



MCALISTER INVESTMENT REAL ESTATE **NEWSFLASH REPORT – MAY 2014**

Dear Friend,

Attached is a complete analysis of the Houston area economy and job growth as presented by the University of Houston Symposium – Institute for Regional Forecasting this month.

The expectation is more than 100,000 new jobs will be created in the Houston area for FY2014. This is great news as this number has been revised upwards of 20,000 since last November, largely due to the growth in the Houston economy.

Please see the attached information received at the symposium and feel free to give me a call to discuss.

Have a great day!

Jim

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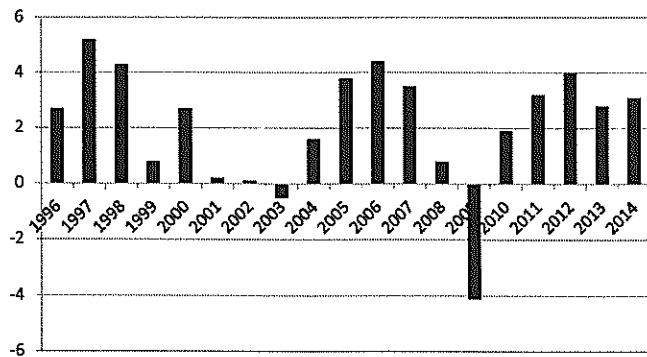
While Upstream Oil Cools, What Drives Houston's Economy Forward Now?

Robert W. Gilmer
 Institute for Regional Forecasting
 Bauer College of Business
 University of Houston
 May 22, 2014

How good will it be?

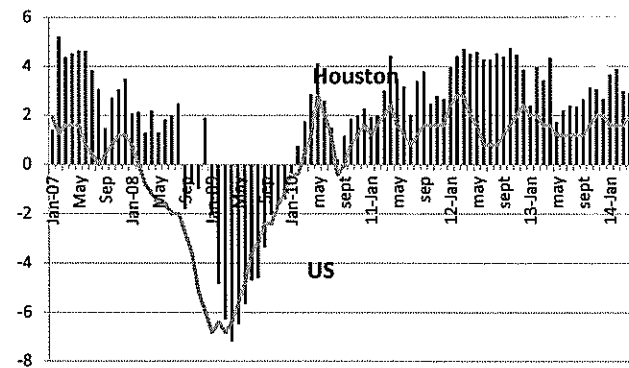
- Energy is still firmly in the driver seat
 - Unanticipated bonus for the upstream from cold winter weather
 - Downstream construction moving faster than anticipated; the spike in activity is upon us
- US economy likely to make up for time lost to the cold winter
- Space and medicine probably better stories than you think
- The slowing global economy is the only nagging concern

Houston job growth finishes 2013 with 2.8 percent growth or 76,000 jobs

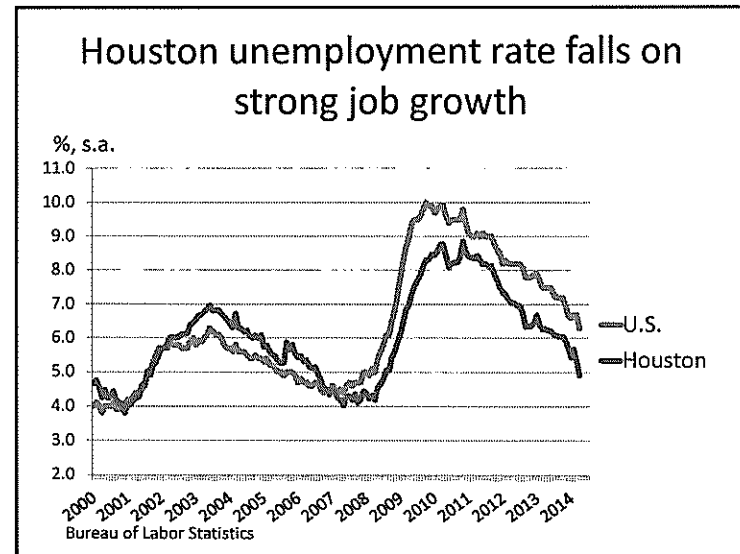
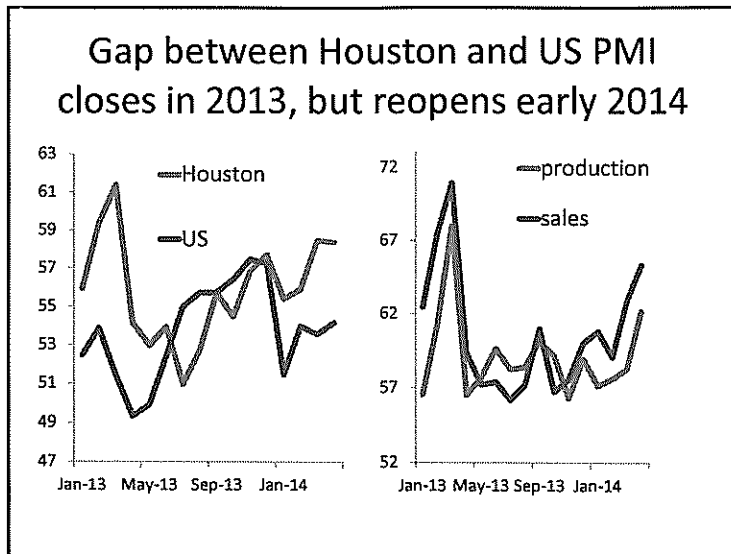
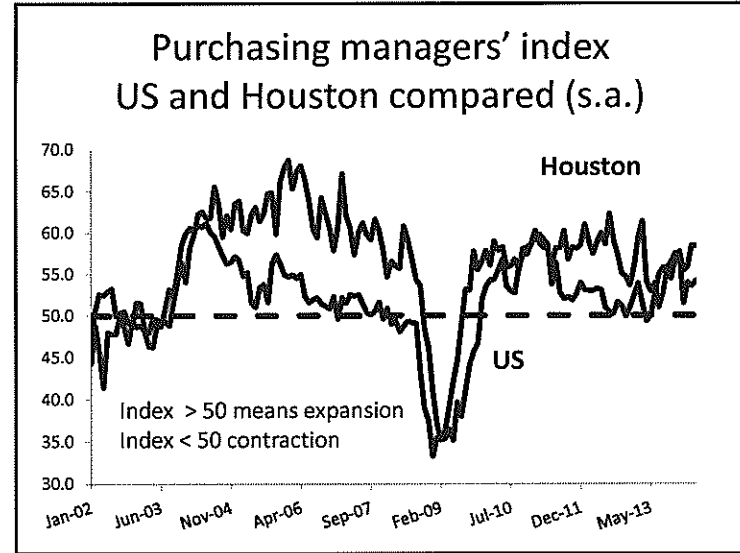
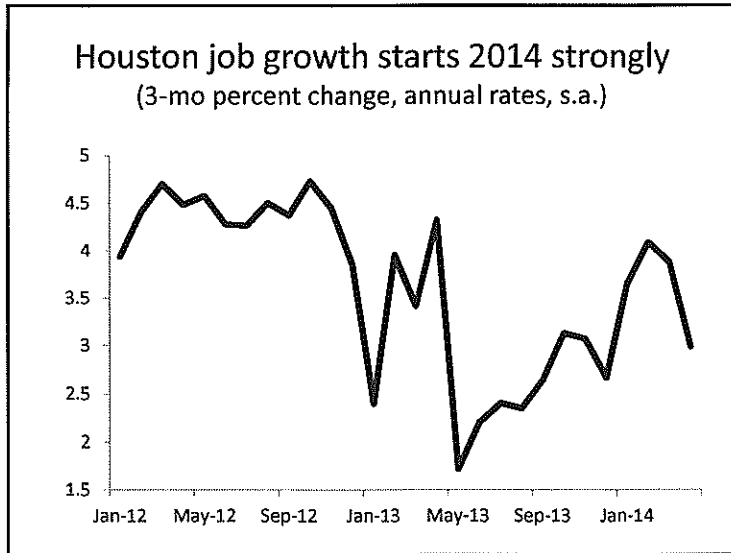


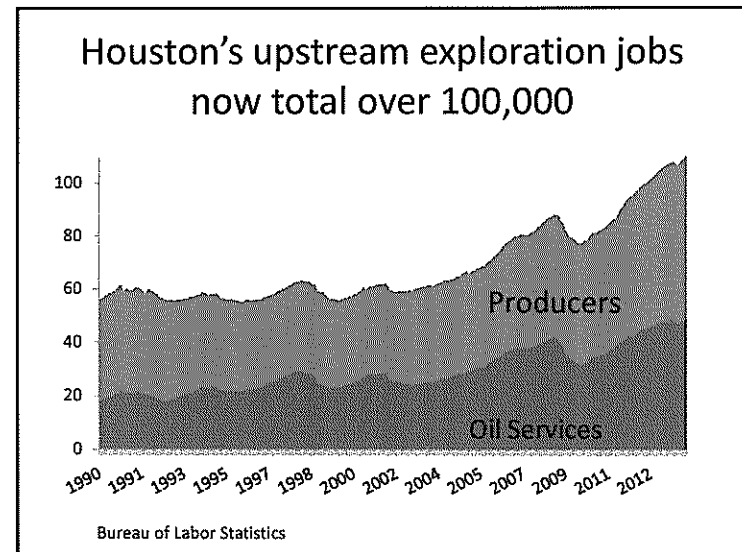
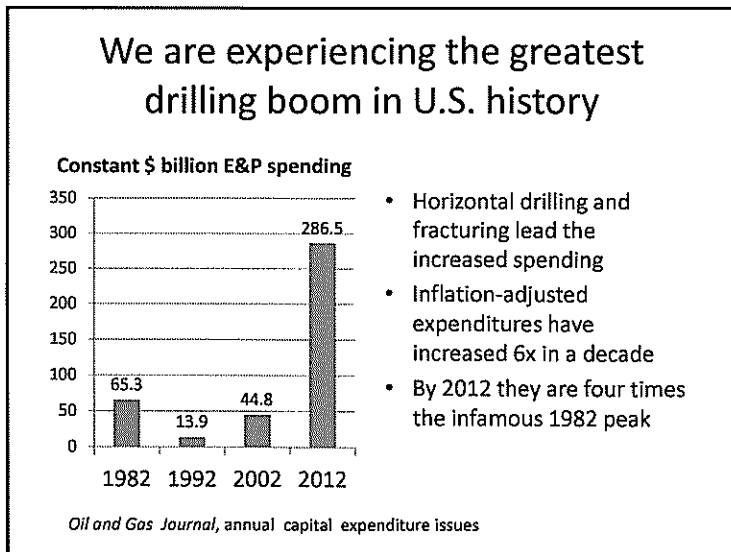
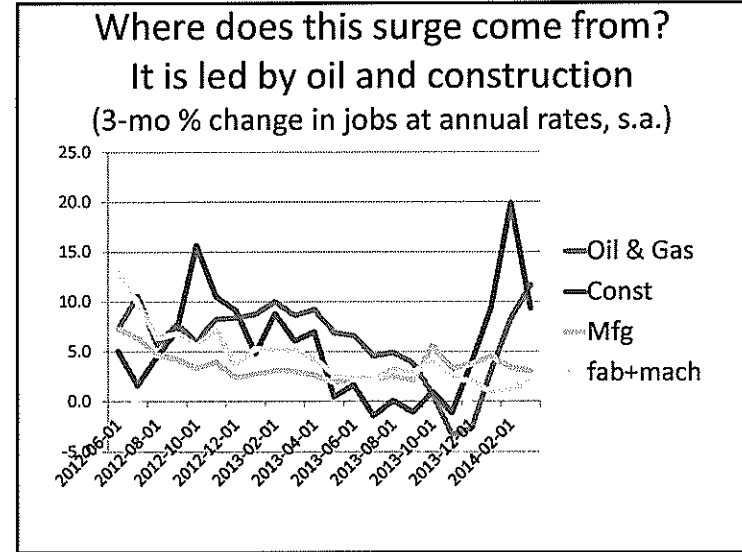
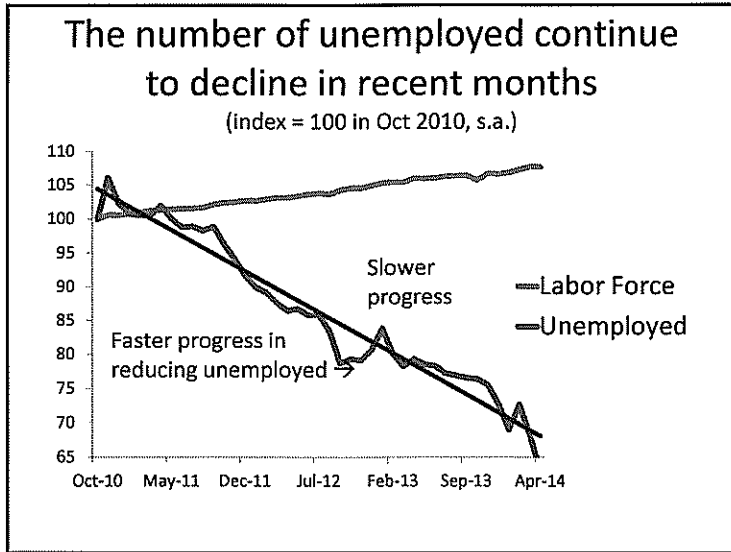
Note: December to December changes, except 2014 which is year-to-date and s.a.

