Returns, valuations, allocations, and timely topics for the new year

Collapsing oil price/rising $ great recessionary indicators; time to bet on a scarce oil?

Trade Weighted USD Index: major currencies

Crude oil price: West Texas Intermediate

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Long term nominal equity returns examined

- Long-term nominal equity returns p.a., whether in the US or other OECD nations, typically mirror nominal GDP growth p.a.
- As such, S&P 500 *bull market* decades were not GDP growth or earnings growth driven, rather they resulted principally from P/E (multiple) expansions in the '50s, '80s, and '90s -- the ‘80s and ‘90s valuation “bubble” was deflated in the ‘00 years:

Decade	Nominal Gross Domestic Product	S&P 500 EPS	Inflation (Deflation)	S&P 500 Total Return
1930-1940	-1.4%	-5.0%	-1.9%	0.0%
1940-1950	11.2%	7.7%	5.0%	8.9%
1950-1960	6.3%	5.4%	2.1%	19.3%
1960-1970	6.6%	5.6%	1.9%	7.8%
1970-1980	9.7%	7.9%	6.3%	5.8%
1980-1990	8.3%	5.5%	6.3%	17.3%
1990-2000	5.6%	7.1%	3.4%	18.0%
2000-2010	4.0%	4.5%	2.4%	1.4%

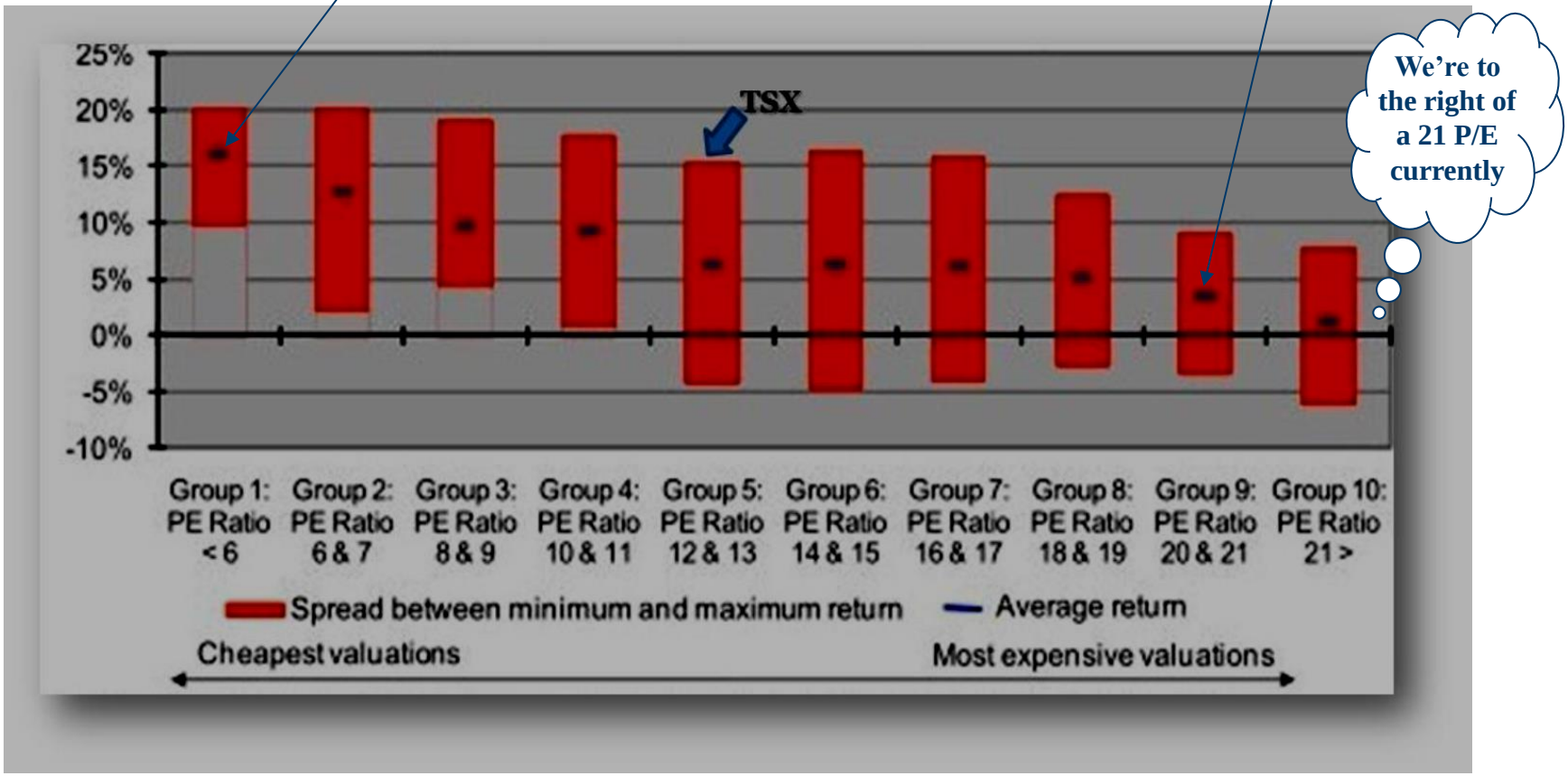
All table statistics are nominal p.a. growth rates

Sources: S&P, Bureau of Labor Statistics, Ibbotson, Crestmont Research

Strategic returns depend materially on acquisition P/E (valuation)

P/E of 6 or E/P of 16.7% (multiple expansion!); P/E of 20 or E/P of 5%

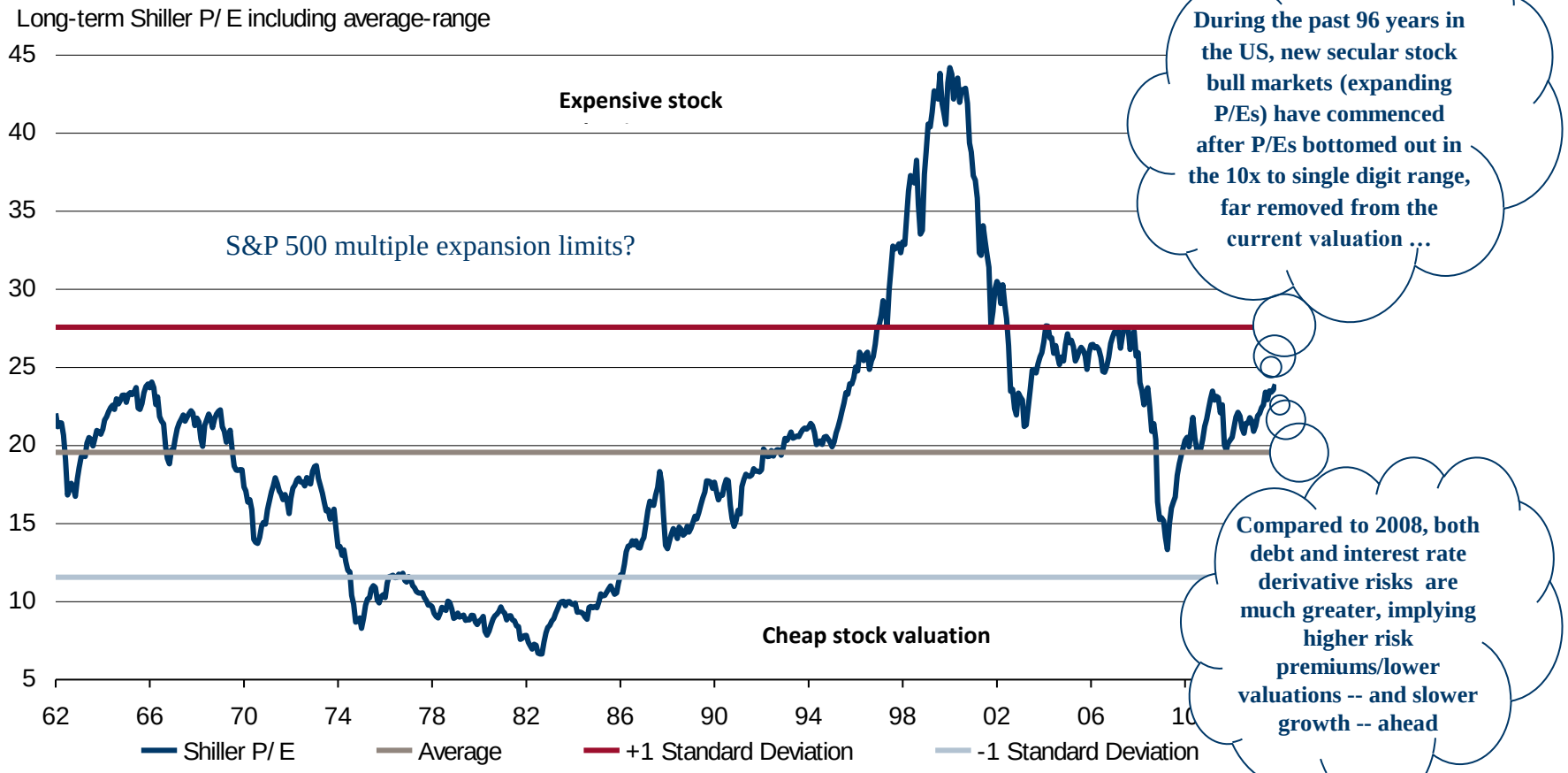
10-year forward real returns based on S&P 500 P/E ratios from 1871-2010



