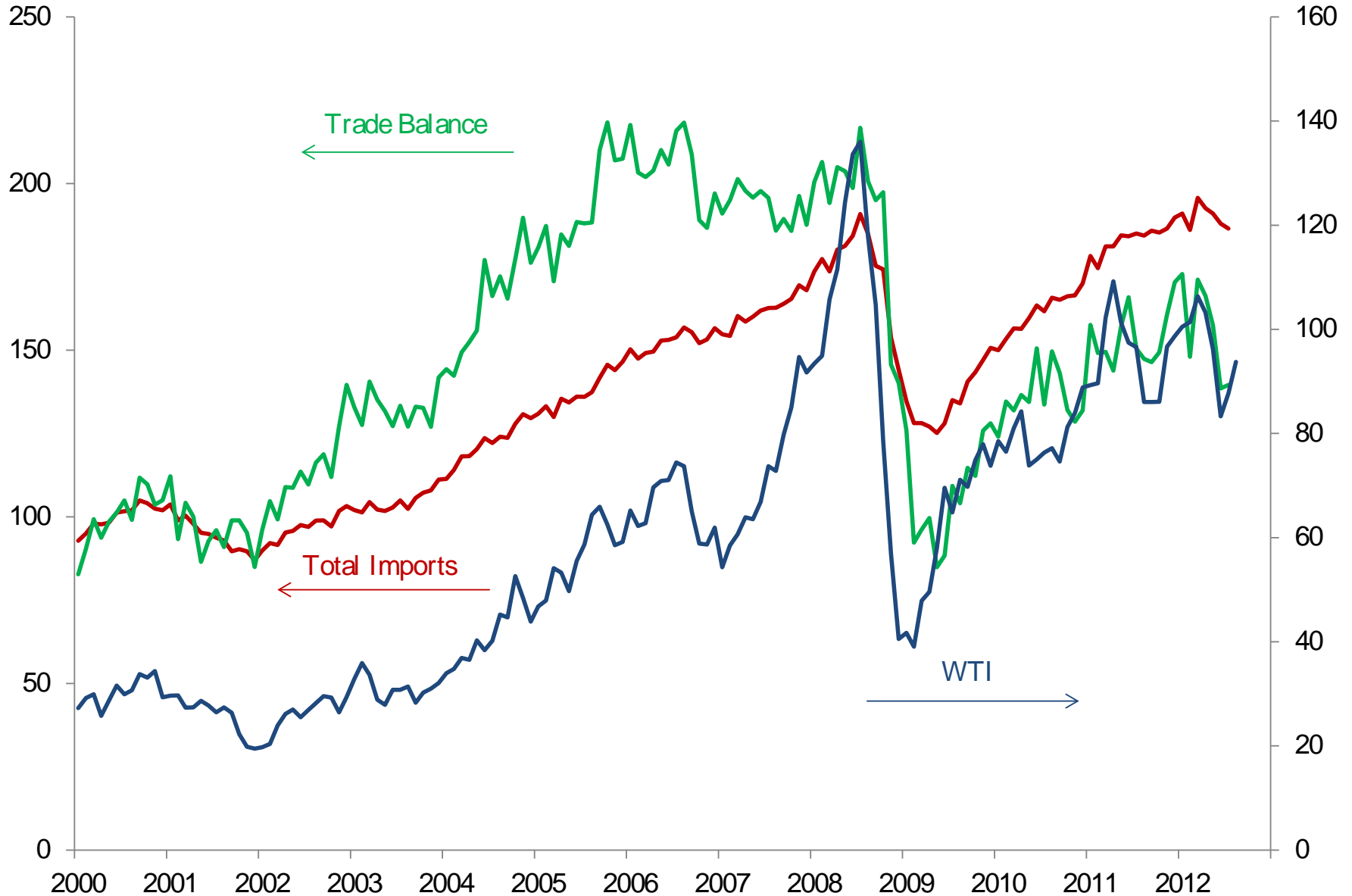
Percent



Trade Deficit and Imports in Sync with Oil Prices

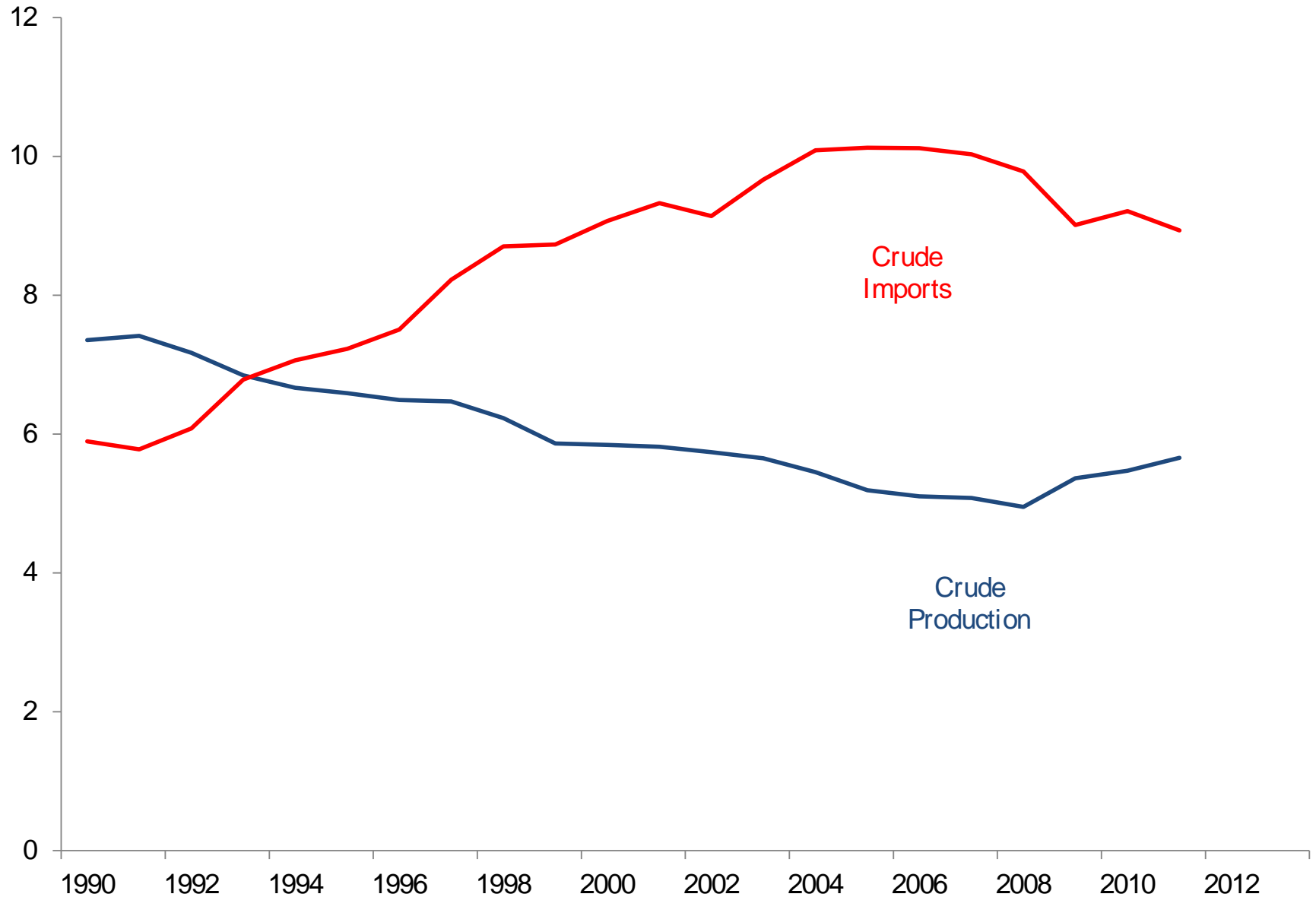
Index, 2000= 100

Avg. \$/barrel



Crude Production and Imports

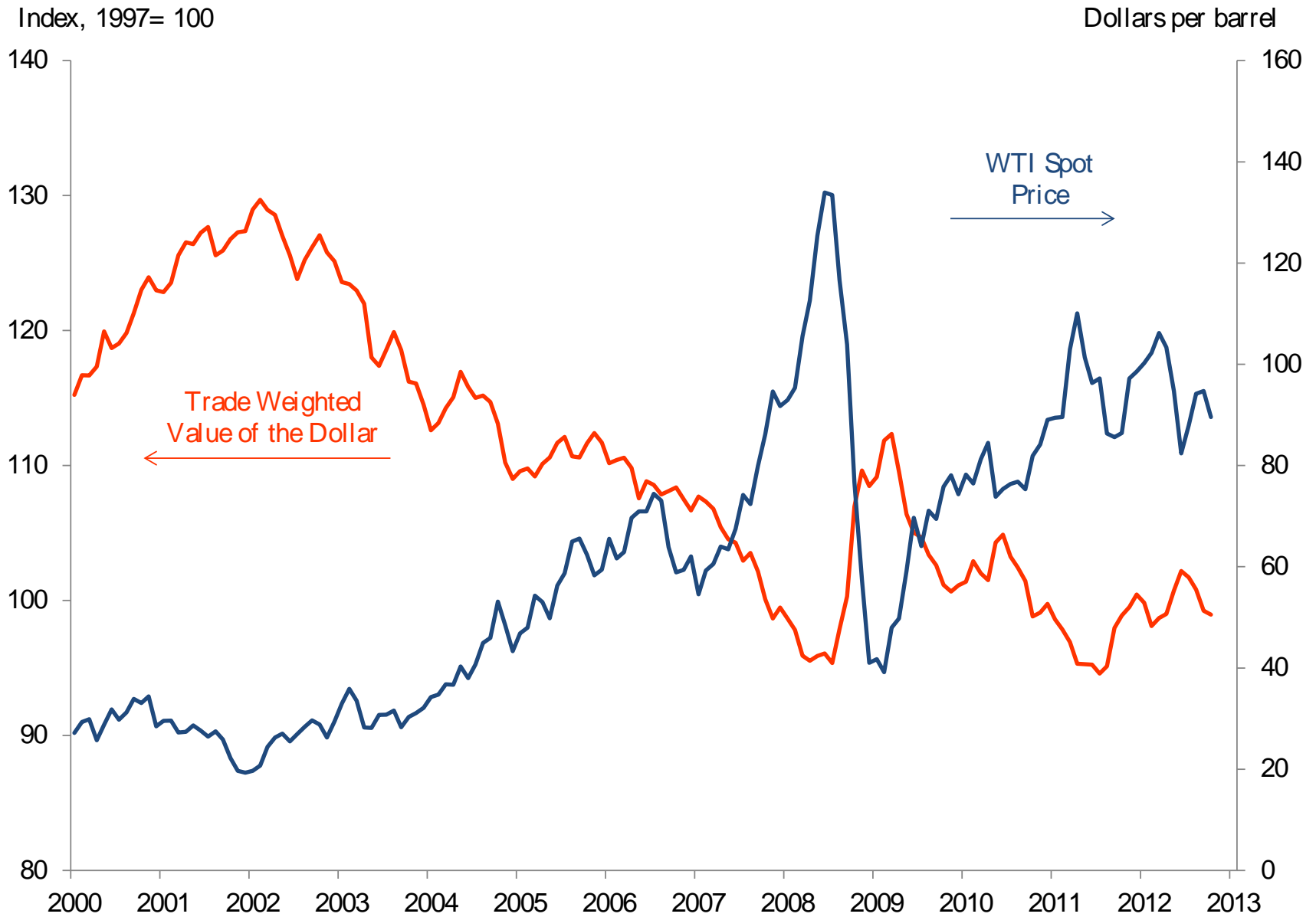
Mil. barrels/day



Trade Balance Issues

- Lower oil imports reduce transfers to oil exporting countries. But some of these petrodollars are recycled back into the U.S.
- Two issues:
 - How much of the petrodollars are recycled back?
 - Do domestic and foreign producers spend their revenues in the same way?