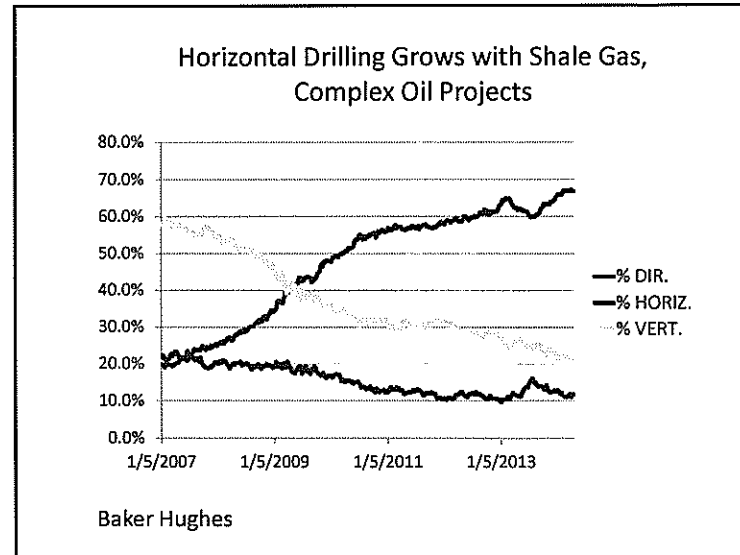
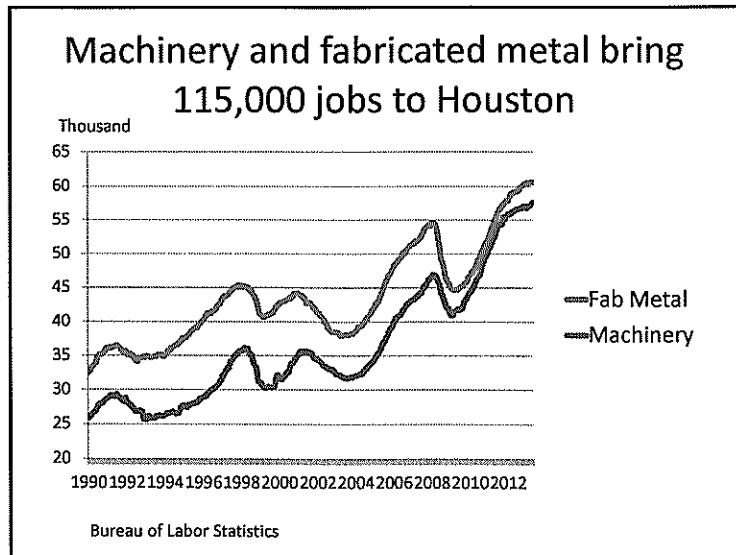
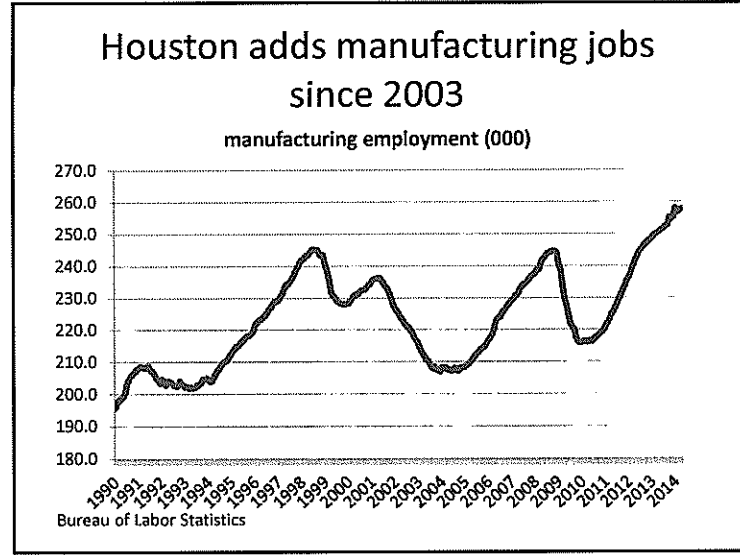
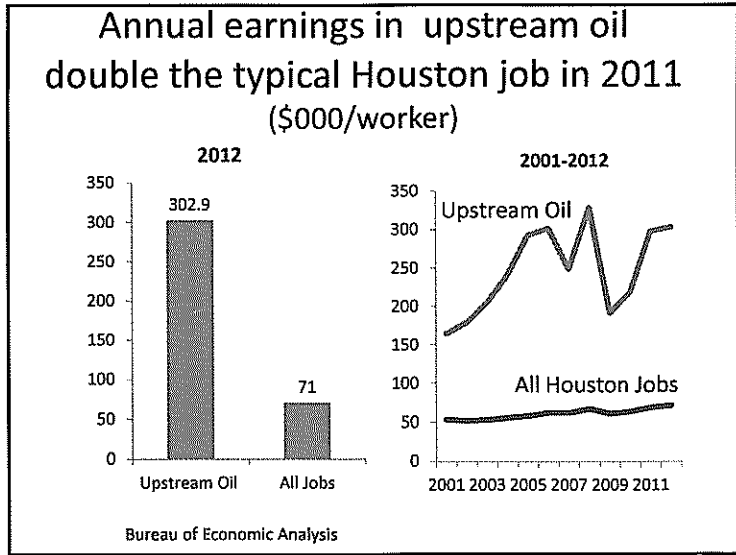
Houston employment sees recovery continue strongly in 2013-14 (3-month percent change at annual rates)

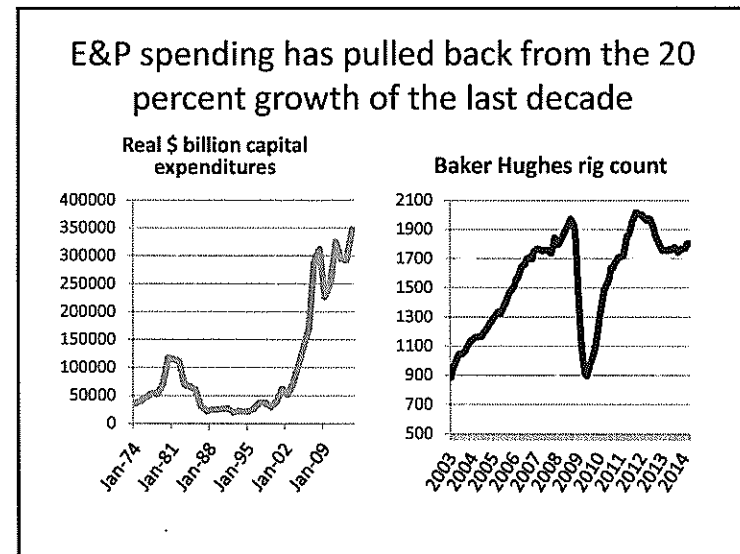
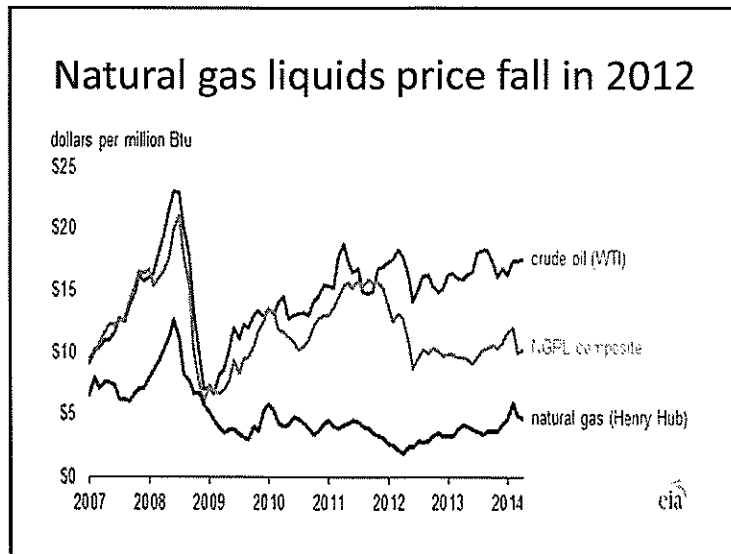
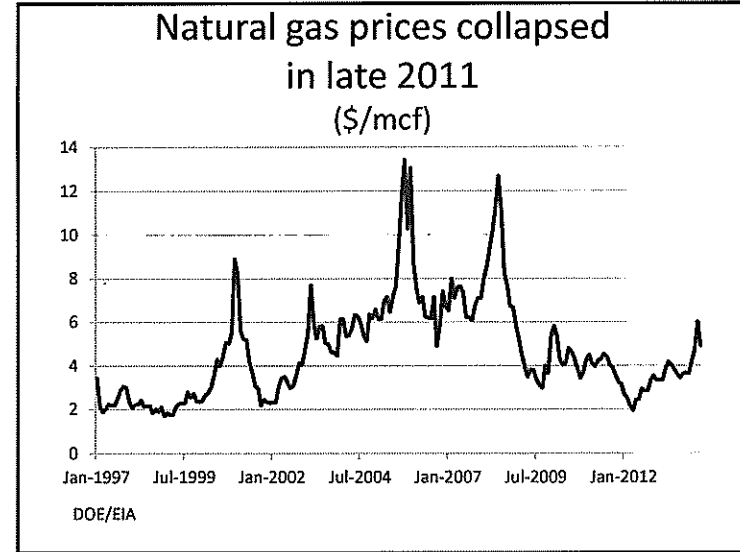
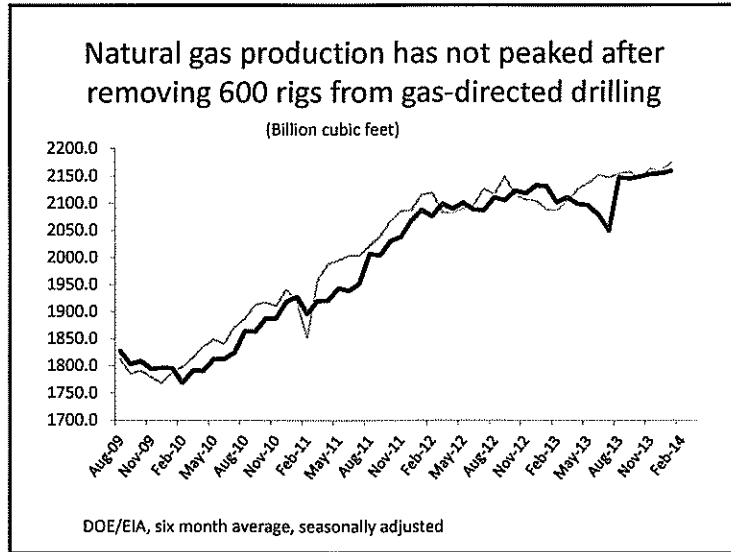