Sources: Plexus Asset Management (based on data from Prof Robert Shiller and I-Net Bridge per 9/30/2011)

Market getting more expensive, especially as recession "overdue"

If earnings fell 50%, P/E would double at current S&P 500 level



During the past 96 years in the US, new secular stock bull markets (expanding P/Es) have commenced after P/Es bottomed out in the 10x to single digit range, far removed from the current valuation …

Compared to 2008, both debt and interest rate derivative risks are much greater, implying higher risk premiums/lower valuations -- and slower growth -- ahead

Sources: Robert J. Shiller, CS

Allocation food for thought

- Take some profits on high P/E stocks, raise portfolio cash levels with proceeds; cash to facilitate future asset purchases "on cheap"
- Consider putting some proceeds to work in generally lower P/E or "low correlation" scarce real assets such as energy, ag, & gold
- In today's valuation landscape, be less concerned with the return **on** your capital than with the return **of** your capital

Real asset correlations to generic bonds and stocks; correlations of 0.30 or less indicate differing historical price development

	Number of quarters	Gold	ILBs	High dividend yield stocks	Infrastructure	Alternative energy	Oil	Coal	Grains	Farmland	Timberland	Water	Cash	Global govt bonds	US corporate bonds	Global equities
London Fix Gold PM PR USD (gold)	178	1.00														
BarCap US Govt Infln Lkd TR USD (ILBs)	61	0.17	1.00													
Zacks Yld CHF Hog USD /(high div yield stocks)	23	-0.04	-0.03	1.00												
S&P Global Infrastructure TR USD (infrastructure)	42	0.11	-0.03	0.86	1.00											
Ardour Global Composite TR USD (alternative energy)	50	0.09	-0.20	0.71	0.81	1.00										
S&P GSCI Crude Oil Spot (oil)	106	0.34	0.13	0.62	0.43	0.41	1.00									
HSBC Global Coal Mining PR (coal)	106	0.07	-0.09	0.63	0.71	0.54	0.36	1.00								
DJ UBS Grains TR USD (grains)	86	0.21	0.23	0.26	0.36	0.30	0.10	0.21	1.00							
NCREIF Farmland (farmland)	77	0.17	-0.22	-0.28	0.06	0.04	-0.18	0.04	0.13	1.00						
NCREIF Timberland (timberland)	101	0.01	-0.02	-0.36	0.03	0.05	-0.10	-0.13	0.06	0.39	1.00					
MSCI World/Water Utilities GR USD (water)	70	0.07	-0.01	0.57	0.60	0.33	-0.04	0.23	0.12	0.21	0.11	1.00				
Citi USD EuroDep 3 Mon USD (cash)	138	-0.06	-0.10	-0.31	0.00	0.12	-0.04	-0.09	-0.03	0.02	0.40	-0.02	1.00			
Citi WGBI USD (global government bonds)	110	0.26	0.36	-0.04	0.20	-0.16	-0.08	-0.17	0.09	0.02	0.07	0.17	0.13	1.00		
BarCap US Interm Credit TR USD (US corporate bonds)	158	0.08	0.55	0.50	0.41	0.00	-0.09	0.02	0.09	-0.05	0.04	0.17	0.18	0.62	1.00	
MSCI AC World GR USD (global equities)	98	-0.03	-0.29	0.91	0.93	0.77	-0.02	0.49	0.23	0.12	0.05	0.27	-0.02	0.06	0.15	1.00

The US Treasury sold $100bn of bonds in the last day or two of December 2014, which equals the value of all the gold mined round the world in 2013!!!

Grey block: correlation of so-called "traditional assets" (cash, Treasuries, corporate bonds, stocks) vs. real assets thru 12/2013 Sources: Ibbotson/Morningstar

