IMPACT 2020

The Future and How It Will Affect Infrastructure Worldwide

CUTC

April 24, 2012

Washington, DC

Frank A. Stasiowski, FAIA

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Architect, Author, Director…..

- Some FACTS….
- Some TRENDS….
- Some PREDICTIONS….
- Some Challenges…..
- Many Many Questions….
- Some URGENT ACTIONS…



FACTS……



Headlines 4 Months Ago…….

- Stocks Tumble Worldwide on Fears of Eurozone Collapse……
- Housing's Job Engine Fails…….
- MF Global Collapse Draws FBI Interest….
- Mastercard Profits Jump 38%….
- Private Sector Adds 110,000 Jobs……
- DOW off 20% from April highs
- US Auto Sales Surge in October 7.5%…
- Shanghai Closes more Plants……..
- FED Poised to Cut Growth Forecast…
- Dodgers, MLB Agree to Sell Team…

Some Headlines Today…

- Europe's Political Crisis Worsens…..
- Slowing Growth in China Raises Global Concerns…
- It's Rail or Fail Time for the US….
- Stress Rises on Social Security and Medicare……..
- Electric Cars Could Paralyze Utilities Grid…..
- American Airlines Plans to Cut 1200 More Jobs……
- Mine for Gold and Other Minerals on Asteroids……..
- Why Failing Water Infrastructure Can No Longer be Ignored…
- 35 New Red Light Cameras in DC Metro Region….
- Migrant Wave from Mexico Stalls….

Our World in 2012

- No more privacy……period…
- Birth Explosion (Worldwide Demographic predictions)….
- Exhausted World Resources (Water gone)….
- Massive Migration to Cities Worldwide…
- Deteriorating Infrastructure Worldwide….
- Global everything (Not 'international')….
- WAR as a permanent state….
- Death of the Dollar as King….

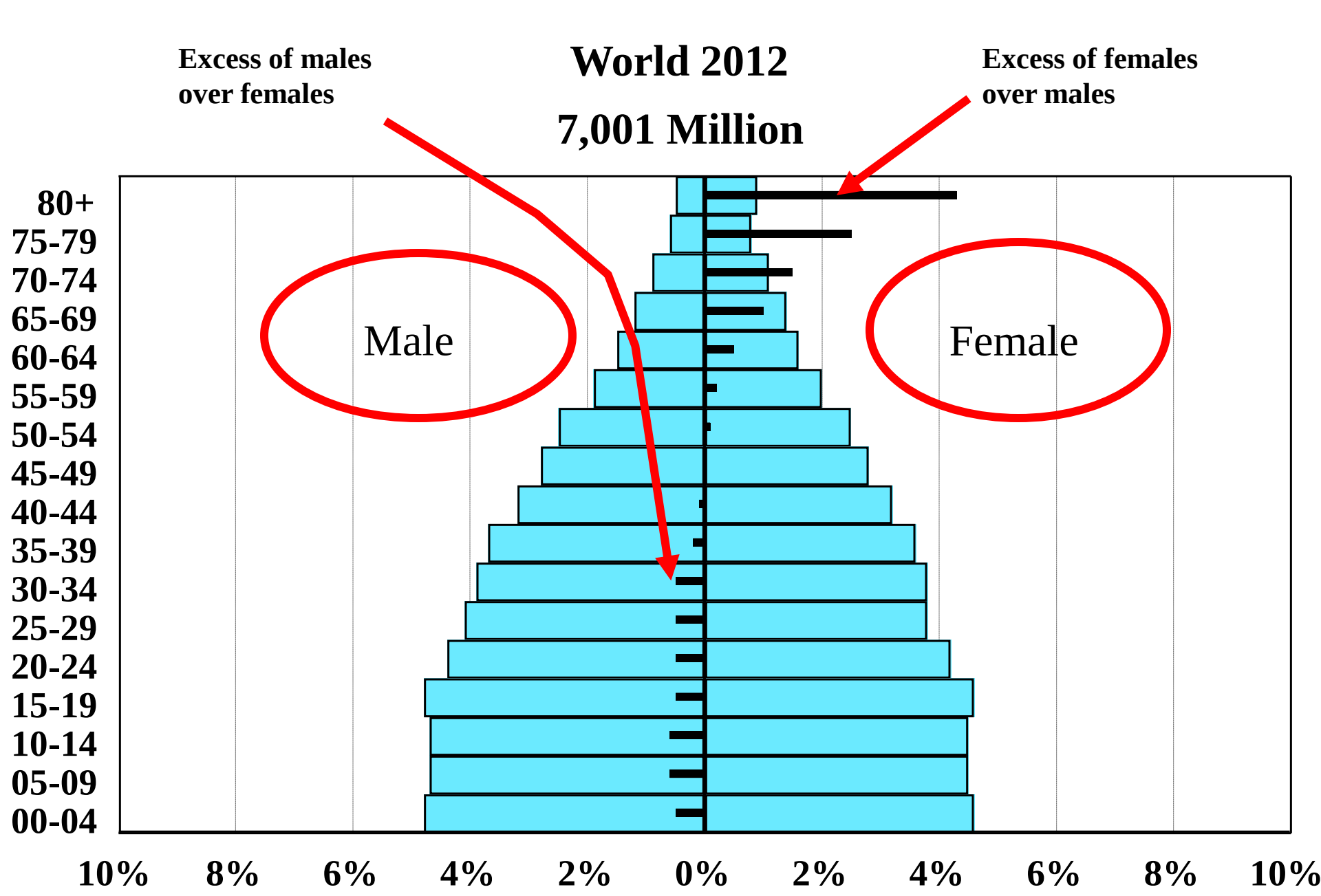
One POWERFUL and INESCAPABLE TREND…..