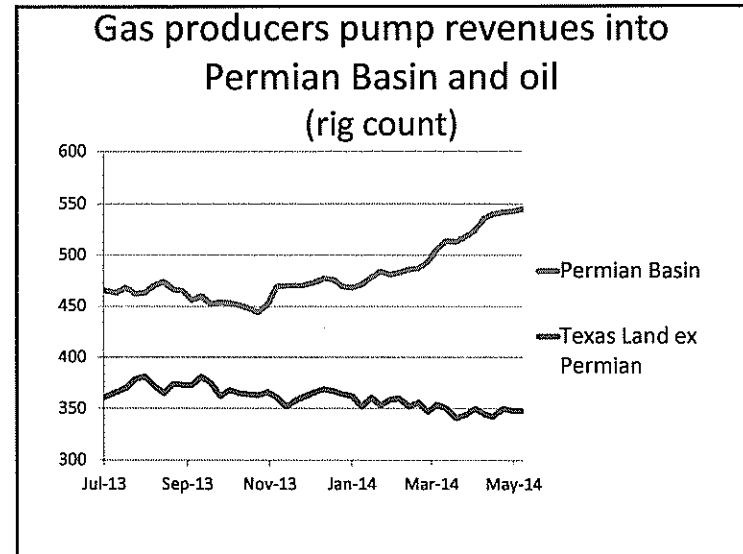
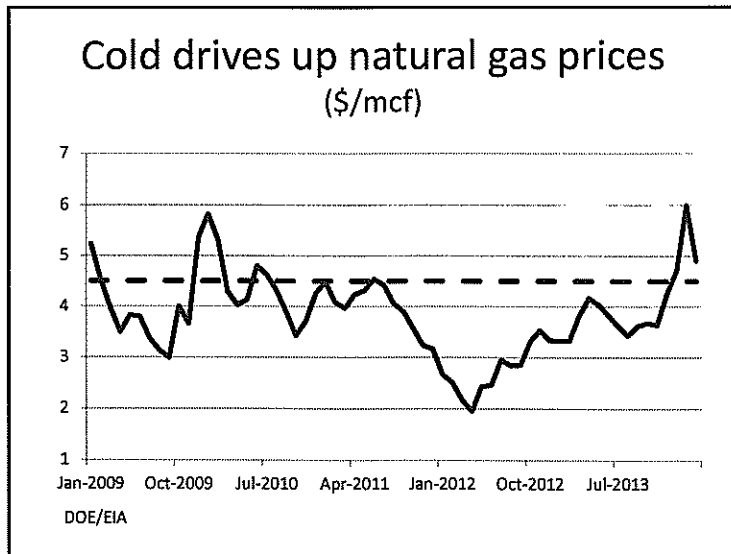
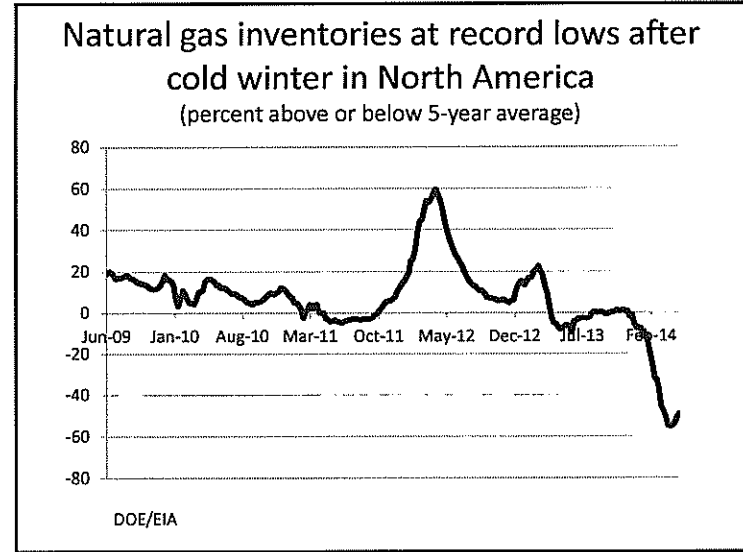
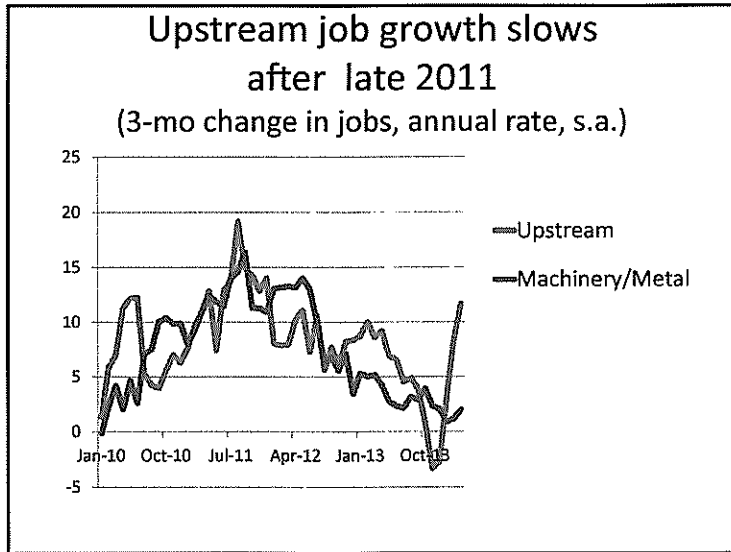
Bureau of Labor Statistics











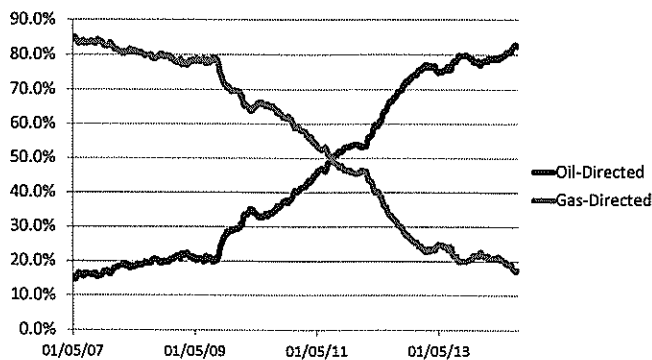
How long will it last?

- With storage at 45 percent of normal, it will take massive injections to return to the 5-year average by October
- Producers are spending bonus winter revenues drilling for oil and not additional natural gas
- High natural gas prices will bring coal back to electricity generation, backing out gas
- This is a temporary surge of one, two, three quarters?

Current Baker Hughes forecast is still conservative

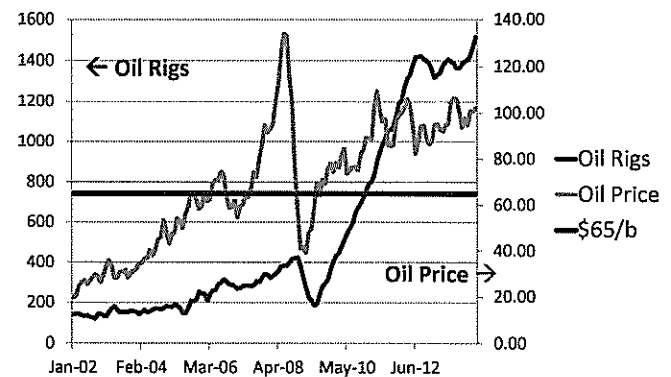
- Rig count up 4 percent, driven by the Permian Basin which will rise 10 percent through the year
- Due to increased efficiencies such as pad drilling, the well count will rise 5 percent
- The increase is driven by oil-directed drilling, with continued decline in gas-directed activity
- If this were a permanent increase, it would imply a 4,000 to 6,000 increase in total local employment

High Oil/Low Gas Price Push Drilling Toward Oil-Directed Activity



Baker Hughes

Oil price above \$65/b keeps oil-directed rigs busy

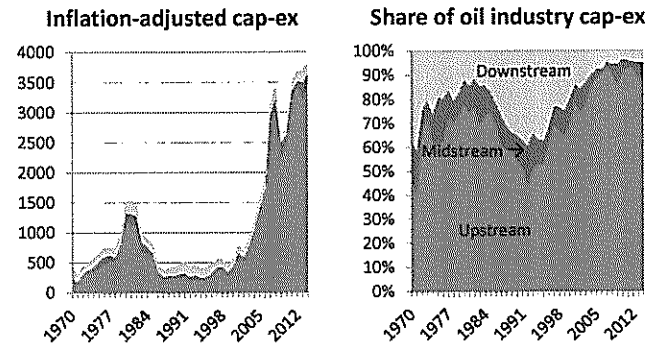


Oil price forecasts (\$/bbl)

	World Bank	IMF	DOE/EIA
2013	104	104	98
2014	103	104	97
2015	99	98	91
2016	98	93	93
2017	98	--	92

DOE/EIA is WTI price; World Bank and IMF a global averages of several marker crudes