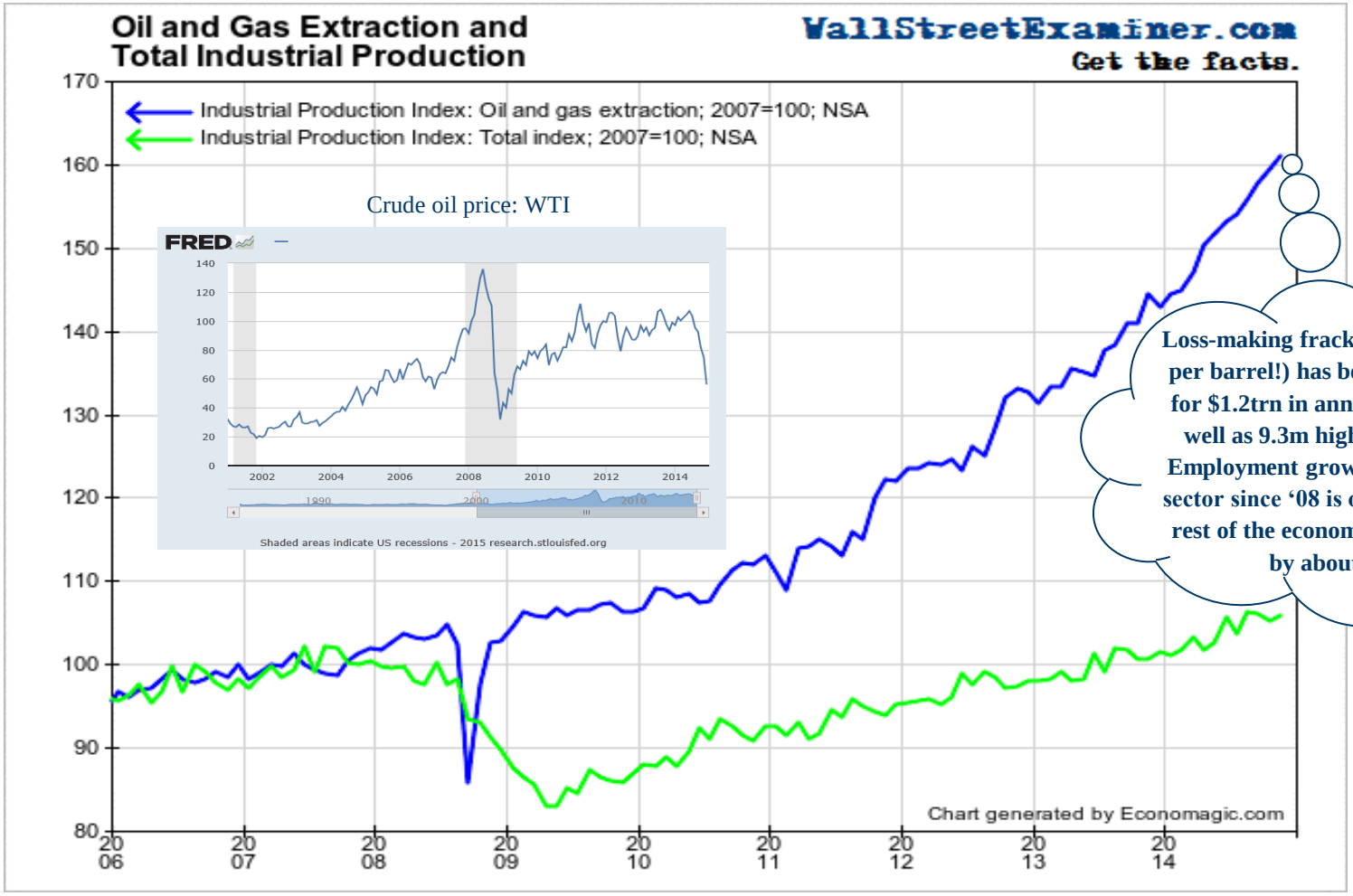
Recent investor headlines of note

- Volcker Rule (Section 619 of the Dodd-Frank Act) quietly postponed by Congress; higher bank capital ratios and mark-to-market thus suspended: investor bullish
- Recent spending bill passed by Congress puts taxpayers on hook for more than $300 trillion in future derivative losses by US money center banks: investor bullish
- Second upwards revision of Q3 GDP growth reflects large increases in healthcare spending courtesy of Obamacare: national health, economy, and investor bearish
- During the last 90 days, 5,902 new federal regulations have been posted (since the Obama administration began, over 21,000 have been issued): investor bearish
- Gold repatriation movement growing throughout Europe (Germany, Austria, Belgium, France): fiat currency and traditional asset valuation bearish

Sources: Bloomberg, http://www.zerohedge.com/news/2014-12-12/presenting-303-trillion-derivatives-us-taxpayers-are-now-hook, www.usnews.com/news/business/articles/2014/12/23/us-economy-grew-at-fast-5-pct-annual-rate-in-q3, www.regulations.gov/#!home http://seekingalpha.com/article/2753645-is-this-the-reason-european-central-banks-repatriating-their-gold, http://www.wsj.com/articles/dutch-repatriate-some-gold-reserves-1416568527; www.washingtonexaminer.com/report-21000-regulations-so-far-under-obama-2375-set-for-2015/article/2558050; http://www.usatoday.com/story/news/nation/2015/01/01/middle-class-workers-struggle-to-pay-for-care-despite-insurance/19841235/

Topic: oil & gas fracking and the economy

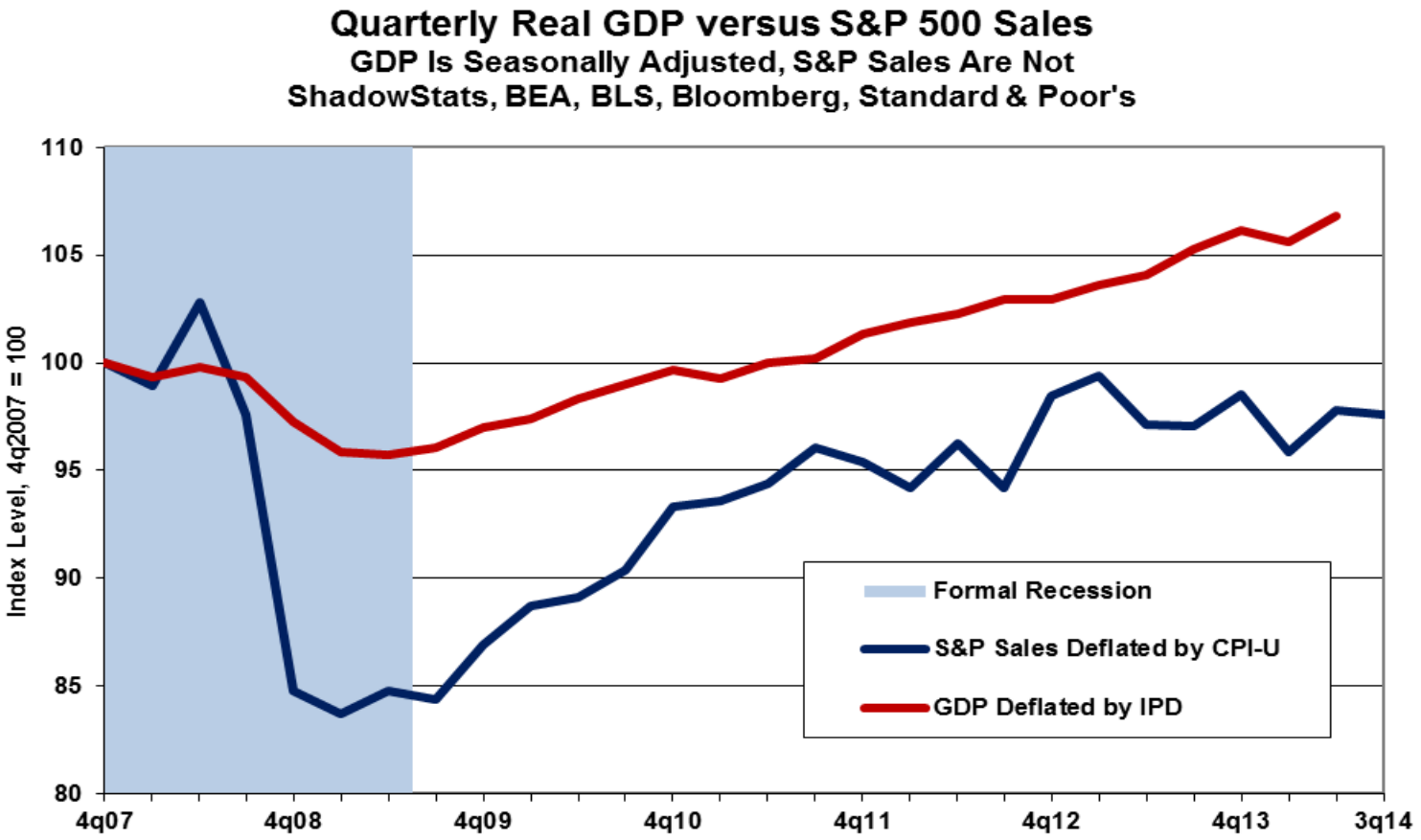
2.5m more barrels of oil per day & a huge economic lift for over 5 years …



http://wallstreetexaminer.com/wp-content/uploads/2014/12/M1080121022701161156596920979619.gif; Perryman Group