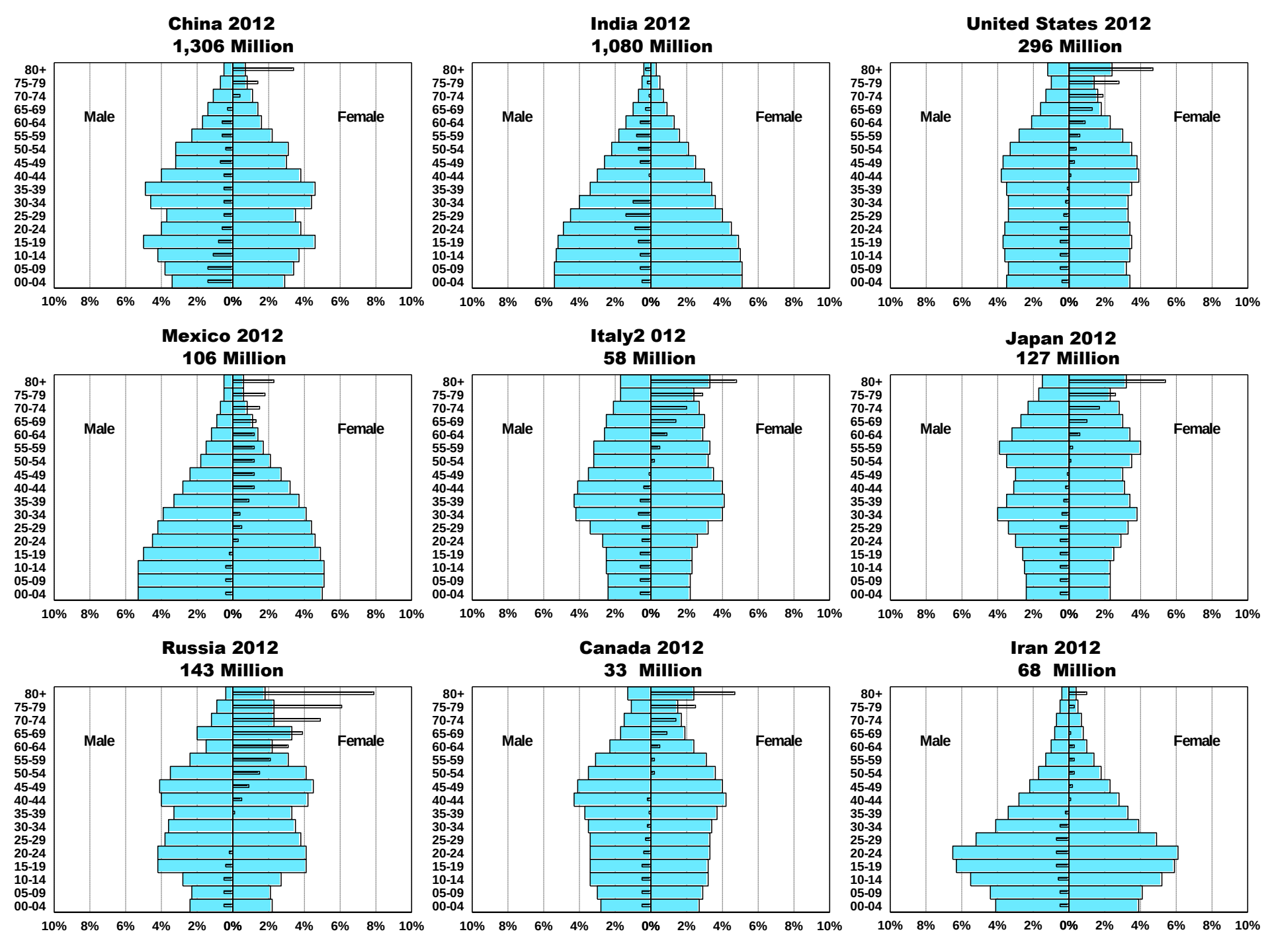


Demographics Drives Everything……

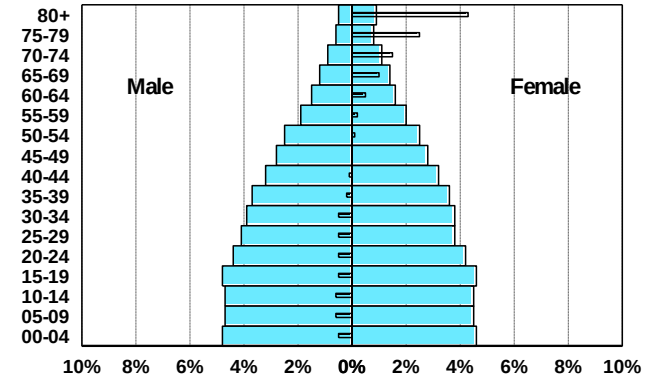


As a Species we humans are predictable in how we impact the entire food chain…..