Why the focus on upstream capital expenditures? Historically it dominates

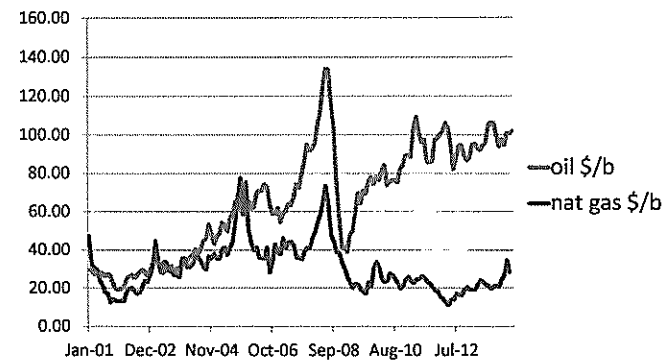


Four of eight largest ethylene complexes in the world are in Houston

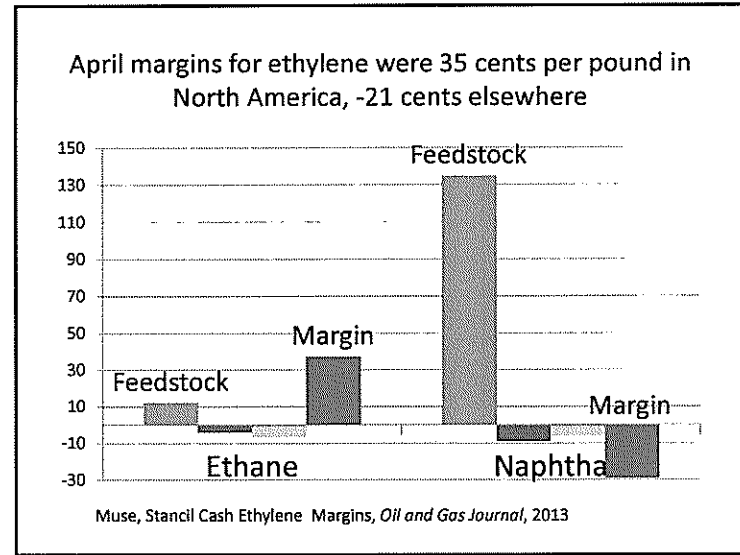
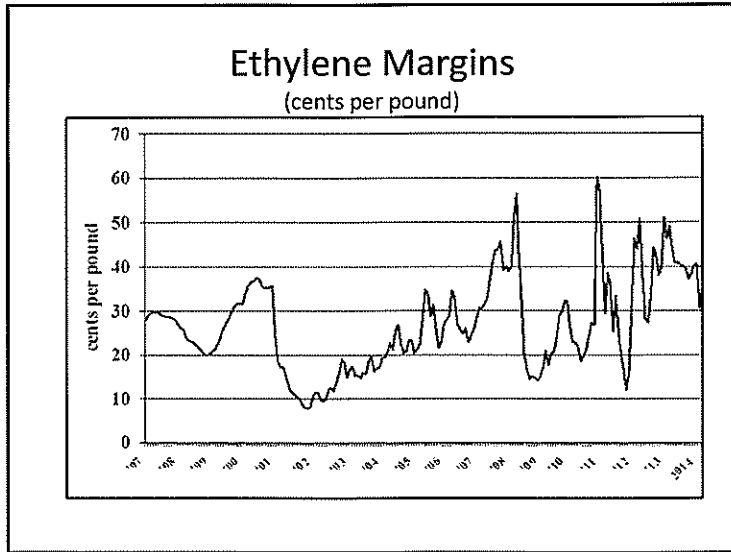
Company	Plant location	Capacity (million tpy)
Formosa	Taiwan	2,935.0
Nova	Alberta	2,811.7
Arabian Petrochem	Saudi Arabia	2,250.0
ExxonMobil	Baytown	2,197.0
ChevronPhillips	Sweeny	1,865.0
Dow	Netherlands	1,800.0
Ineos	Chocolate Bayou	1,752.0
Equistar	Channelview	1,750.0
Yanbu	Saudi Arabia	1,705.0
Equate	Kuwait	1,650.0

Oil and Gas Journal, 7/1/2013

Natural gas energy content equivalent to \$20 per barrel for oil



DOE/EIA and calculations of the author



Two of the biggest proposed projects are like peas in a pod

ChevronPhillips	Exxon
<ul style="list-style-type: none"> • \$6 billion investment • 1.5 million ton cracker in Baytown • Two 2,500 metric ton polyethylene plants near Sweeny • 10,000 construction jobs, 400 permanent jobs • Completed 2016-2017 	<ul style="list-style-type: none"> • \$5-\$6 billion investment • 1.5 million metric ton cracker in Baytown • Two 2,600 metric ton polyethylene plants near Mont Belvieu • 10,000 construction jobs, 350 permanent jobs • Completed 2016-2017

There are five more ethylene projects in the US, four on the Gulf Coast

Company	Scale	Location	Completion
Dow	1.5 m tons	Freeport	2017
Sasol	1.5 m tons	Lake Charles	2017
Occidental	.5 m tons	Ingleside	2017
Formosa Plastic	1.2 m tons	Point Comfort	2017
Shell	World scale	Pennsylvania	2019-2020

These giant ethylene projects are rapidly moving forward

- Speed counts, and the first finished are best positioned
- Permitting is a major concern, with multiple groups typically challenging the process
- Craft availability is another big concern with everyone trying to squeeze into a 2014-2016 window. Also, is there machine shop capacity?
- Over-building? These are export facilities, built to for global markets. But billions are at stake

More than just ethylene: Totals for chemicals on the ship channel

Under construction	\$6,229
Permitting	\$4,000
Board approval	\$492
Under study	\$400
Total	\$11,121
Plus three projects with undisclosed costs	

More than just chemicals

- There have been 19 applications for LNG export terminals, 6 have been approved
- Four are located on the Gulf Coast: Two in Cameron Parish, La; one each in Lake Charles and Freeport
- These projects have a typical construction cost of \$10 billion and recent permits hope for initial operation in 2018

Obama administration cancels the Constellation program in 2011

- Constellation was to develop a heavy lift rocket and new crew capsule
- Would deliver crews to the space station by 2015, return a crew to the moon by 2020, and on to Mars after that
- With cancellation, the International Space Station was extended to 2020, and serious funding was given commercial development of delivery of supplies and astronauts to the space station
- Cancellation would mean 7,000 jobs lost in Clear Lake area

Funding restored with a new and reconfigured program

- NASA is now developing a new heavy lift SLS rocket, crew capsule, service module, and launch abort system
- Goals remain the ISS, the moon and Mars
- Exploration Test Flight-1 in December 2014 will see a Delta VI rocket take an un-crewed Orion capsule/spacecraft on an orbit deeper into space than we have been since 1972
- The first flight of the SLS rocket will take Orion and circumnavigate the moon in December 2017

The bumpy ride for the Clear Lake area over for now

- 2010 employment of 16,500 Space Center and NASA contractors has stabilized at 14,000
- Payrolls have declined further because of the retirement opportunities for many senior staff
- But many of these retirees remain in the area
- Many of those laid off found opportunities in a hot technical and engineering market in Houston

Back to deep space

- The plan is once more for the moon -- and perhaps Mars -- to be in Houston's future
- JSC and Clear Lake dodged a big bullet in 2011, but both are now preparing for exciting and stable economic times ahead
- The current plans envision 2-3 launches per year
- The main question still open is where we are going once the tools are in place -- to harness an asteroid, to establish a moon base, or on a mission to Mars?

Does Houston have Dutch disease?

- The name comes from the opening of the North Sea gas fields in the 1960's, and its effect on the Dutch economy
- A boom in any natural resource industry -- here natural gas -- forces a sharp rise in wages in the natural resource industry
- These high wages pull workers out of the other base industries unrelated to the boom
- As labor becomes scarce and expensive, the other base industries flee the region
- Diversification evaporates and the natural resource industry dominates the local economy

Diversification in Houston

- When we think about diversification in Houston, we have learned to think in terms of basic and non-basic growth
- Basic growth comes from those companies and industries that sell beyond the boundaries of the metropolitan area: oil services, chemicals, airlines, pipelines, and many others in Houston
- Non-basic growth serves the local community, providing inherently local services: grocery stores, restaurants, the copy center, etc.

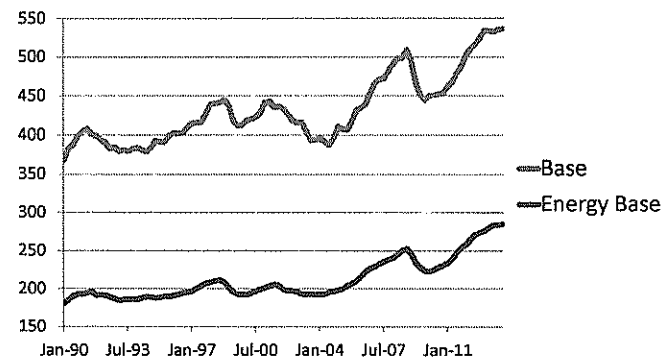
Identify large clusters of economic activity

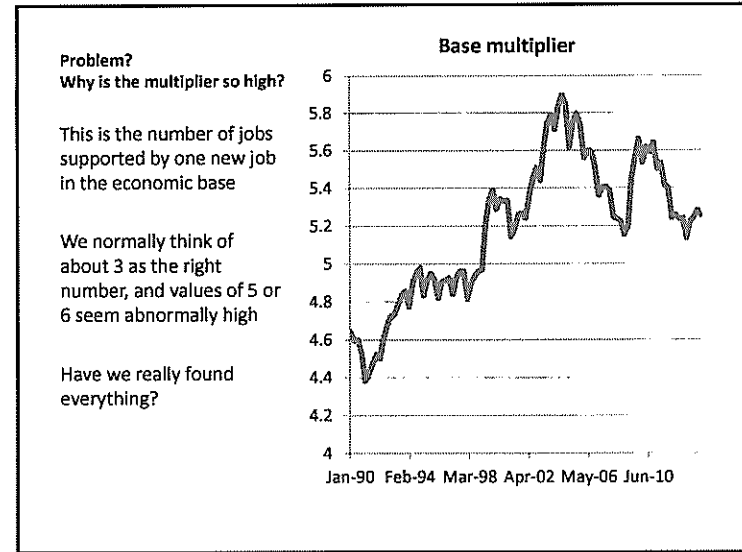
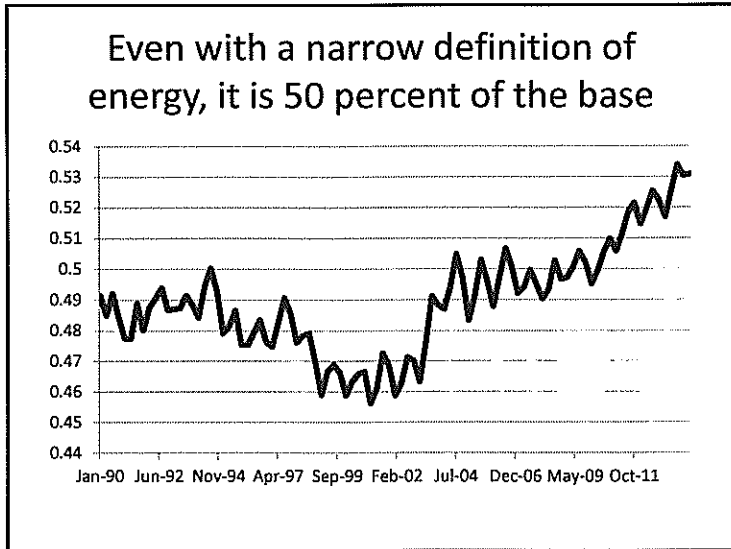
- *The usual approach:* identify large clusters of local activity, and assume that the large clusters are export-oriented activity
- Divide the identified clusters into energy and non-energy, and compute the share of the base that is energy and non-energy
- In Houston, the growth or shrinkage in the energy share is usually interpreted as loss or gain in diversification

Calculation of Houston's economic base for 2014Q1

Economic Base	536	Includes all mining, manufacturing, and pipeline transportation
Mining	108	
Producer	60	
Services	48	
Construction	74	
Mfg	256	Includes share that is larger than normal in wholesale trade, air transportation, professional and business services, and even the Space Center's 3,000 employees
FabM	60	
Mach	57	
Refining	12	
Chem	36	
Plastic	10	
Wholesale	32	
Air Transportation	14	
Pipelines	9	
Prof Services	41	
Space Center	3	

Houston's base and energy base since 1990





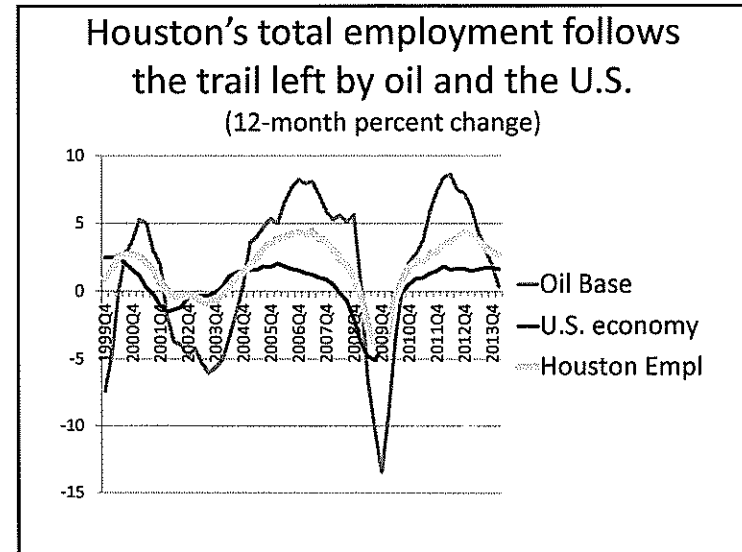
Here is a statistical estimate of the multiplier for Houston from 1990 through 2014:
 $Houston\ jobs = -461.4 + 6.27\ Base$

Again, 6.27 seems too high.