Topic: Quarterly real US GDP vs. real S&P 500 sales

Organic growth lacking; EPS gains via cost reduction & buybacks



www.shadowstats.com/

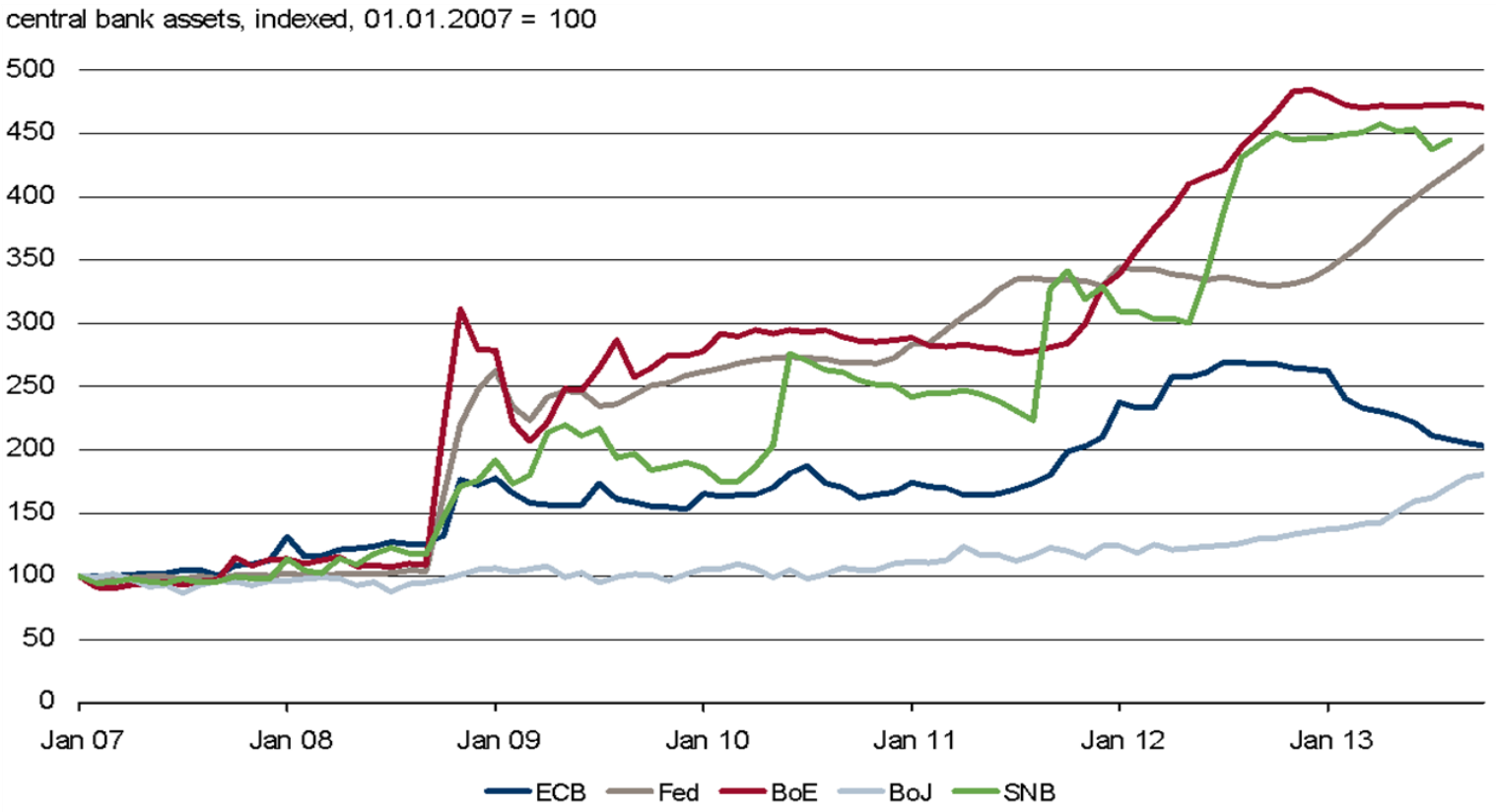
Topic: world money supply (blue) vs. world stock market (yellow)

History suggests something has to give!

Source: Bloomberg

Appendix

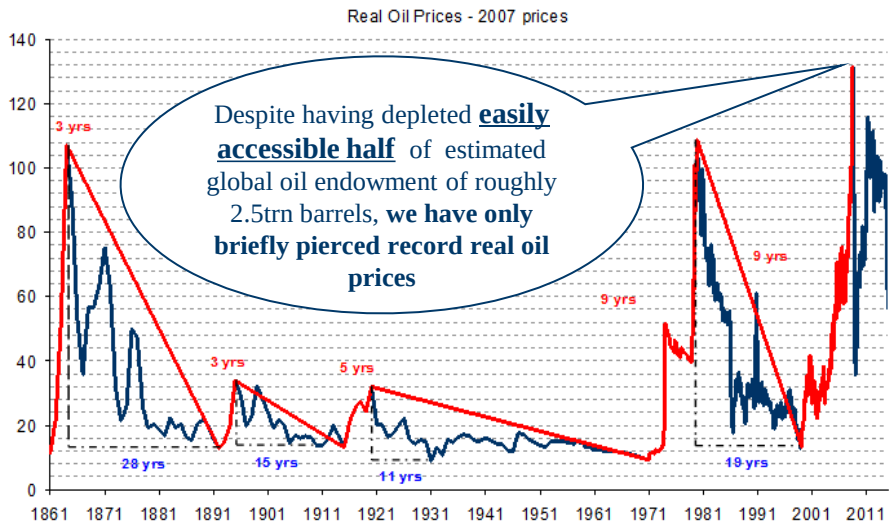
Real asset allocation callouts in "QE world," Dan Kurz



Sources: Datastream, CS

Dense energy (fossil fuel) assets

Capitalize on scarcity via real assets amidst unprecedented global "money printing"



Fossil fuel assets: scarcity play

- Need to offset global oil production decline of 5% - 8% p.a. or 2bn barrels > than Iran's production (#4 producer)
- Fracking generating unsustainable losses **before** oil price collapse; 2.5m bpd of crude oil supply out of 91.75m global bpd of supply at risk?
- High energy density coal harder to extract; coal = all net global energy supply growth over last decade!
- Fossil fuel dependency for energy-intensive lifestyles:
  - ✓ One barrel of oil = 11.5 years of ag field work!
  - ✓ 4.7 barrels of oil per capita consumed p.a. supplies only 32% of global per capita energy needs
  - ✓ If Asia's per capita energy usage rose from 25% to 33% of efficient Europe's, demand would rise 19%
  - ✓ Harnessing dense energy (lots of heat) = productivity!

Oilfield depletion: from finding 4x oil used to using 4x oil found

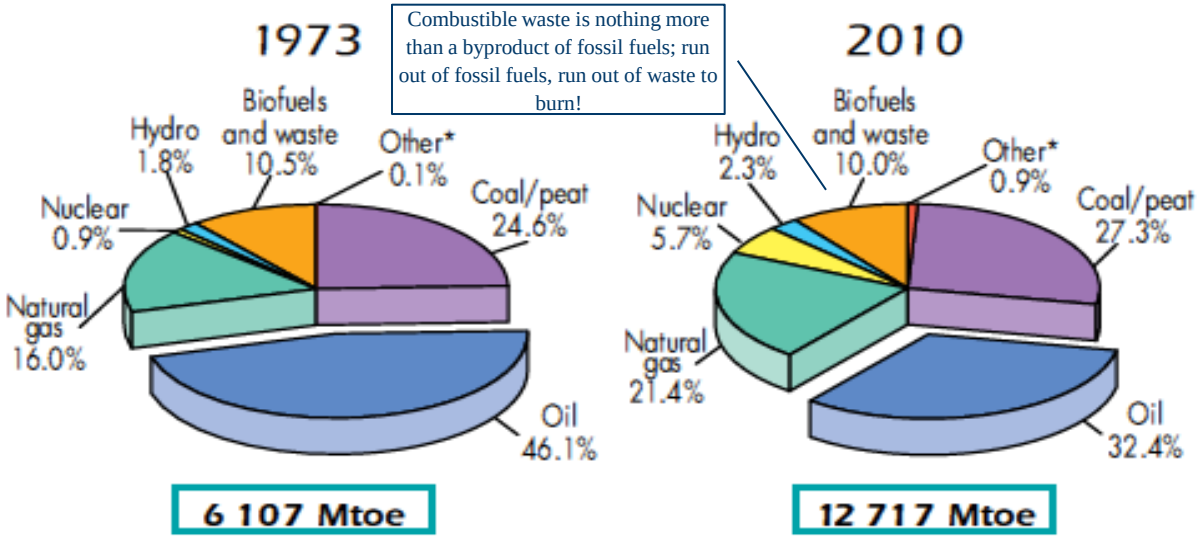
Year	Bn of barrels of oil found globally	Bn of barrels of oil used globally	Annual surplus/deficit
1930	10.0	1.5	8.5
1964	48.0	12.0	36.0
1988	23.0	23.0	0.0
2005	5.5	30.5	-25.0
2010	6.0	32.0	-26.0
2013	12.4	33.0	-20.3

Nearly $700bn spent globally in 2013, all-time record

Sources: BP, IEA, EWG, oildrum.com, Euan Mearns, J. David Hughes, http://www.youtube.com/watch?v=z4aaOPWvw3I DOE, OECD, DataStream, CS

Global primary energy supply breakdown: 81.1% fossil fuel-based; renewables ("other") generate only 0.9% of supply

Combustible waste is nothing more than a byproduct of fossil fuels; run out of fossil fuels, run out of waste to burn!