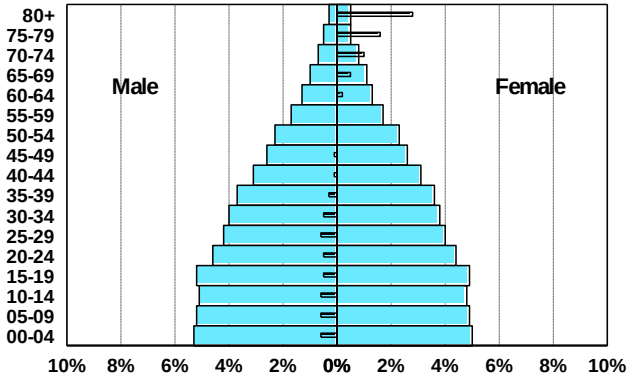

Excess of males over females
World 2012
7,001 Million
Excess of females over males
Male
Female
80+
75-79
70-74
65-69
60-64
55-59
50-54
45-49
40-44
35-39
30-34
25-29
20-24
15-19
10-14
05-09
00-04
10%
8%
6%
4%
2%
0%
2%
4%
6%
8%
10%


China 2012
1,306 Million
India 2012
1,080 Million
United States 2012
296 Million
Mexico 2012
106 Million
Italy2 012
58 Million
Japan 2012
127 Million
Russia 2012
143 Million
Canada 2012
33 Million
Iran 2012
68 Million
Male
Female
80+
75-79
70-74
65-69
60-64
55-59
50-54
45-49
40-44
35-39
30-34
25-29
20-24
15-19
10-14
05-09
00-04
10% 8% 6% 4% 2% 0% 2% 4% 6% 8% 10%

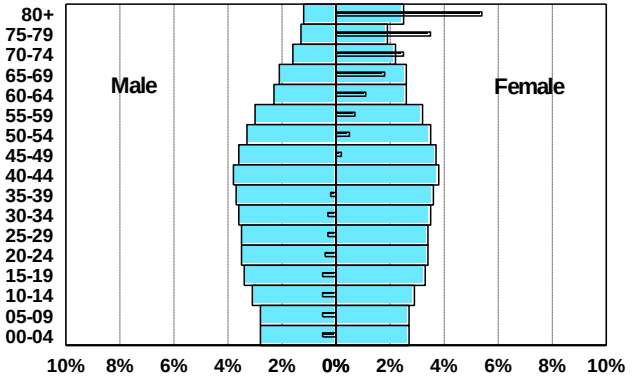
World 2012
7,001 Million



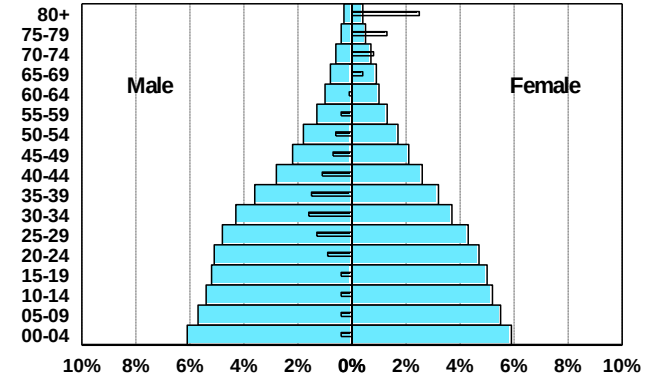
Less Developed Countries 2012
5,241 Million



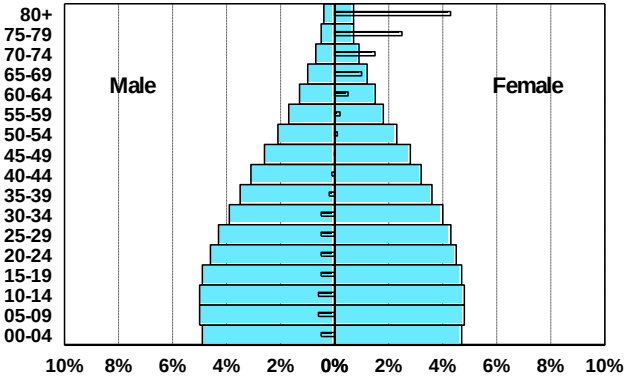
More Developed Countries 2012
1,210 Million



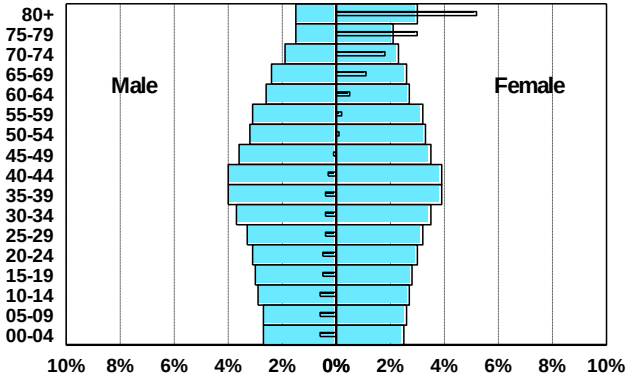
Near East 2012
191 Million



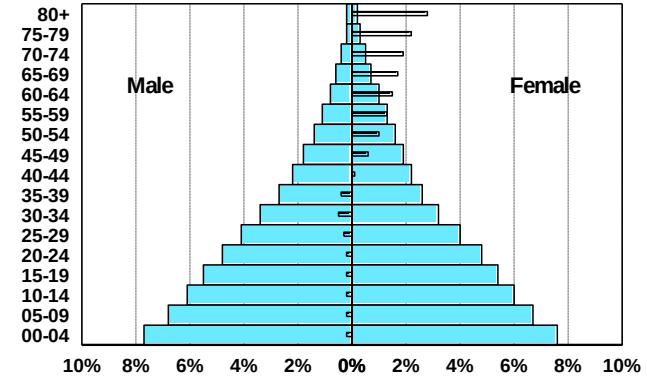
Latin America and the Caribbean 2012
555 Million