We know there are many companies in Houston that sell into US markets that are not related to energy – AIG, Sysco, United, Southwest Airlines, Compaq. What if clustered jobs were mostly energy-related, and there was a separate role for the US economy? The statistical estimate becomes:

$$Houston\ jobs = -1572 + 3.35\ Base + .018\ US\ jobs$$

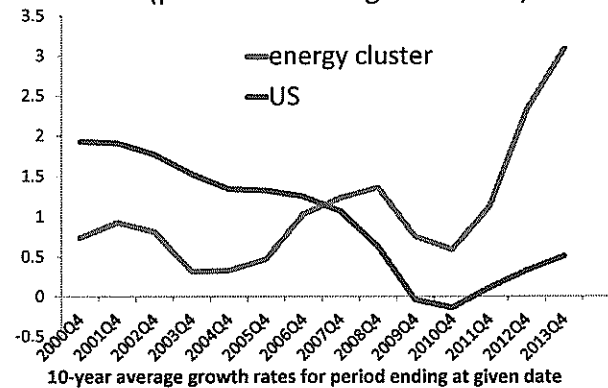
The base multiplier falls to 3.35, the reasonable number we were looking for, and there seems to indeed be a role for the US economy – a role not defined by looking at clusters



A dead end with the clustering and job counting?

- Let's try another approach – the west Texas farmer analogy
- The farmer can work hard and prepare the soil diligently, but nothing happens unless it rains
- The success of the crop depends on preparation (creating an ability to respond), and on a little luck (rain)
- Houston is an open economy, and our luck depends on energy markets and the US economy. We can no more control them than the rain

U.S. and energy changed role as growth leaders a decade ago (percent annual growth rate)



Questions

- As we look at specific epochs we ask what kind of stimulus Houston is getting:
 - From its energy cluster?
 - From the US economy?
 - And how has that stimulus changed over time?
- How well is Houston prepared to take advantage of the stimulus
 - From the energy cluster?
 - From the US economy?
 - Has Houston developed Dutch disease?
- The outside stimulus is *luck or fate* – like the farmer we can only pray for rain
- A balance between growth driven by energy and the US economy, we will call *diversification*

Growth = preparation * outside stimulus

Measure preparation?

e = the percent increase in Houston jobs in response to a one percent increase in the local energy cluster
 u = the percent increase in Houston jobs in response to a one percent increase in US employment

Measure stimulus?

r_e = growth rate of the energy cluster in a given time period
 r_u = growth rate of US employment in a given time period

For the long-run: 1990 to 2013

For 1990 to 2013 energy contributed 44.5 percent to Houston's job growth, and the US economy 55.5 percent

$$e = .601$$

$$u = 1.127$$

$$r_e = 1.65\%$$

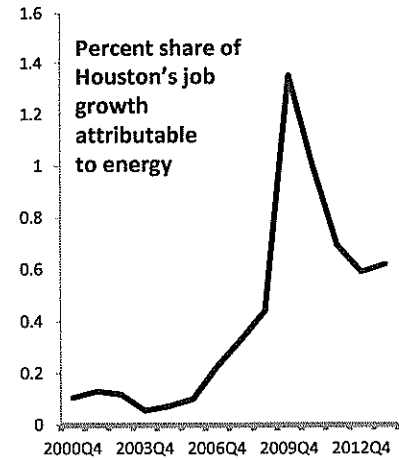
$$r_u = 1.00\%$$

$$\text{Energy contribution} = e * r_e = .601 * 1.65 = .992$$

$$\text{US contribution} = u * r_u = 1.127 * 1.00 = 1.127$$

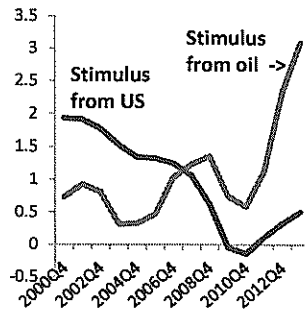
$$\text{Energy share of local job growth} = 44.5$$

- This is the energy contribution over rolling 10-year periods
- Throughout the 1990s, energy contributes only 10%
- By the time of crisis energy is over 50%
- Some periods that contain the crisis, are driven completely by energy
- In 2012-13, energy falls back to 60%

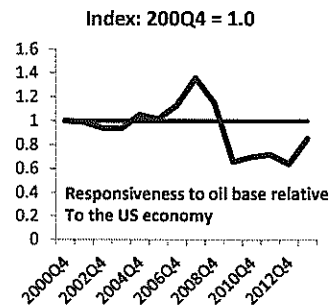


Oil drives Houston's growth: But it is outside stimulus, not loss of diversification

Good luck for Houston!

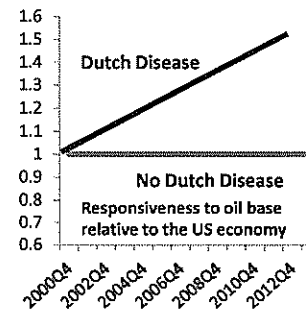


Preparation changes less

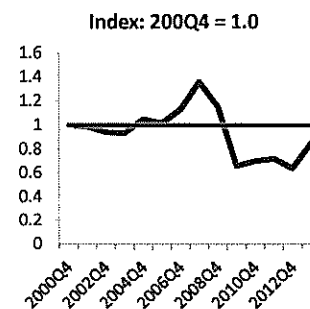


Houston's diversification still much like the 1990s

What Dutch Disease looks like



No Dutch Disease in Houston



Bottom line

- Looking at successive 10-year periods, and how Houston slowly changed:
 - In the 1990s, less than 10-20 percent of growth was from oil, over the last decade, it is 60-65 percent
 - This is partly powerful stimulus from the oil industry, and partly slow growth in the US economy during and after the crisis
 - Oil has not steadily reshaped the Houston economy, and today *we are as responsive to the US economy as ever*
- The perception that oil-related activity dominates the Houston economy is true – but only because of powerful external forces. Internally, we are pretty much the same place as 20 years ago

Summary

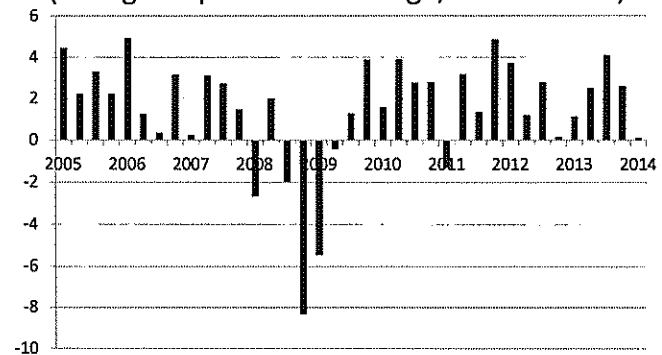
- Identifying large clusters of activity in Houston does a great job of finding oil-related activity
- But a large part of Houston’s base is not so apparent using these tools, they don’t find companies or industries that are not heavily clustered but still serve national markets
- Accounting for the role of the US business cycle – holding the effects of the energy cluster fixed – yields a roughly equal long-run role for energy and the US business cycle
- The large role energy has played in the Houston economy in recent years stems from the size of the energy boom underway, and from the limited stimulus from the U.S. economy after the Great Recession

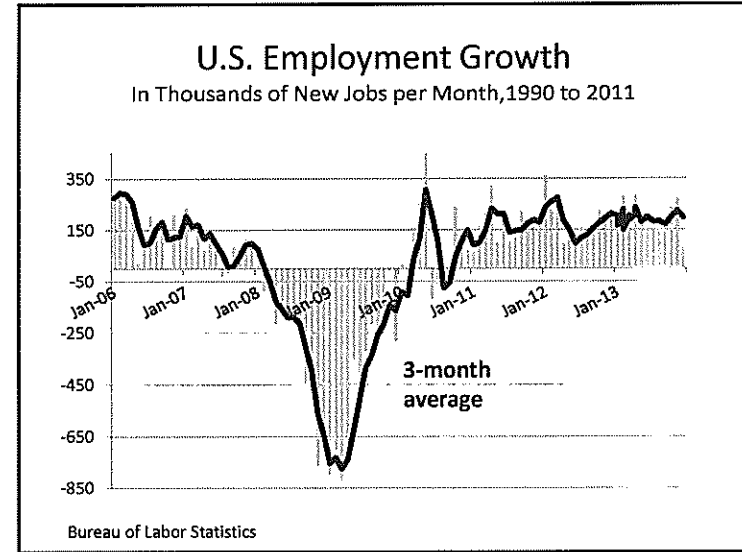
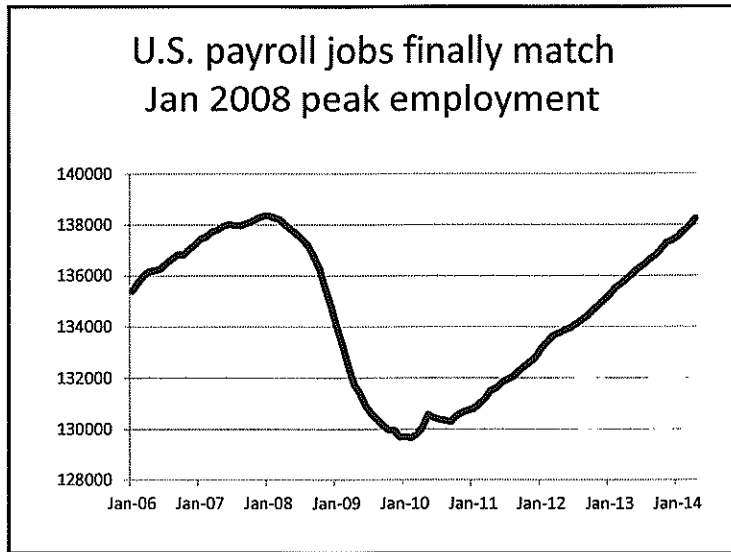
US economic outlook continues to strengthen

	GDP (%)	Jobs/month	Unemployment Rate (%)	Consumption (%)	Consumer Prices (%)
2014Q1	0.1	190	6.5	3.0	2.3
Q2	3.3	232	6.4	2.8	1.9
Q3	2.9	205	6.3	2.7	1.9
Q4	3.2	198	6.2	2.7	2.0
2015 Q1	3.1	199	6.1	2.9	2.0
Q2	3.1	205	6.0	2.9	2.0
2014	2.4	188	6.4	2.8	1.9
2015	3.1	207	5.9	2.8	2.1
2016	3.1	–	5.6	–	2.2
2017	2.8	–	5.5	–	–

Federal Reserve Bank of Philadelphia, *Survey of Professional Forecasters*

Output growth in this recovery has disappointed badly (Real gross product %-change, annual rates)





Can we find the missing GDP growth?