Oil Prices and the Dollar

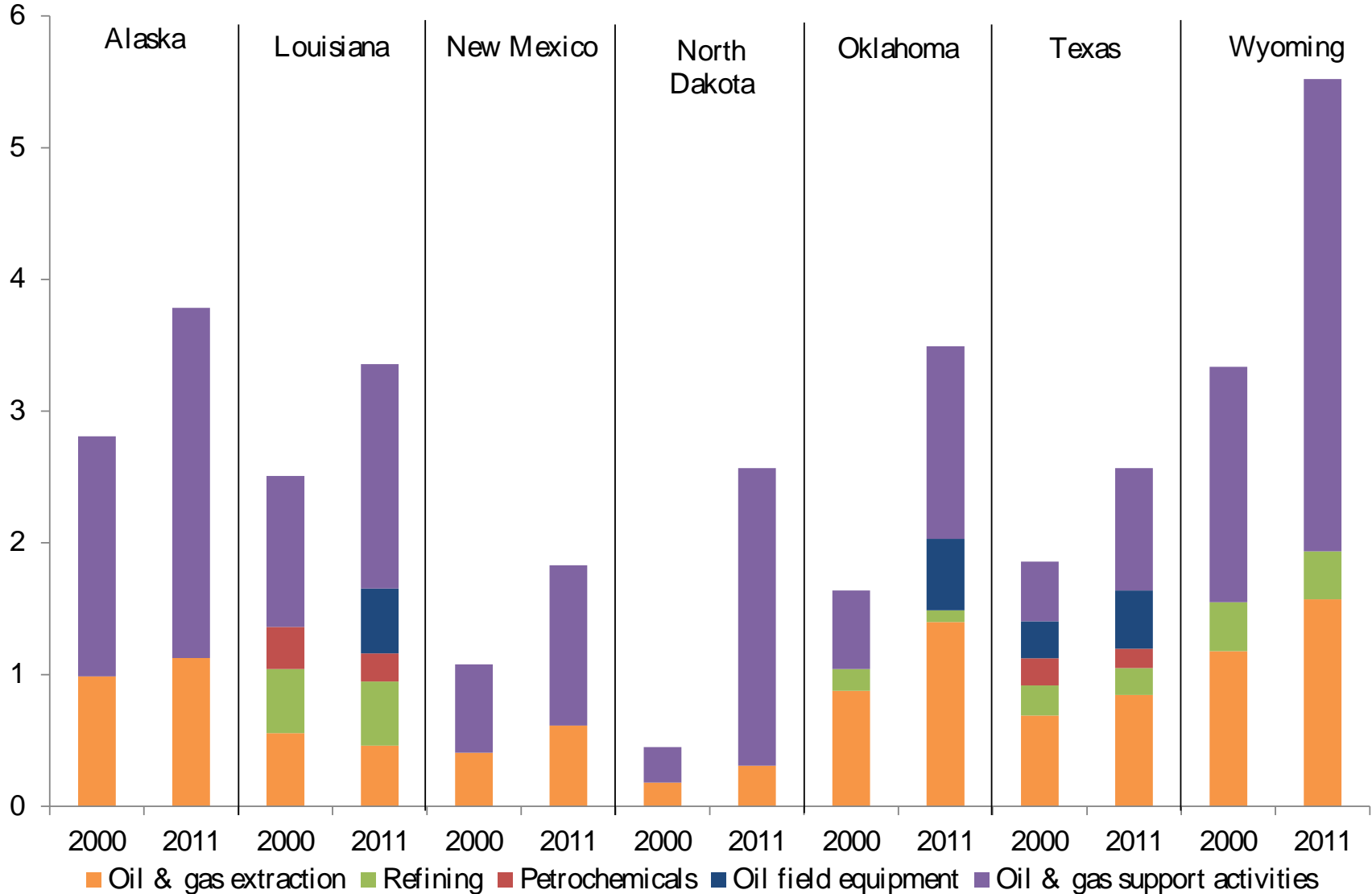


Regional Effects

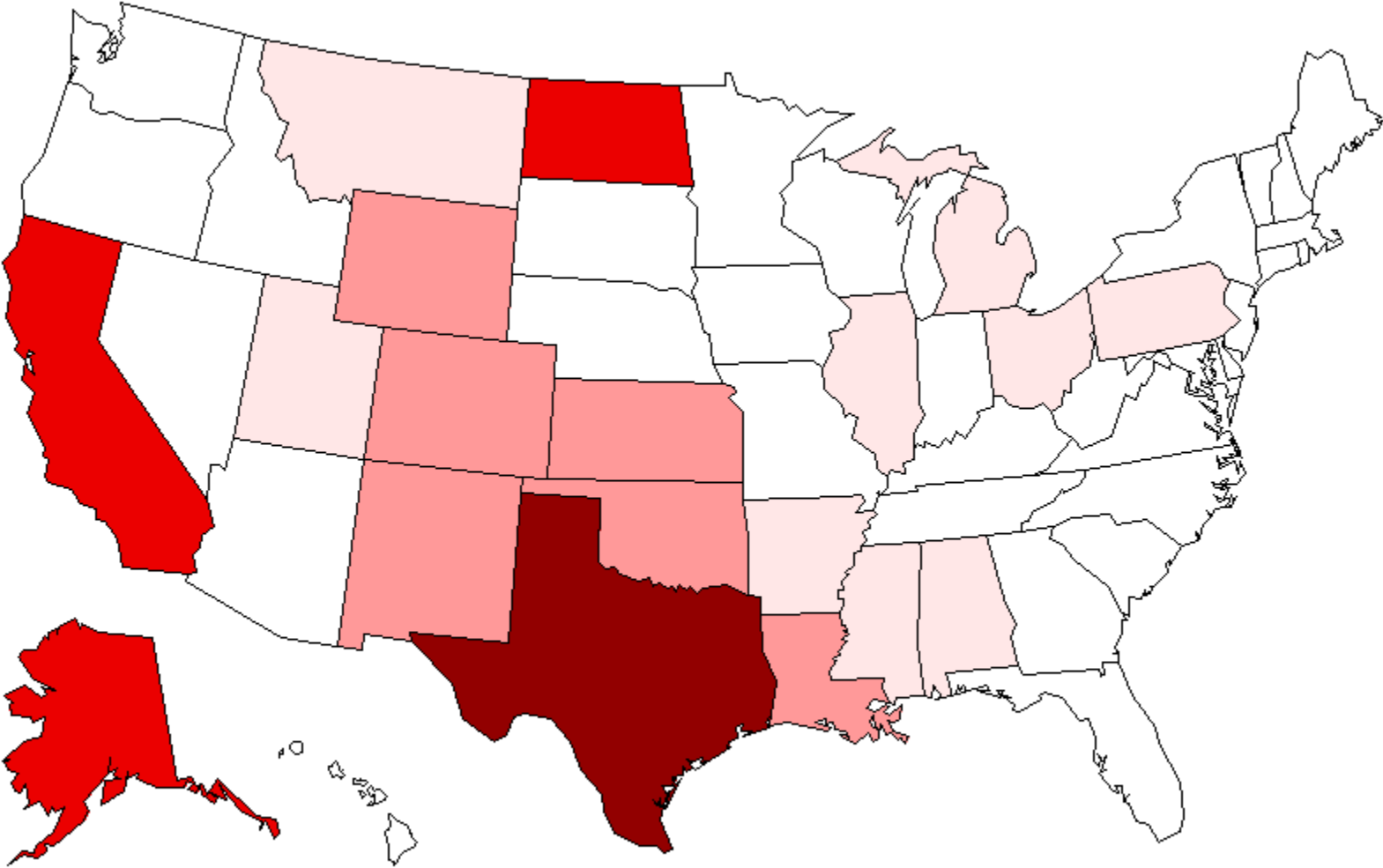
- Increased energy activity brings oil and gas extraction and oil-field support jobs
- Local areas:
 - lease and royalty payments,
 - infrastructure construction and
 - increased spending on retail, leisure and hospitality, and health services.
- Local governments: greater sales taxes
- State governments: increased severance tax revenues

State Employment Shares

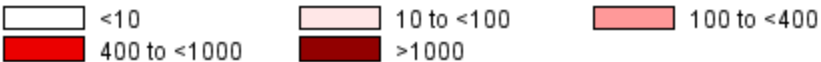
Percentage of nonagricultural employment