Mtoe = Millions tons of oil equivalent

**Other includes geothermal, solar, wind, heat, etc.*

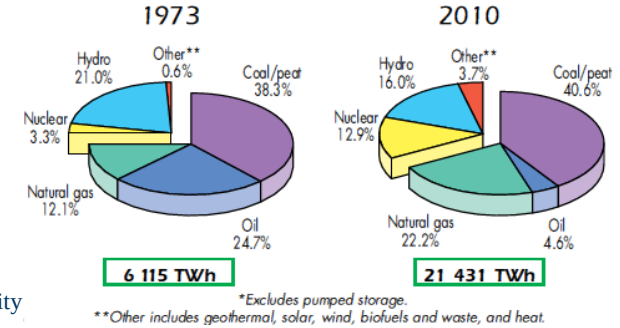
Energy supply (demand) has been growing at 2.0% p.a. over 37 years (1973 – 2010)

Supply growth breakdown over same period:
Oil: 1.0% p.a.
Coal: 2.3%
Gas: 2.8%
Nuclear: 5.2%
Hydro: 2.7%
"Other:" 8.2%

(**In 2013, fossil fuels accounted for 83.7% of primary energy** (!!!) and "other," or renewables, 2.2%)

Global composition of electricity by TWh in 2010*
(fossil fuels, nuclear, & hydro = 96.3% of power generation):

* - In 2011, latest available year, "other" accounted for 4.4%



**Excludes pumped storage.*
***Other includes geothermal, solar, wind, biofuels and waste, and heat.*

Sources: BP, IEA Key World Energy Statistics, www.c2es.org/technology/overview/electricity

Global oil supply & demand balance amidst rising extraction costs

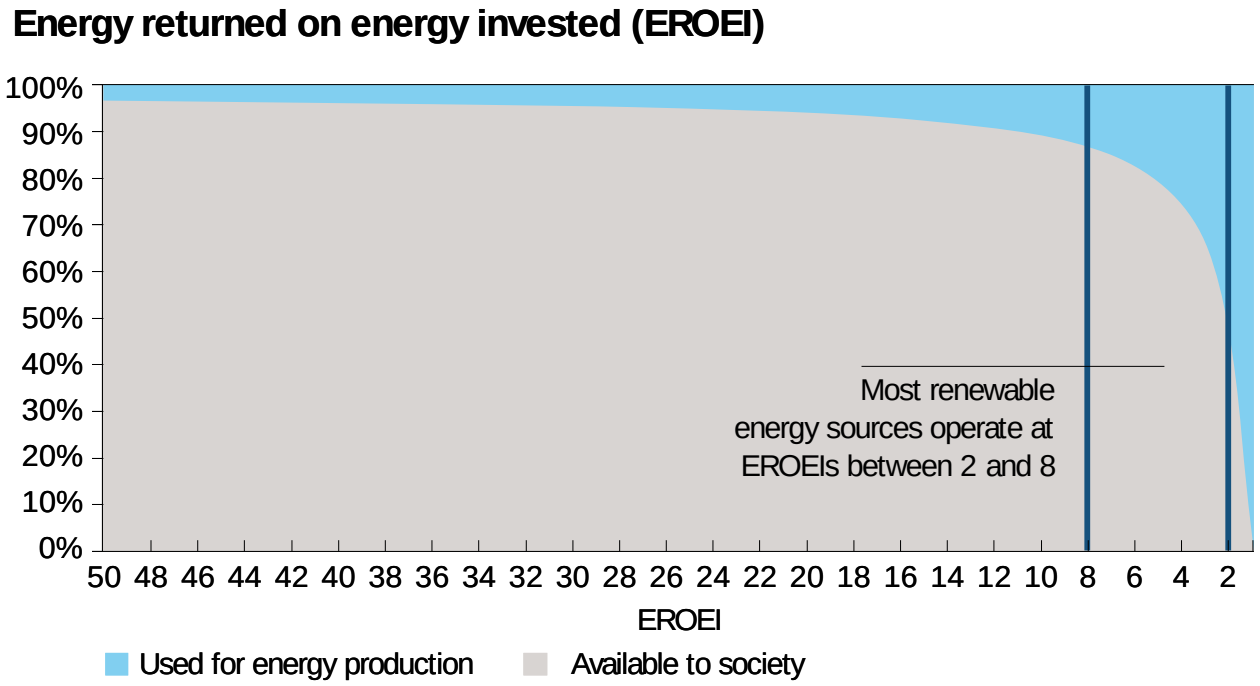
OPEC hasn't increased net exports to ROW for over decade!

Global Oil Demand and Supply Estimates										
Demand (mbd)	**Q1 2013**	**Q2 2013**	**Q3 2013**	**Q4 2013**	**Q1 2014**	**Q2 2014**	**Q3 2014**	**Q4 2014**	**2013**	**2014**
OECD	45.79	45.55	46.30	46.49	45.72	44.97	46.03	46.61	46.03	45.83
Growth YoY	-0.78%	0.33%	1.03%	0.65%	-0.15%	-1.27%	-0.58%	0.26%	0.31%	-0.43%
Non-OECD	43.52	44.45	44.87	44.80	44.54	45.88	46.32	45.77	44.41	45.63
Growth YoY	4.41%	3.20%	1.91%	1.43%	2.34%	3.22%	3.23%	2.17%	2.71%	2.74%
China	10.50	10.56	10.51	10.87	10.58	11.16	11.11	11.07	10.61	10.98
Growth YoY	6.49%	6.99%	0.38%	-0.18%	0.76%	5.68%	5.71%	1.84%	3.29%	3.49%
TOTAL WORLD DEMAND	**89.31**	**90.00**	**91.17**	**91.29**	**90.25**	**90.86**	**92.35**	**92.38**	**90.44**	**91.46**
World demand growth YoY	1.69%	1.73%	1.45%	1.02%	1.05%	0.96%	1.29%	1.19%	1.47%	1.13%
Supply (mbd)	**Q1 2013**	**Q2 2013**	**Q3 2013**	**Q4 2013**	**Q1 2014**	**Q2 2014**	**Q3 2014**	**Q4 2014**	**2013**	**2014**
Non-OPEC	53.01	53.64	54.47	55.33	55.01	55.94	56.36	56.57	54.11	55.97
Growth YoY	0.61%	2.44%	3.95%	3.19%	3.77%	4.29%	3.47%	2.24%	2.55%	3.43%
OPEC	35.97	36.47	36.21	35.46	35.93	35.61	35.91	35.66	36.03	35.78
Growth YoY	-3.10%	-2.17%	-2.64%	-2.64%	-0.11%	-2.36%	-0.83%	0.56%	-2.63%	-0.69%
Crude Oil Portion	29.85	30.38	30.12	29.34	29.79	29.51	29.90	29.52	29.92	29.68
Other Liquids	6.12	6.09	6.09	6.12	6.14	6.11	6.01	6.14	6.11	6.10
TOTAL SUPPLY	**88.98**	**90.11**	**90.68**	**90.79**	**90.94**	**91.55**	**92.27**	**92.23**	**90.14**	**91.75**
World Supply growth YoY	-0.92%	0.52%	1.22%	0.83%	2.20%	1.60%	1.75%	1.59%	0.41%	1.78%
World Market Balance (mbd)	**Q1 2013**	**Q2 2013**	**Q3 2013**	**Q4 2013**	**Q1 2014**	**Q2 2014**	**Q3 2014**	**Q4 2014**	**2013**	**2014**
SUPPLY - DEMAND	-0.33	0.11	-0.49	-0.5	0.69	0.69	-0.08	-0.15	-0.3025	0.29