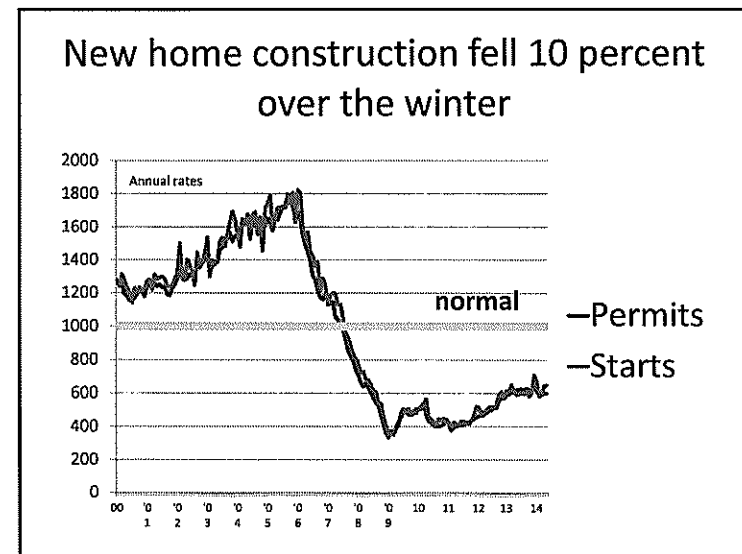
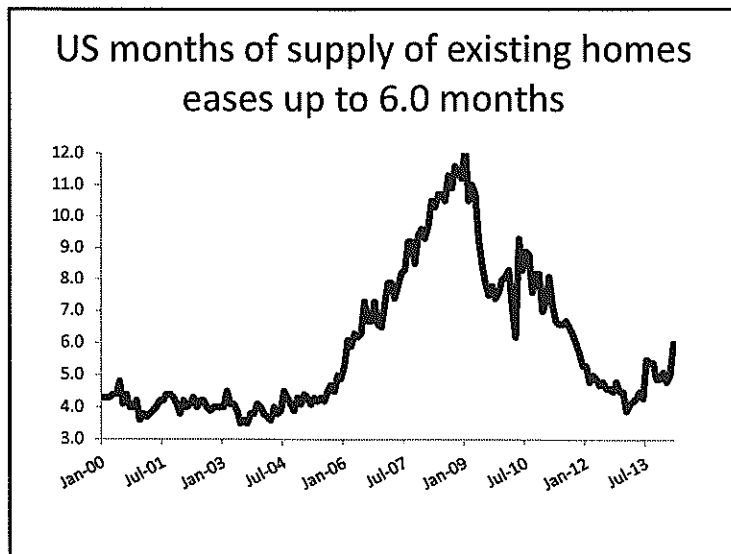
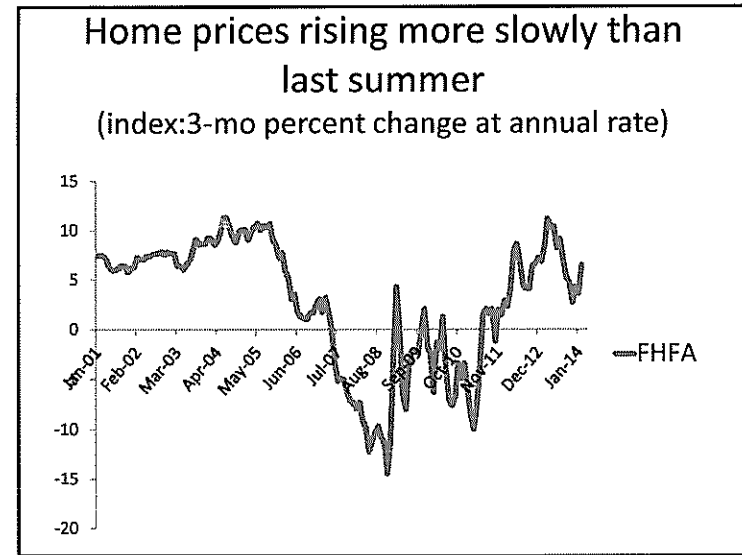
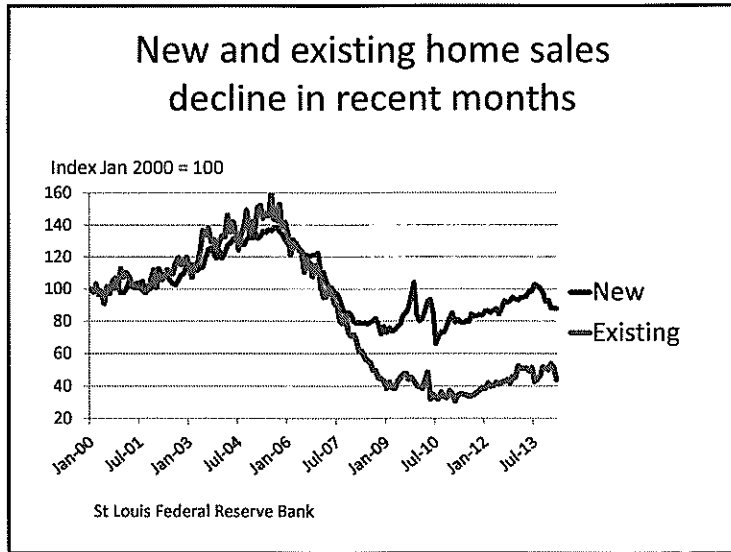
Period	GDP	Personal Consumption	Residential Construction	State & Local Gov't
90Q1 - 07Q3	3.0	2.2	0.1	.25
07Q4 - 14Q1	1.1	0.9	-0.2	-0.1
Loss to Great Recession	-2.0	-1.3	-0.3	-0.4

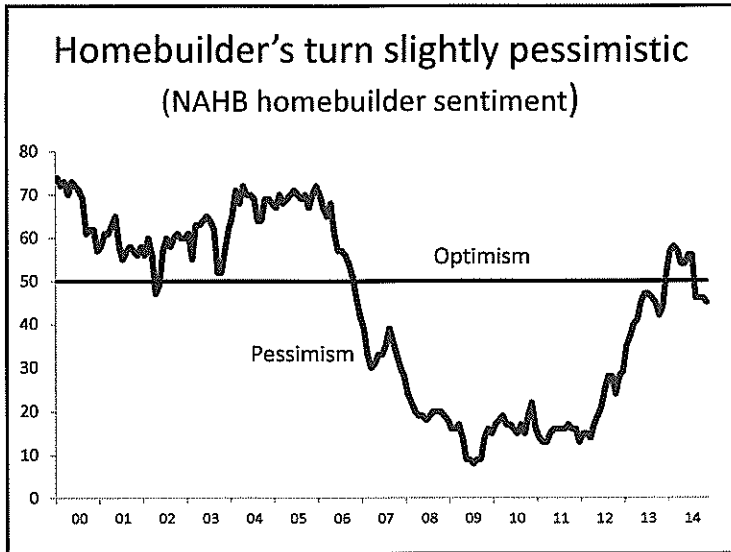
- ### After big turn toward recovery, housing pauses over the winter
- #### What happened?

 - Sales of new and existing home sales fall
 - Supplies are extremely tight
 - Mortgage applications fall
 - Prices still rising – just not as fast

Why?

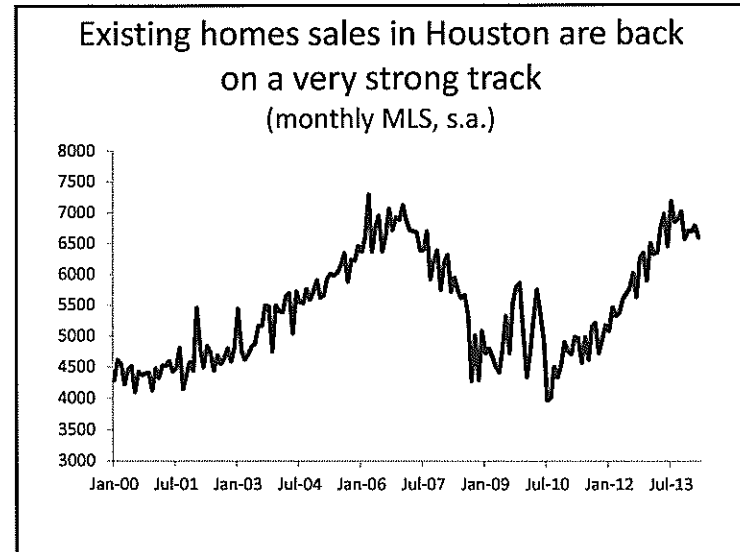
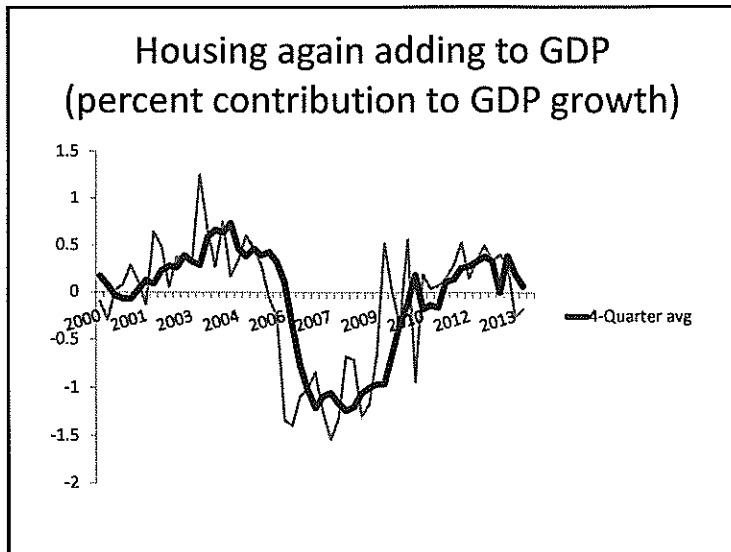
 - Brutal winter weather
 - Affordability has taken a big hit
 - Rising mortgage rates
 - Home prices up
 - Supplies extremely tight
 - Homeowners without equity
 - Developed lot shortages