State Oil Production



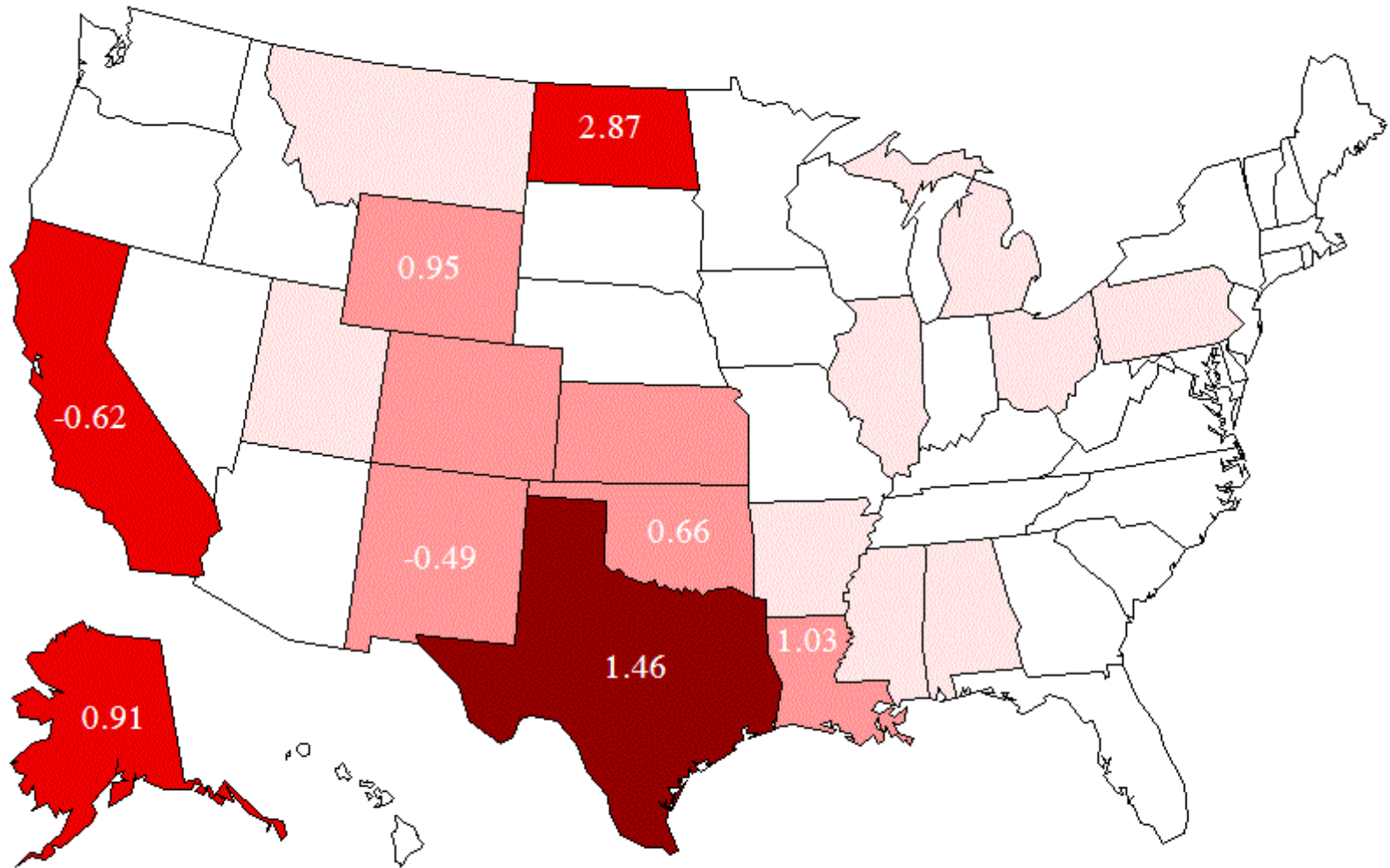
Thousand barrels/day



Shale oil and employment growth

2006 – 2012 yearly growth rates

U.S. Annual Average Growth -0.15



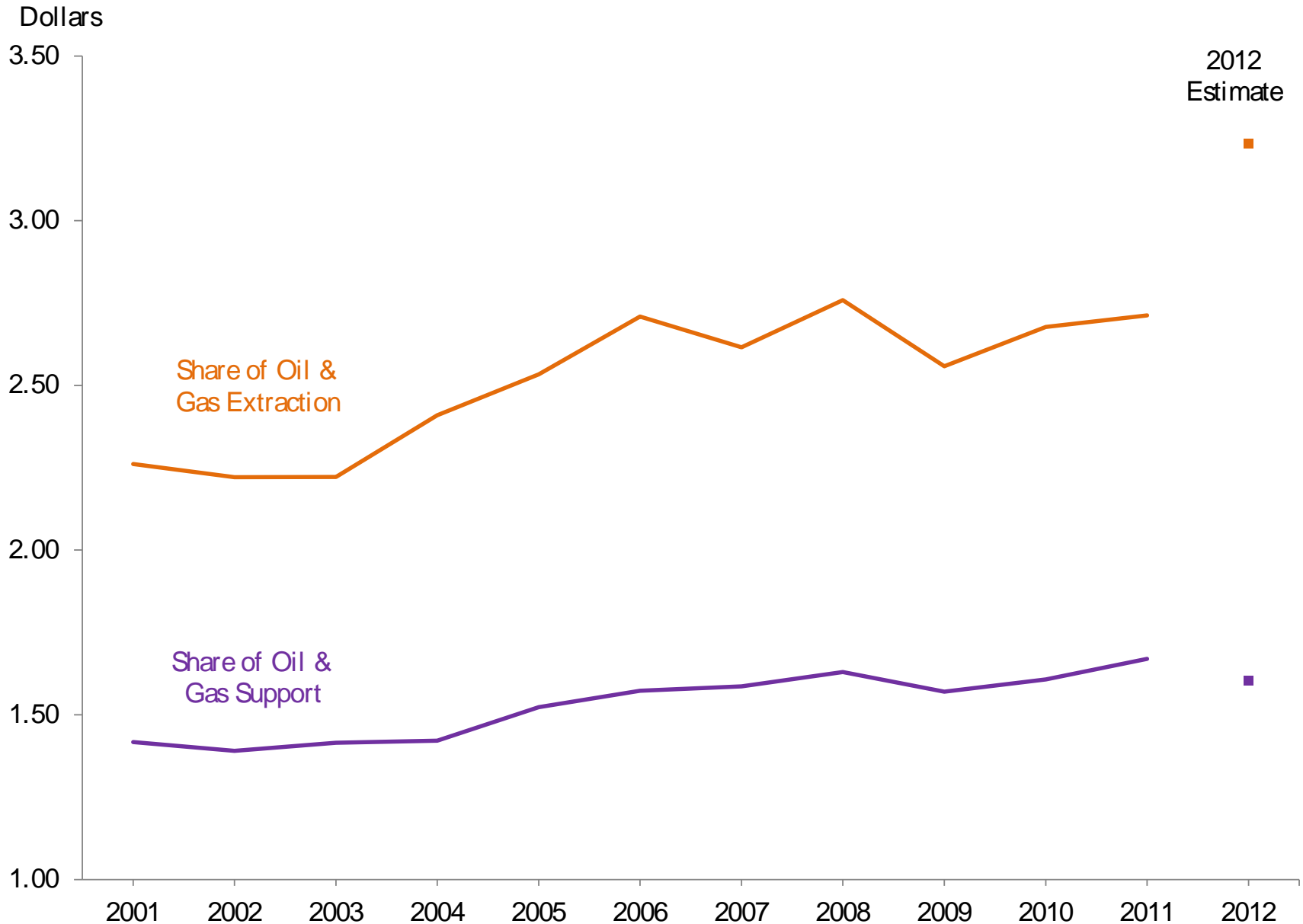
Thousand barrels/day

<10
 400 to <1000

10 to <100
 >1000

100 to <400

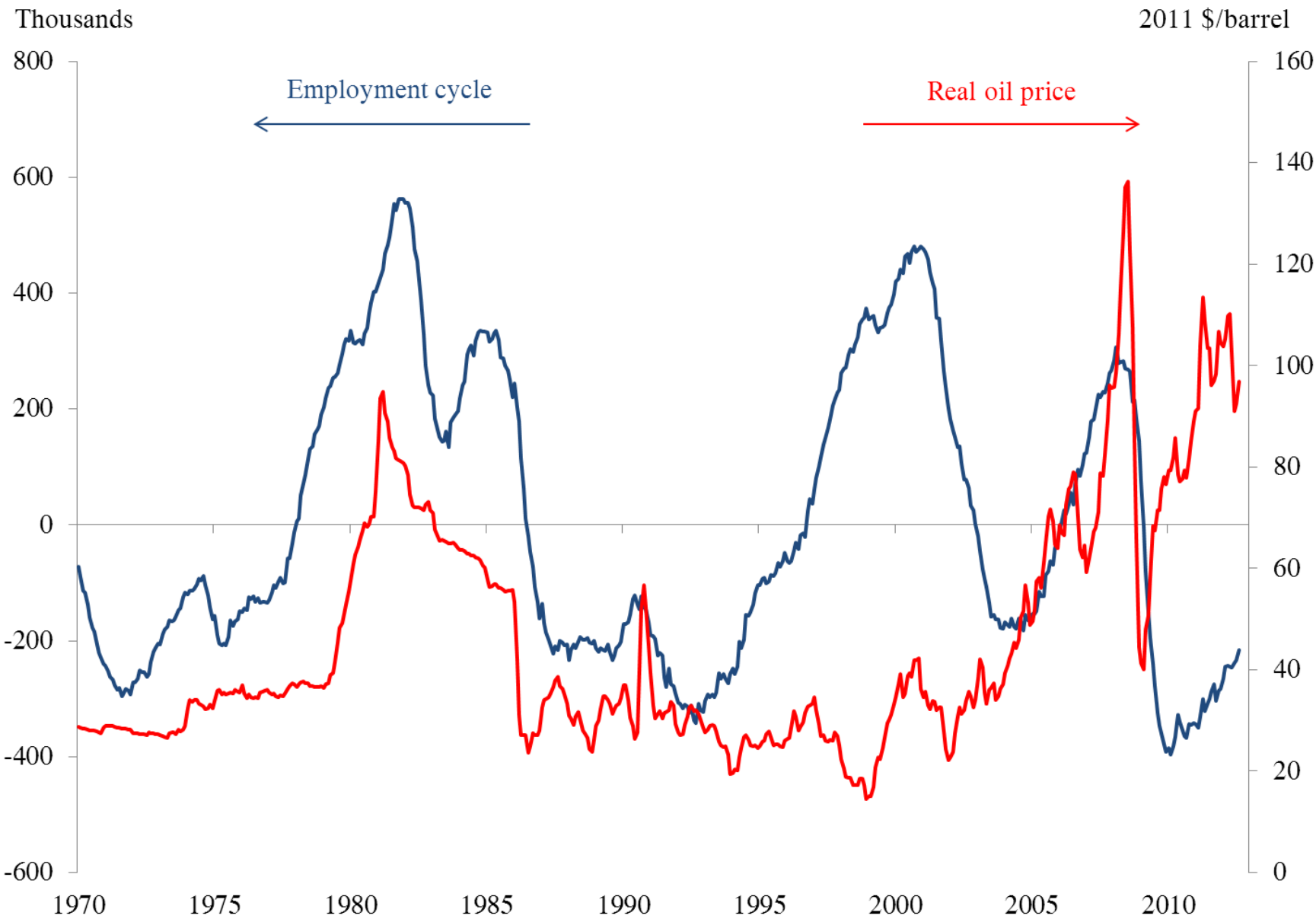
Energy sector wages high



Temporary housing in Eagle Ford



Texas employment follows oil prices



Summary

- Increased U.S. oil production will
 - Lower trade balance
 - Increase regional growth and employment
 - Decrease vulnerability oil supply shocks

Will not necessarily protect from oil price shocks or price volatility

May not lower prices for consumers (depends on OPEC's reaction)

Not “energy independent”, but more “energy secure”