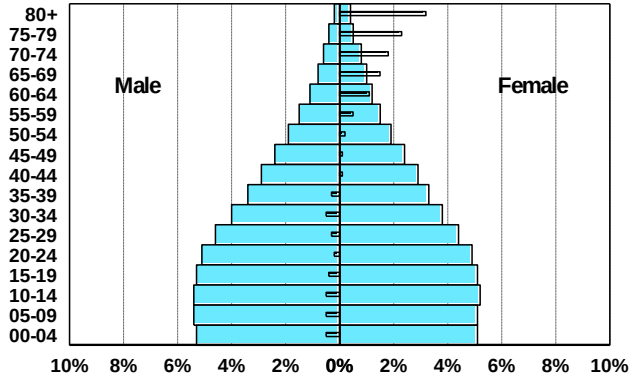
Western Europe 2012
396 Million



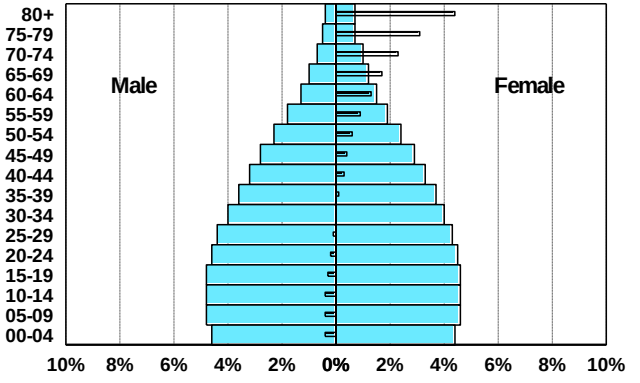
Central Africa 2012
891 Million

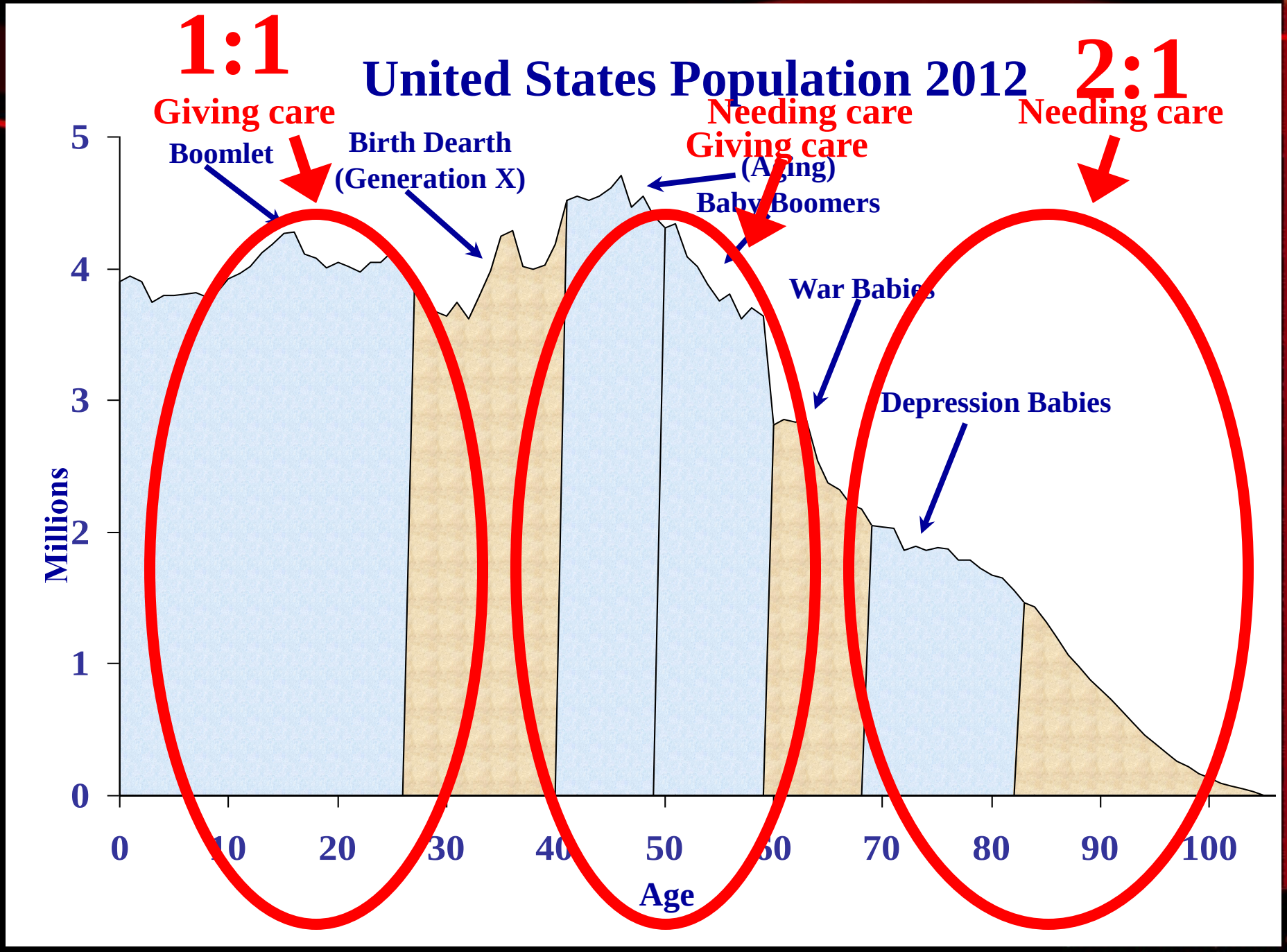


Northern Africa 2012
159 Million



South America 2012
371 Million




1:1
United States Population 2012
2:1
Giving care
Needing care
Needing care
Giving care
Boomlet
Birth Dearth
(Generation X)
(Aging)
Baby Boomers
War Babies
Depression Babies
Millions
5
4
3
2
1
0
0
10
20
30
40
50
60
70
80
90
100
Age