Last data point: 10.12.2014

Sources: EIA, CS

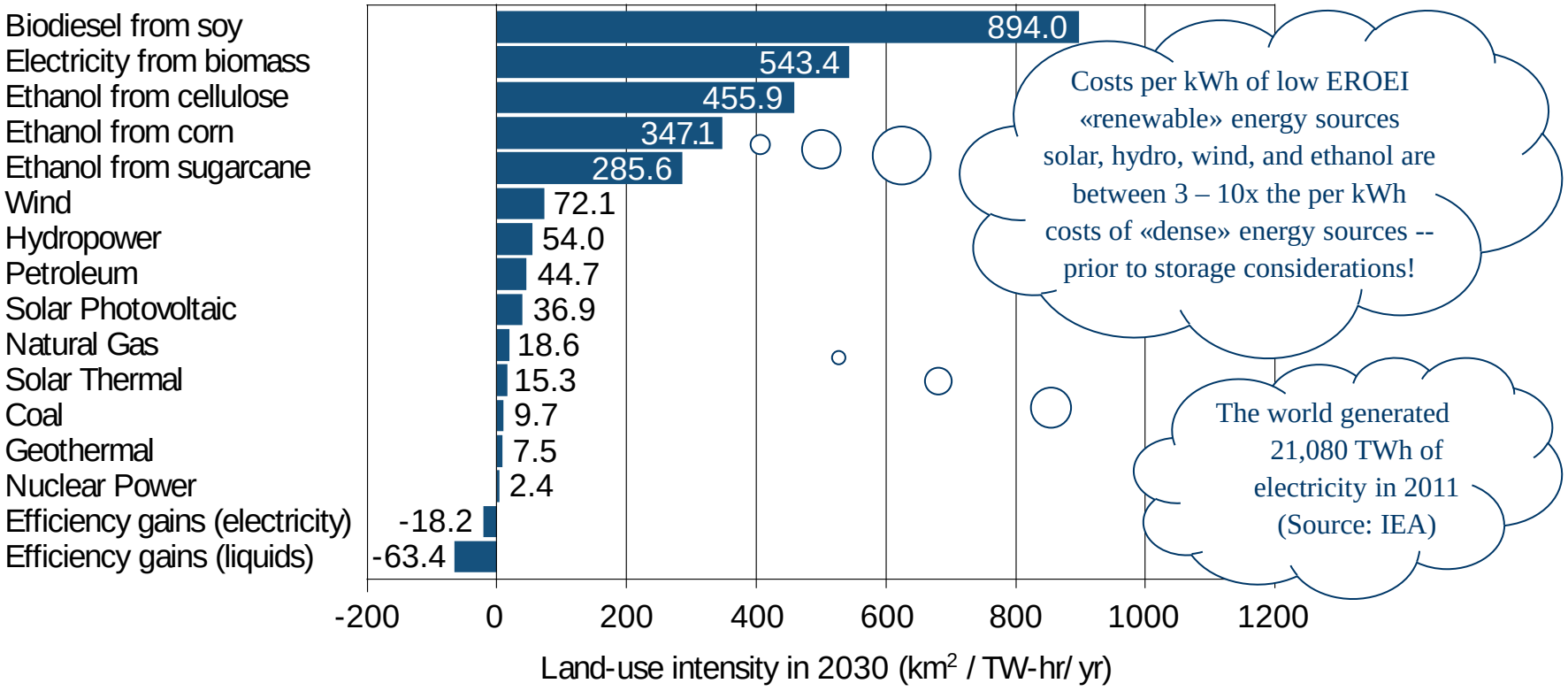
Lower EROEI and declining energy density impact:
Larger share of GDP devoted to assuring energy supplies



- 100 years ago, oil's EROEI was roughly 100:1 in "oil just below the ground" Siberia and Texas (offshore drilling EROEI: 5:1!)
- Over the past decades, energy production averaged "only" some 5% of GDP or an EROEI of 20:1
- As such, energy supply's economic significance is thus viewed as "minor" by mainstream economists and investors
- A declining EROEI will fundamentally change macro allocations and dense energy asset valuations (scarcity factor)
- *Upshot: dense energy and energy infrastructure should be strategic growth markets featuring rising asset prices!*

Sources: Euan Mearns, Resource Insights, Dr. Robert Hall, EIA; http://Gregor.us

Projected land-use intensity per terawatt-hour per year
(The lower the EROEI, the greater the land use intensity)

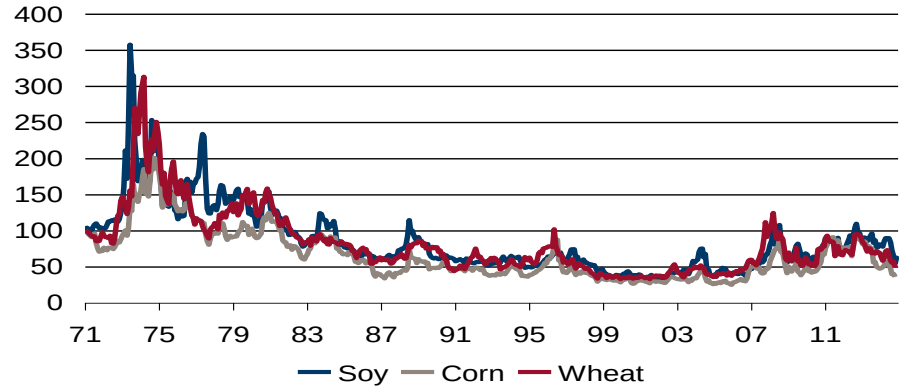


Source: http://www.plosone.org/article/info:doi/10.1371/journal.pone.0006802. Please note: values shown are for 2030, as measured in km² of impacted area in 2030 per terawatt-hour produced/conserved in that year. Numbers provided are the midpoint between the high and low estimates for different techniques. For liquid fuels, energy loss from internal combustion engines is not included in this calculation.

Agricultural assets

Capitalize on scarcity via real assets amidst unprecedented global money printing

Real grain prices in current US cents, deflated using CPI



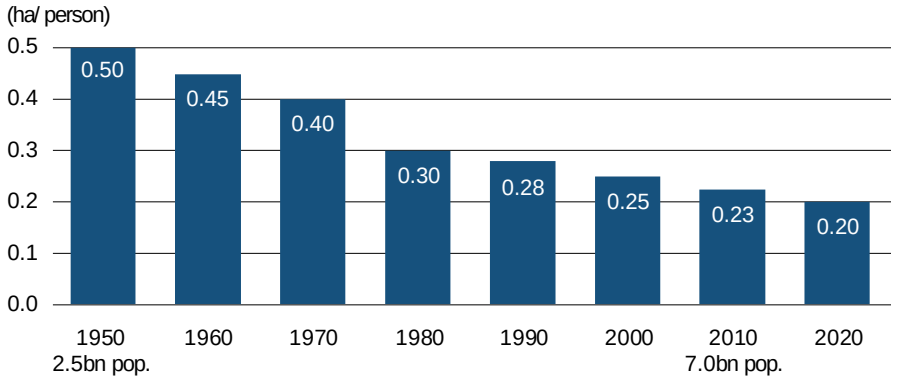
Source: Bloomberg, Credit Suisse / IDC

Agriculture -- scarcity play

Agriculture assets, especially non-US farmland, water, and infrastructure/fertilizer-related, remain attractive given:

- *Constructive strategic supply/demand metrics* and the likelihood of substantially higher secular grain prices
- A meat-based diet requires about 7x the grains and 11x the water as a grain-based diet; EM consuming more!
- The positive implications of higher secular grain prices for farmer incomes and equipment purchases, which should underpin secular ag biz earnings and valuations