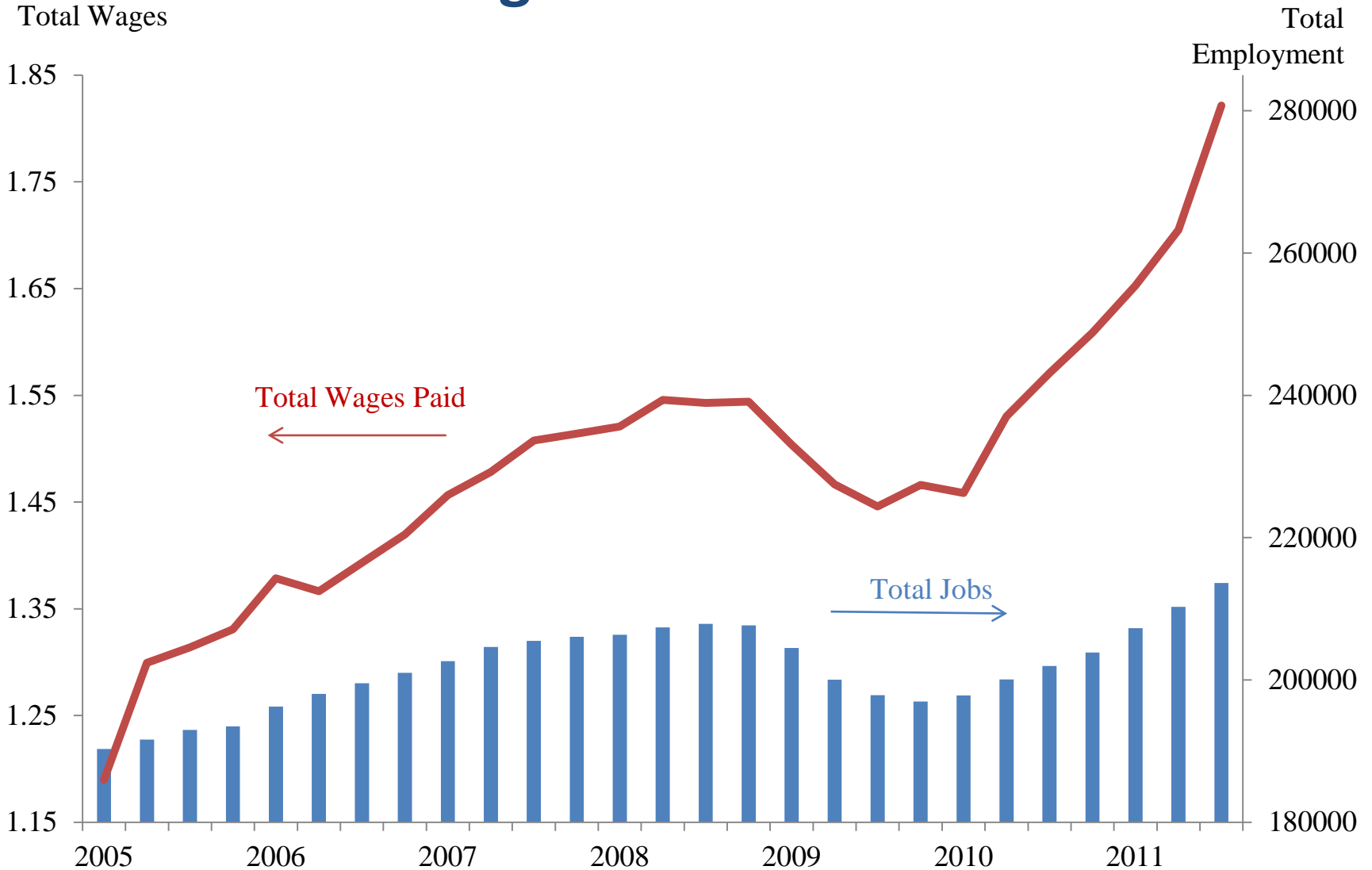


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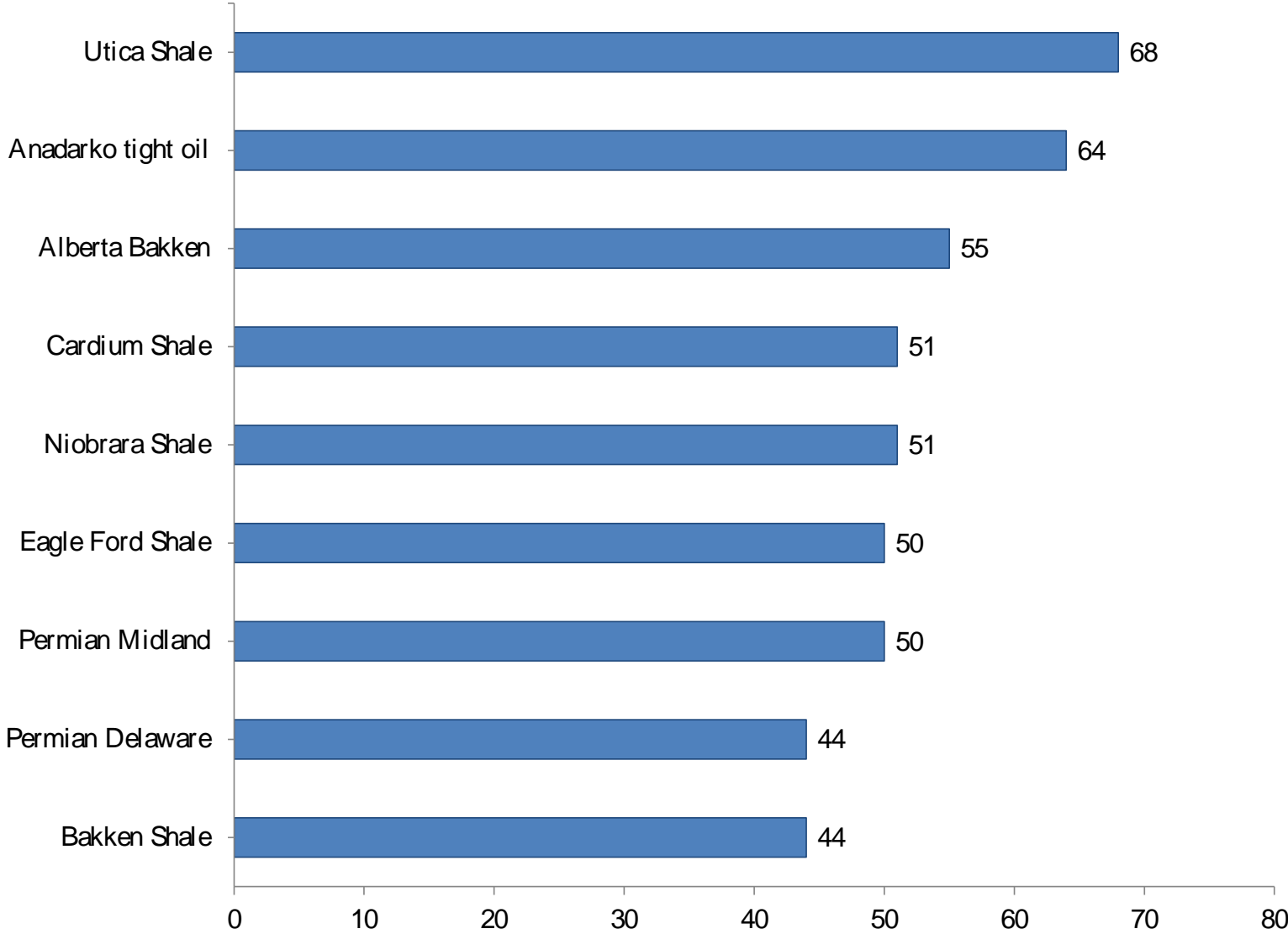
Employment and Total Wages Have Accelerated in Eagle Ford Counties