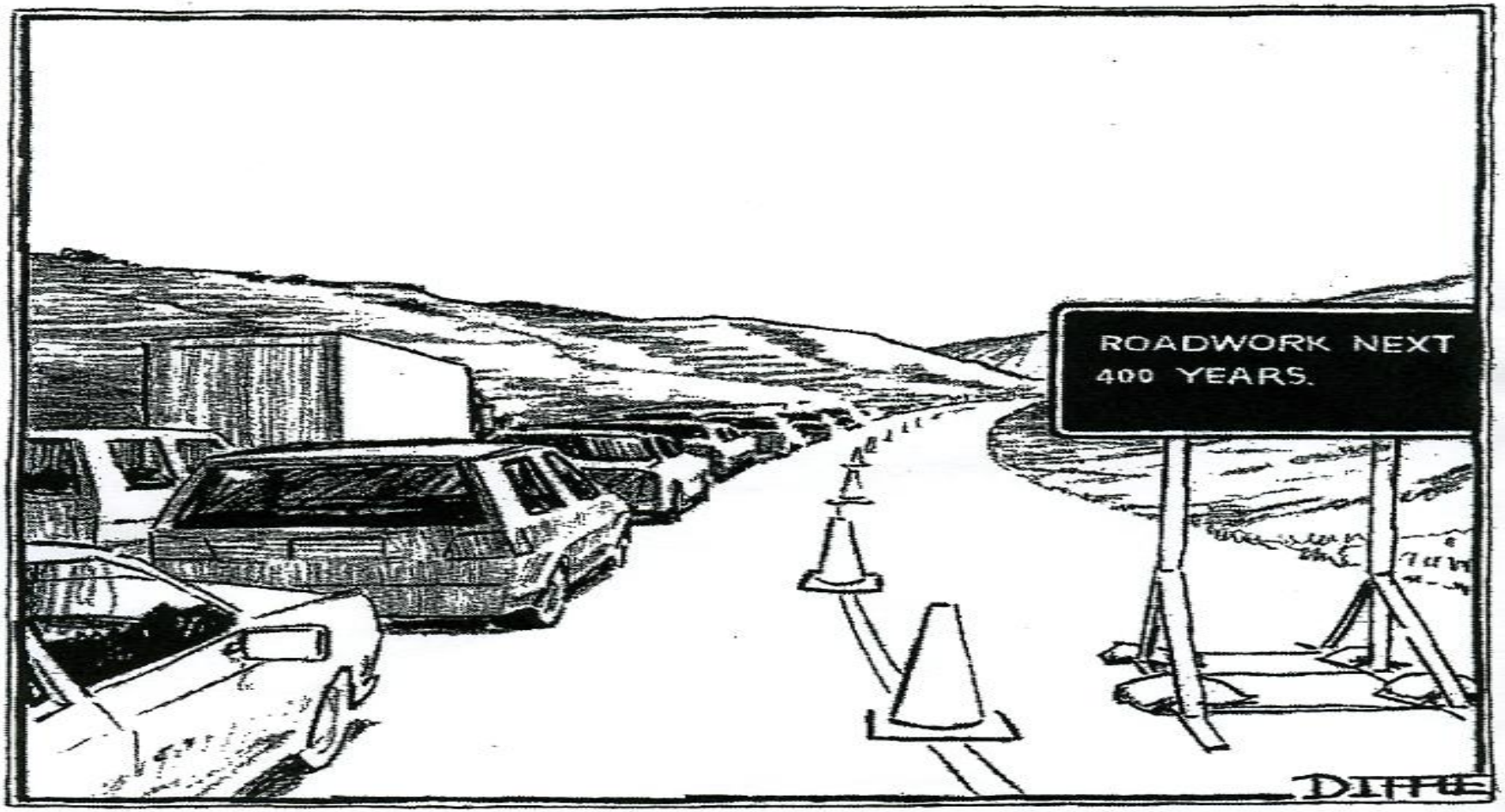
PREDICTIONS……



So How Does the Future Look for Infrastructure in the World?



Infrastructure Industry Trends….