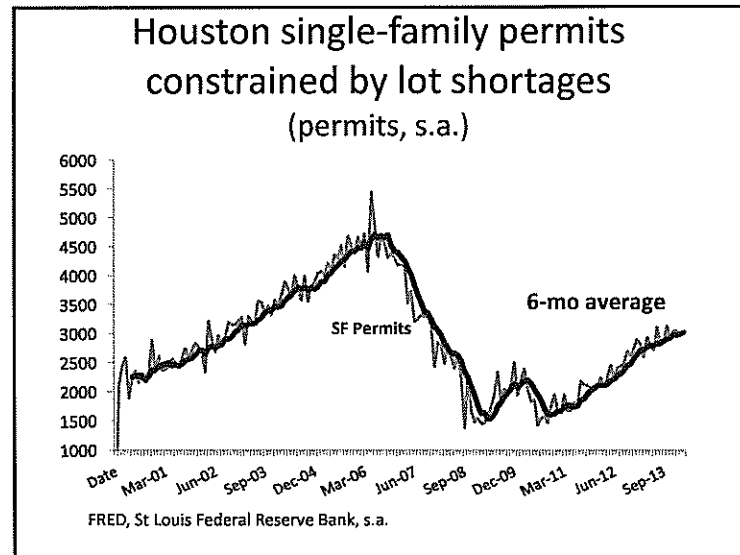
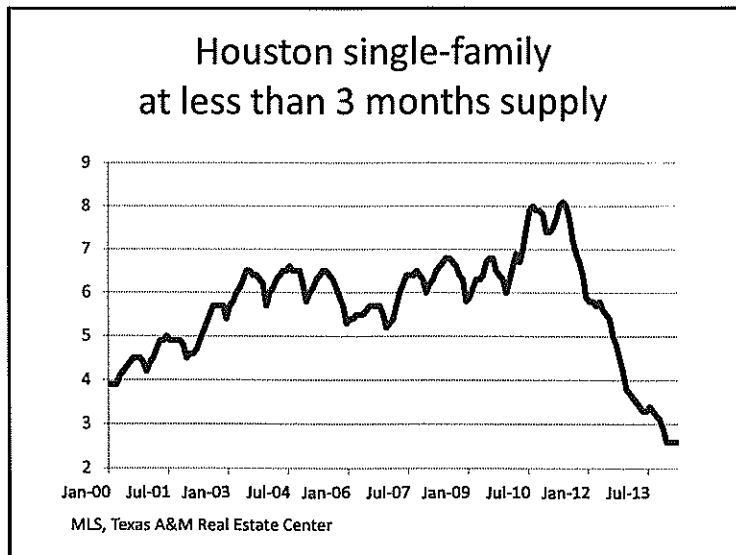
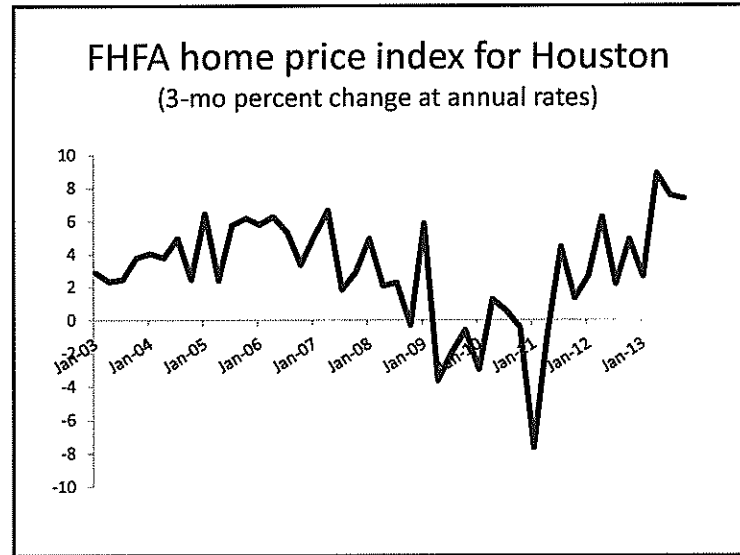
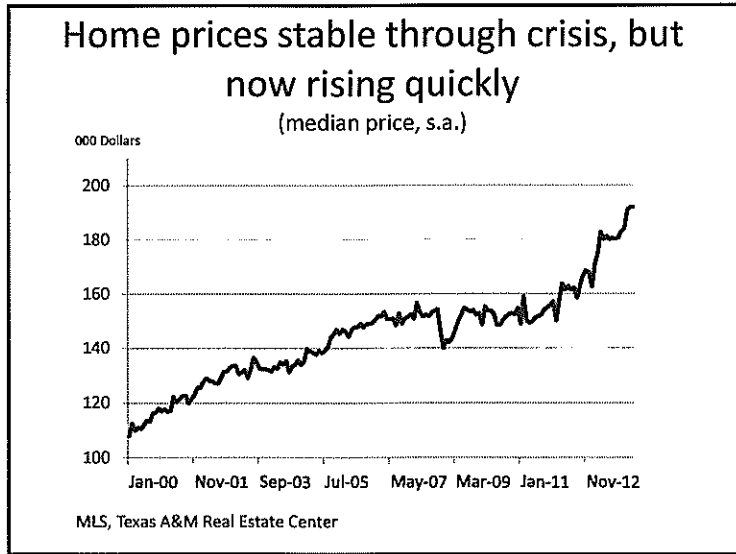




Where are we going? The US outlook is still strong

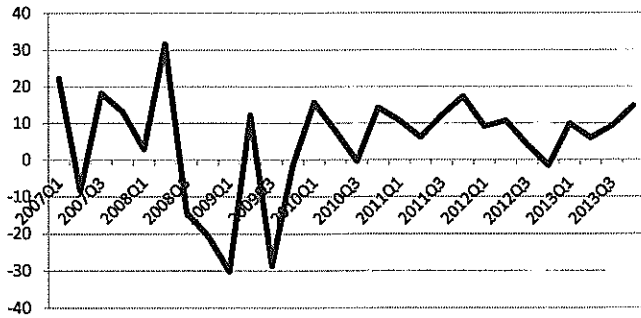
- Strong job growth and rising incomes are still underpinning this market
- Weakness in sales?
 - The biggest part of the sales drop is really good news – a decline in foreclosures, short sales, and bank-owned properties
 - Institutional buyers are backing out of the market as the housing cycle matures
- The growth barrier going forward is supply
 - Lot shortages take time to fix
 - Should be helped by a 4-quarter decline of 11.6 percentage points in home-owners with negative or near-negative equity
- Revised forecasts after the winter remain optimistic for new home starts – leaving them around 750,000 in 2014





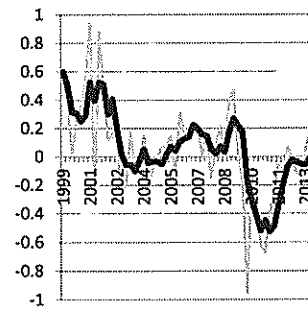
State tax revenue turns up at double digit rates in 2013

Quarterly percent change, s.a.



Percent contribution of state and local governments to GDP turns positive

Four-quarter average

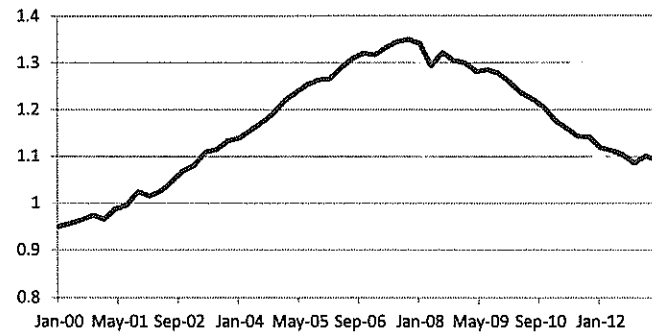


- State revenues up 5.6% in Q3-2014/Q3-2013
- Local property taxes up 5.2% in same period
- Gross receipts and sales taxes rose 8.2%
- Income taxes up 4.4%

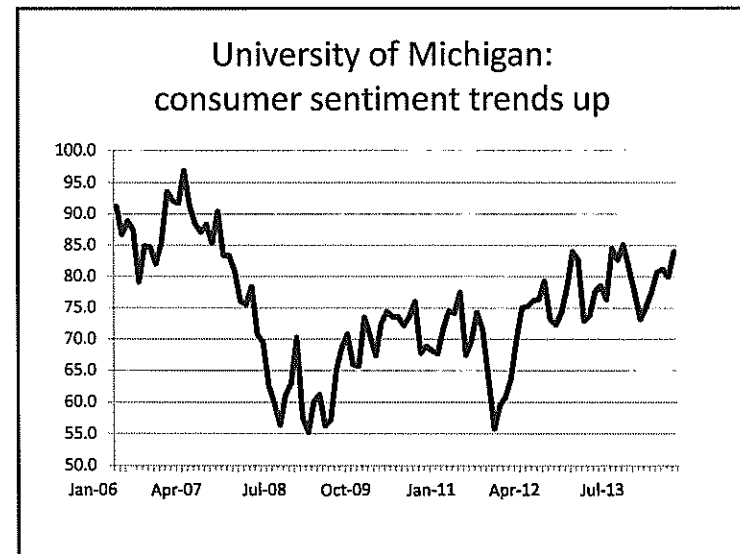
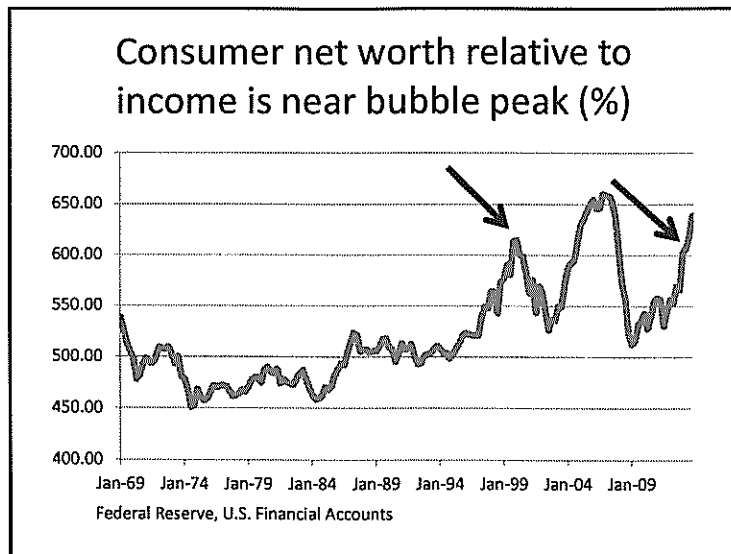
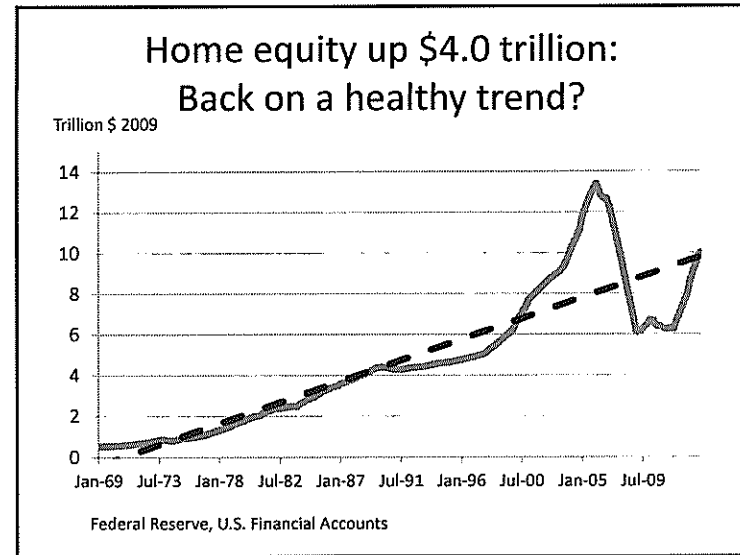
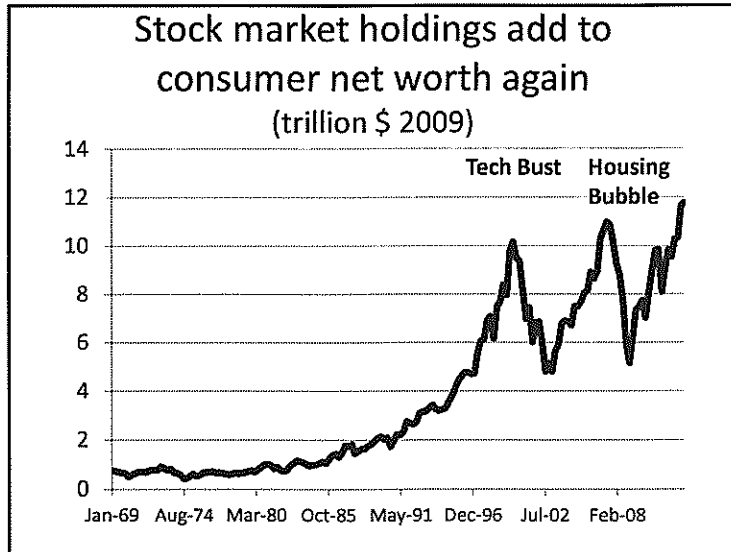
Per capita disposable income staggered in 2013 with higher taxes (3-mo % growth, annual rates, s.a.)