Per capita world arable land is dwindling (as is water)



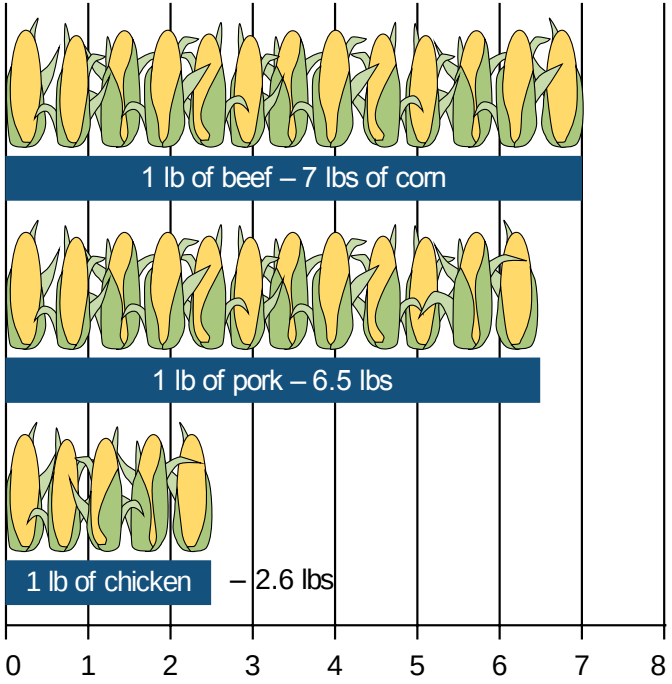
Sources: FAOSTAT, UN, Enviromental Health Perspectives

(Data are rough estimates and can vary depending on assumptions – data shows relative trend)

Dietary shift to increase demand for grains and farmland

Meat production is very grain intensive

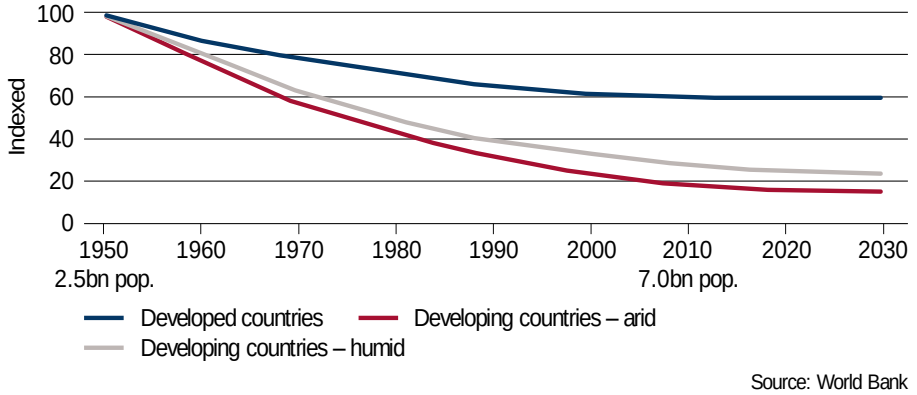
Meat production is feedstock intensive



Dietary shift towards more EM meat consumption will increase demand for grains and farmland as meat production is very grain intensive

Moreover, between 1,150 – 2,000 liters of water are necessary to produce one kg of wheat. In contrast, some 16,000 liters are required to produce one kg of beef (or, between 8 – 14x as much water!)

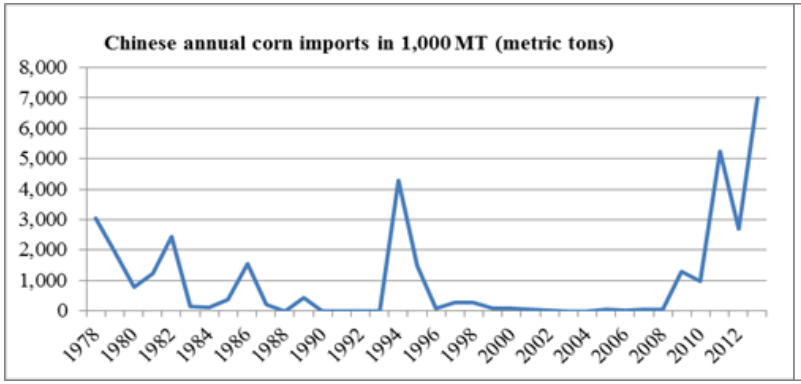
Indexed per capita water availability compared to 1950

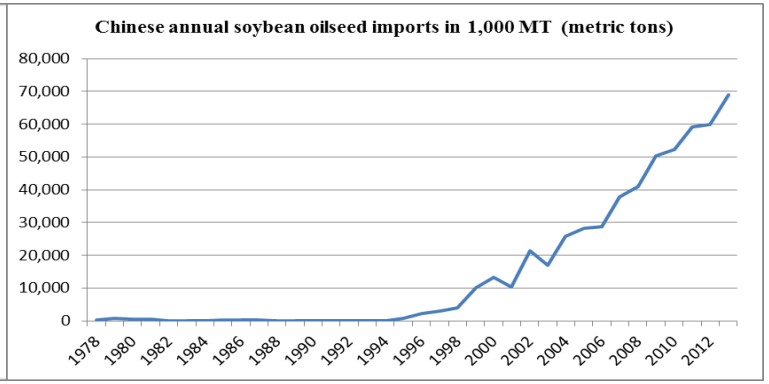


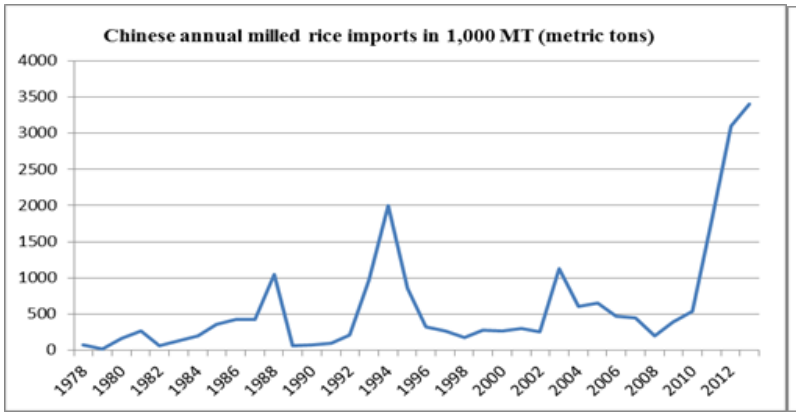
Source: World Bank

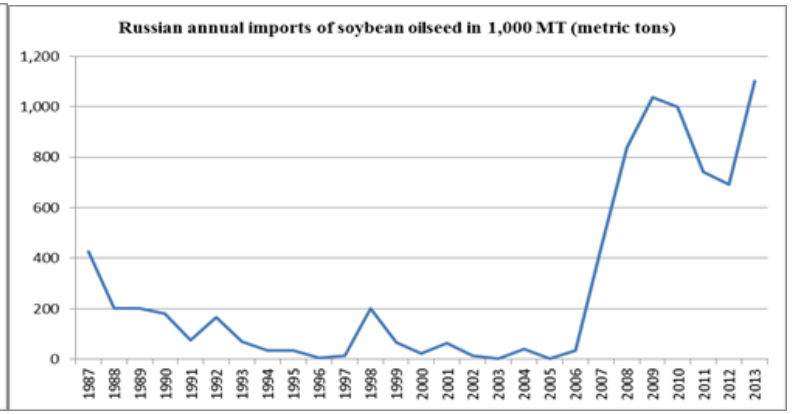
Sources: USDA; Arjen Hoekstra, University of Twente, World Bank, worldwater.org