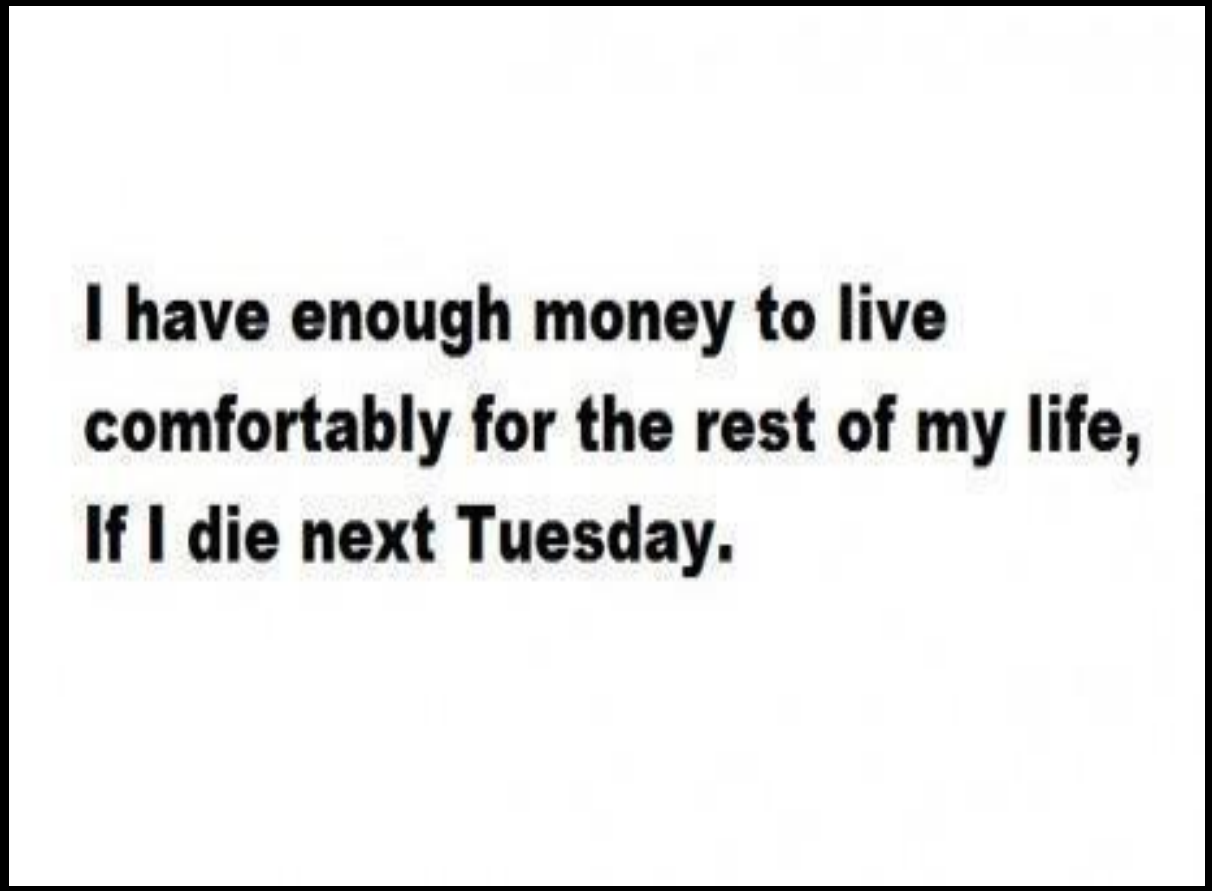


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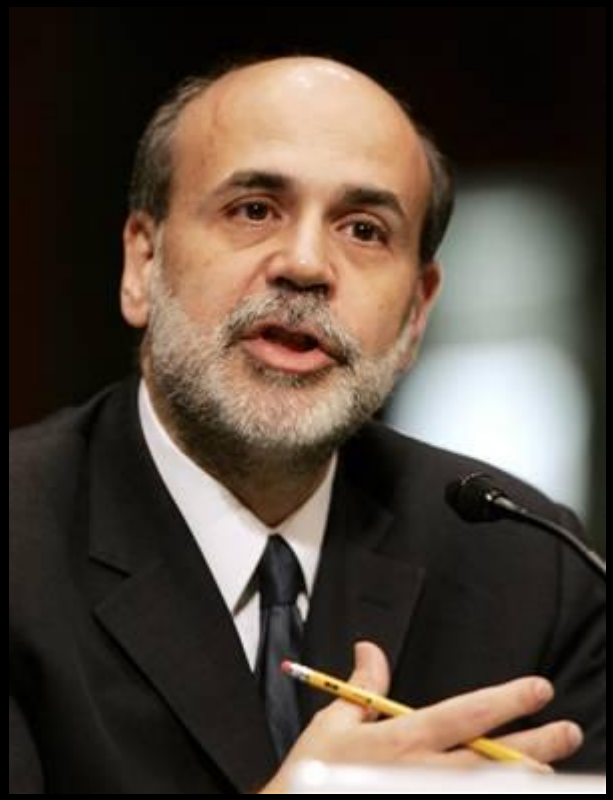
Current Infrastructure Facts…..

1. Budgets at most State DOT's have been crushed by lack of Federal Funds and Reduced Gas Taxes for the last 3 years
2. Bridges Nationwide are Deteriorating Faster than Anyone Predicted
3. Nearly All Major Airports Need Massive Upgrades
4. Our Ports Need Major Overhaul
5. US Entitlement Processes are Killing ALL Infrastructure Projects
6. PPP in the US is not moving Fast Enough
7. Most Light Rail is Economically Unfeasible with the Current Economic Approach