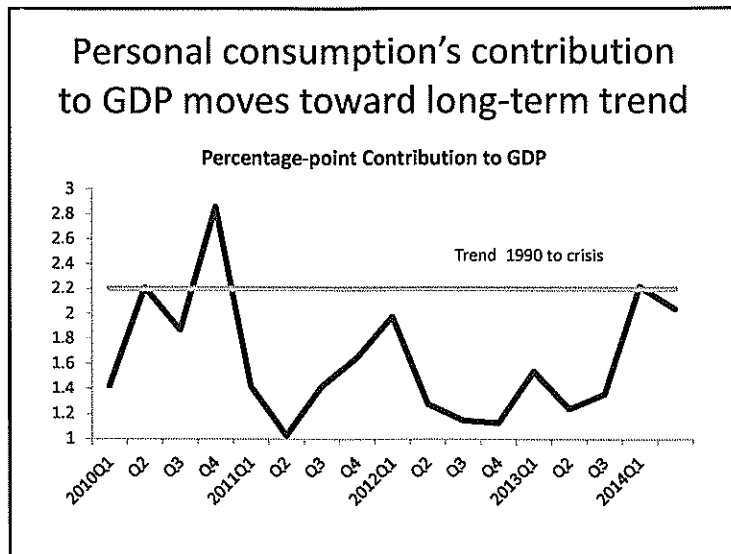
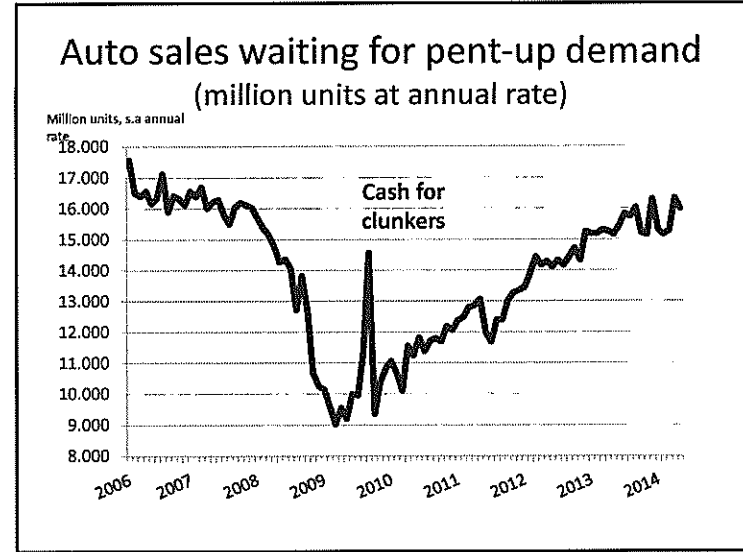
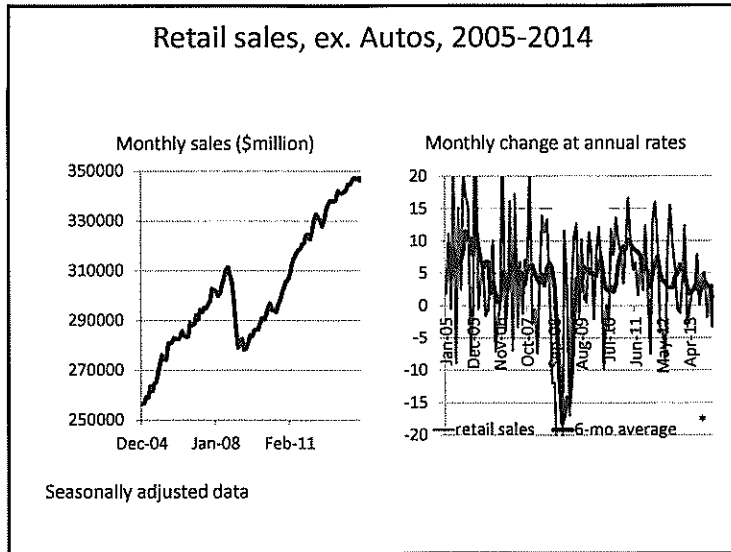


Consumer makes progress reducing debt after the build-up post-2000 (Ratio of debt to disposable personal income)



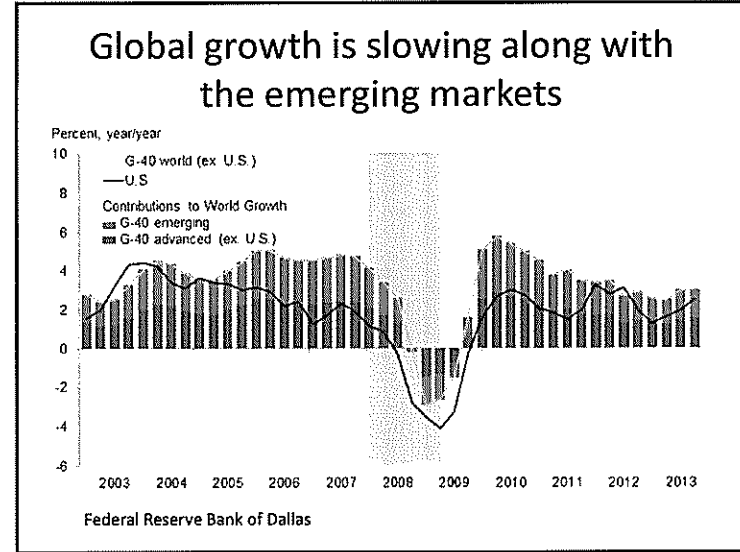
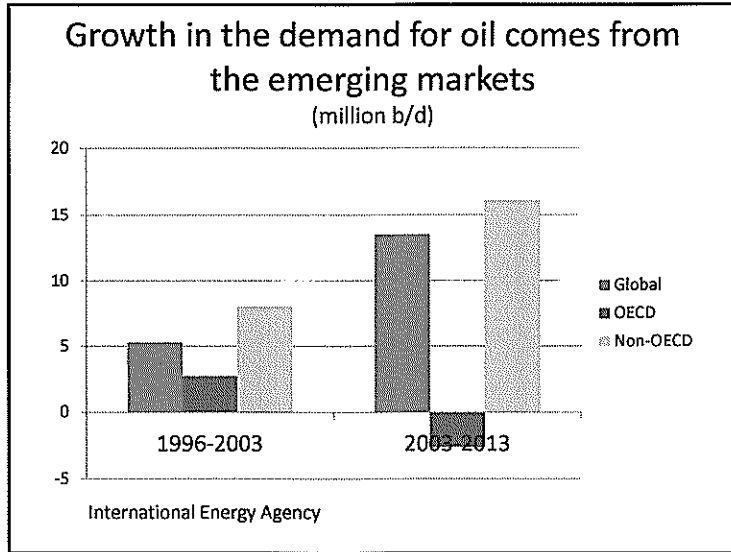
Federal Reserve Board, BEA





For the last decade world oil prices have been driven by emerging markets

- Since 2003, all the growth in the global demand for oil has come from emerging markets, especially Brazil, China, and India
- It has not just been oil, but food, agricultural products, and metals that have seen prices soar
- China alone accounts for one-third of increased oil demand since 2003. China and other Asia are nearly 60 percent.



- ### Where has the emerging market growth come from?
- They have developed deep and rapidly growing domestic markets
 - They have been good policy actors – balanced fiscal budgets, independent central banks, and enormous foreign exchange reserves
 - They are now large markets, last year passing the developed nations in total GDP

Global Growth Sluggish in 2013

(% GDP Growth)

	2011	2012	2013	2014	2015
World	3.9	3.2	3.0	3.6	3.9
US	1.8	2.8	1.9	2.8	3.0
Europe	1.5	-0.7	-0.5	1.2	1.5
Japan	-0.6	1.4	1.5	1.4	1.0
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China	9.3	7.7	7.7	7.5	7.3
India	6.3	4.7	4.4	5.4	6.4
Brazil	2.7	1.0	2.3	1.8	2.7

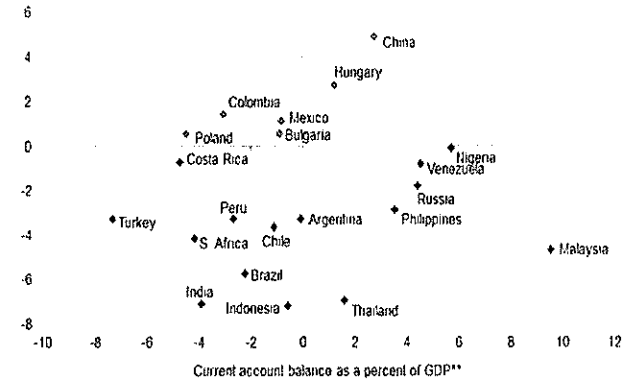
Source: IMF World Economic Outlook: Update, April 2014

Where did emerging market growth go?

- Their central banks raised interest rates and slowed growth in the face of emerging inflation
- China is trying to engineer a tricky transition from export- to consumer-led growth; India and Brazil face chaotic economic conditions and chronic corruption
- All will need to undertake significant structural reforms to keep growth on a high-growth path
- All will have to cope with rising U.S. interest rates and protect their currency by raising rates themselves

Emerging Economies Experiencing Sustained Currency Pressures

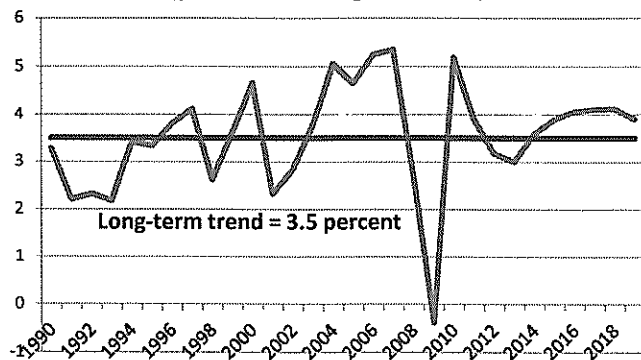
0+ = Accumulated appreciation pressures*



Federal Reserve bank of Dallas

A soft landing for world economic growth: Back above the long-term trend by 2014?

(percent change in GDP)



IMF, World Economic Outlook, April 2014