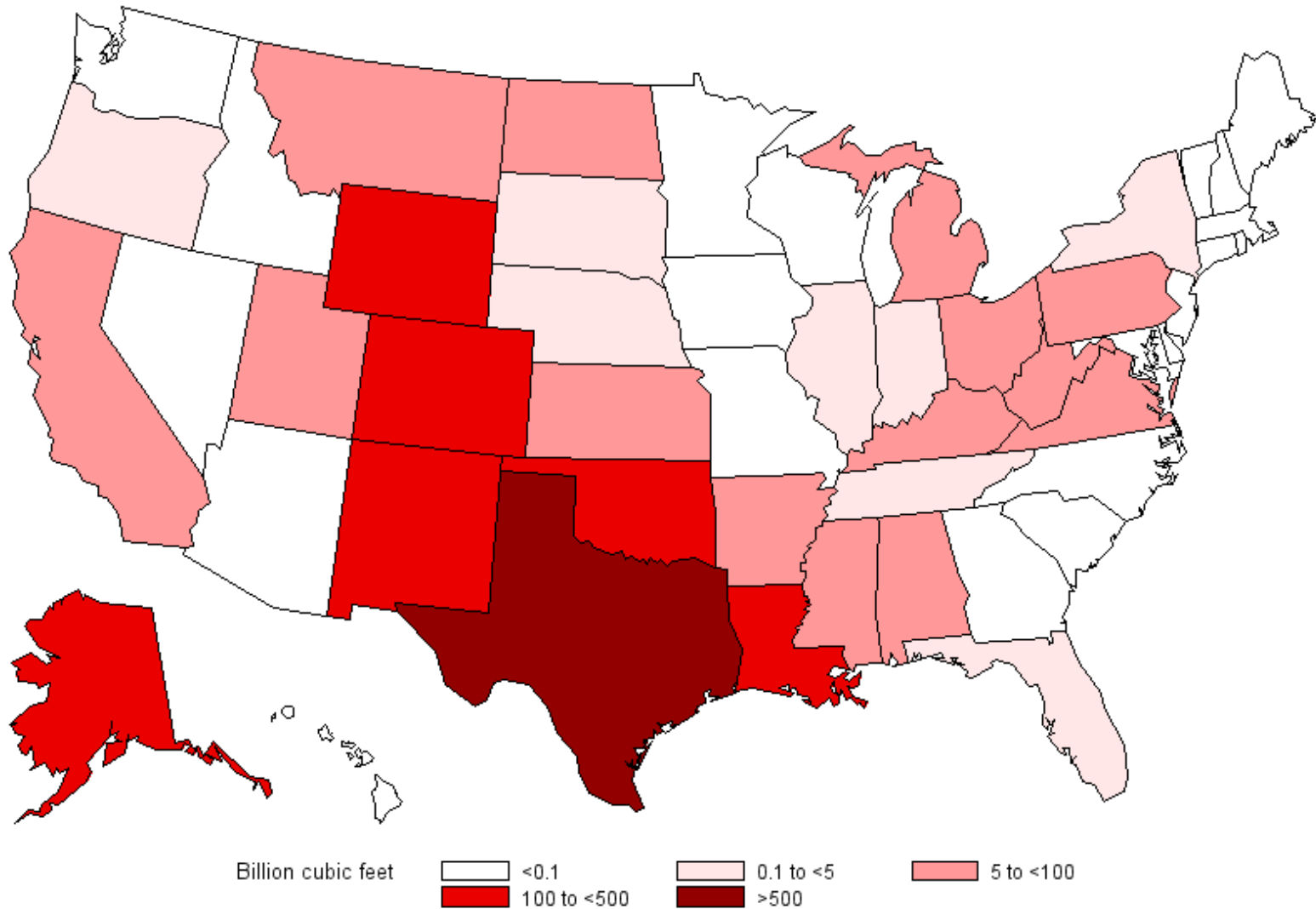
Source: Texas Railroad Commission

North American shale oil breakeven prices

(\$/bbl)



Natural Gas Marketed Production*



*Monthly average for 2010 except for AK, LA, NM, OK, TX, and WY which is production for July 2012.