Now Our General Economy……



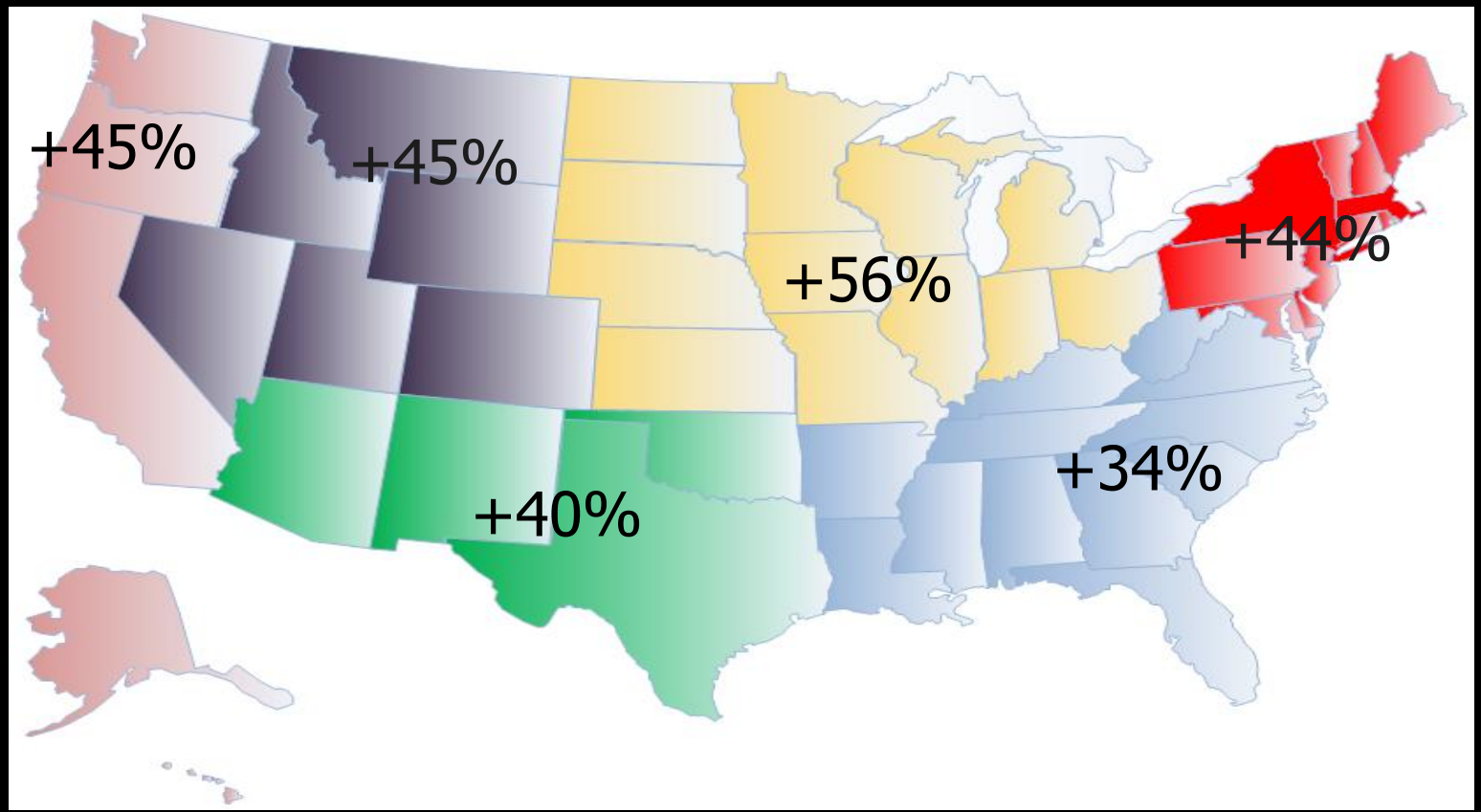
So….Where is the Election Year Economy Headed?



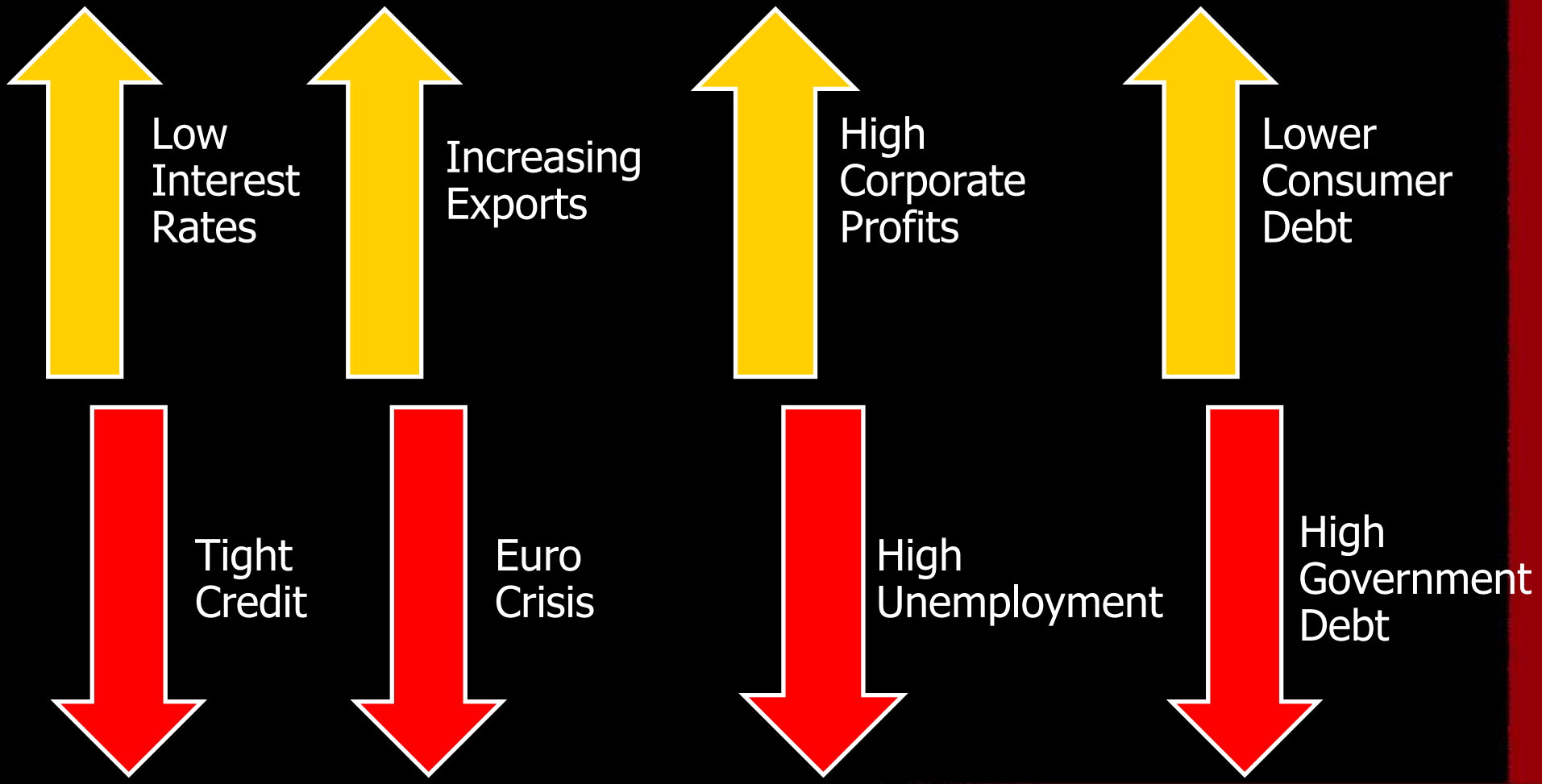
"The economic outlook remains **un**usually **un**certain for the **un**foreseeable future."