Chinese and Russian grain imports in metric tons





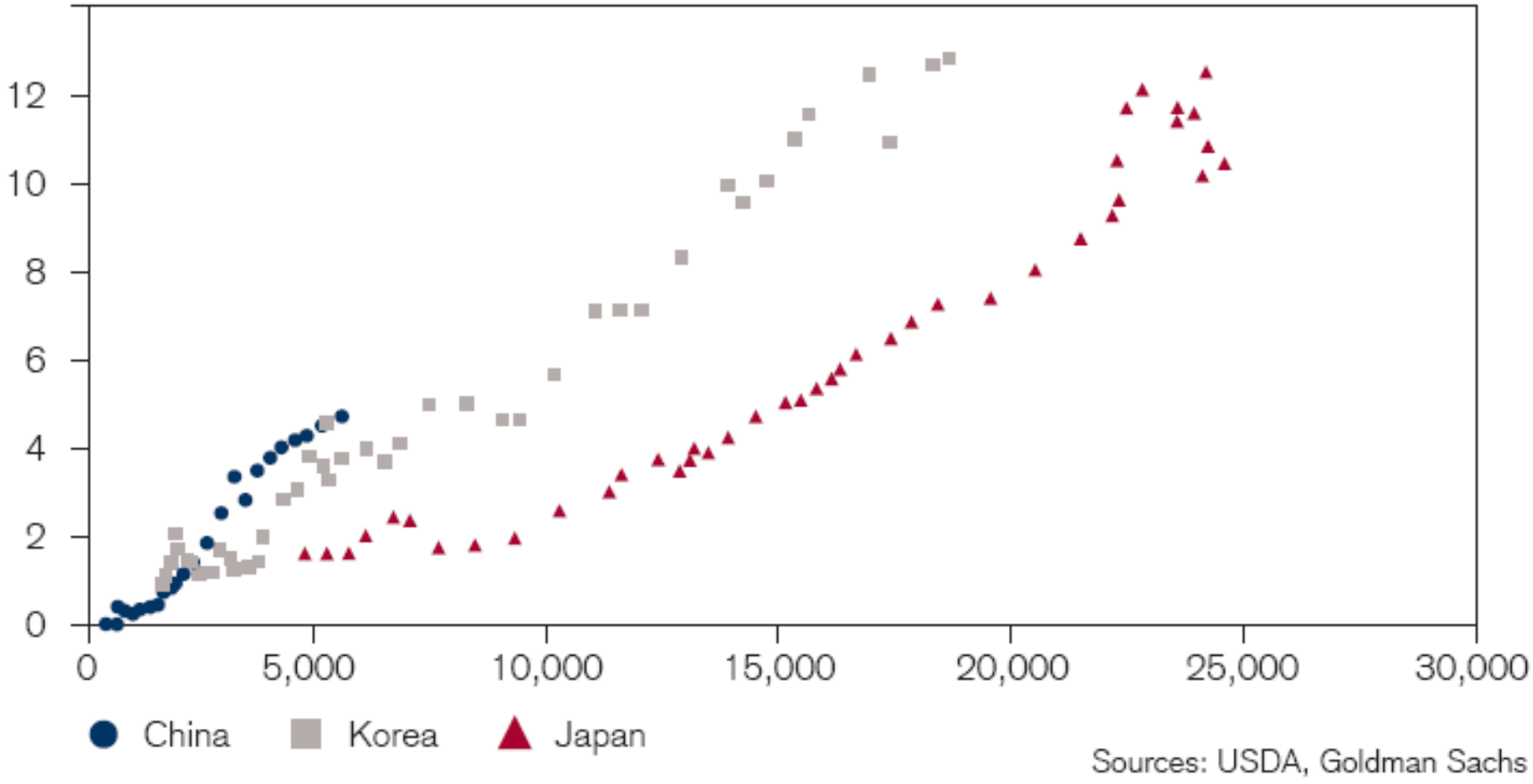




Source: USDA, Credit Suisse / IDC

Beef consumption vs. real USD GDP per capita in PPP terms

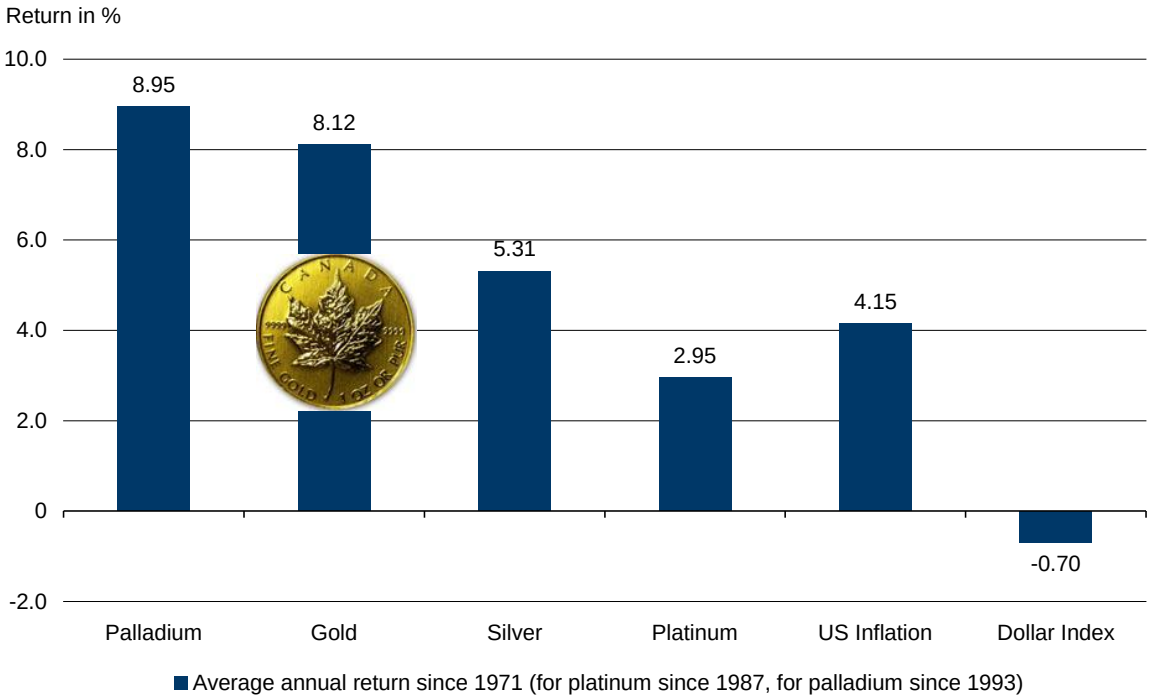
(Kg of beef vertical axis, real GDP per capita horizontal axis)



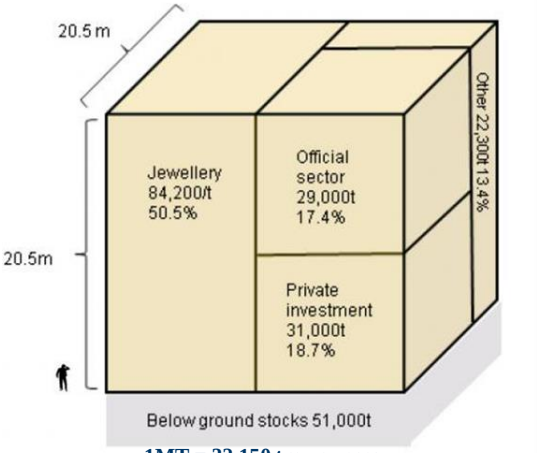
Physical gold, a monetary reserve asset

Capitalize on scarce real money protection amidst unprecedented global money printing

(An ounce of gold bought a tailored suit 100 years ago just as it does today; today the $ cost of that suit is between 50x – 100x higher)



Current value of all above ground gold: about $6.2trn
Global stock & bond valuations up $9trn p.a. on avg between '00 – '12!



1MT = 32,150 troy ounces

(The Bretton Woods dollar gold standard was terminated in 1971)

Sources: Bloomberg, CS, www.shadowstats.com/article/no-438-public-comment-on-inflation-measurement.pdf