-- Ben Bernanke
July 21, 2011

But…..All Regions Are Positive since 2009



Still…….There Are Many Contradictory Signs



QUESTIONS…..

QUESTIONS…..



And Even More Questions …..

So WHAT will Drive Infrastructure Economics in the Last Half of This Decade ????



Let's Look at a Powerful Driver of Infrastructure Spending……

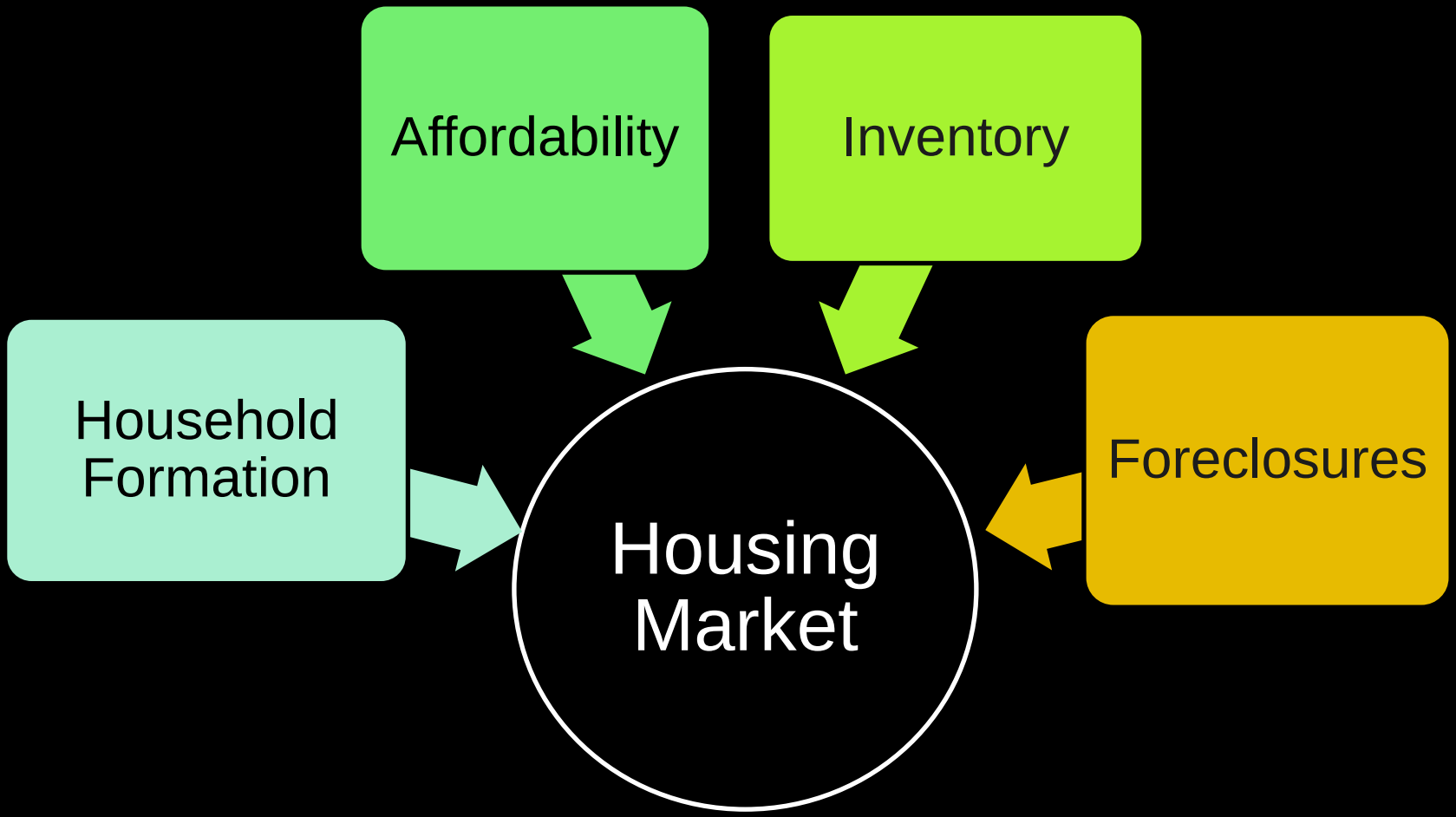


HOUSING…

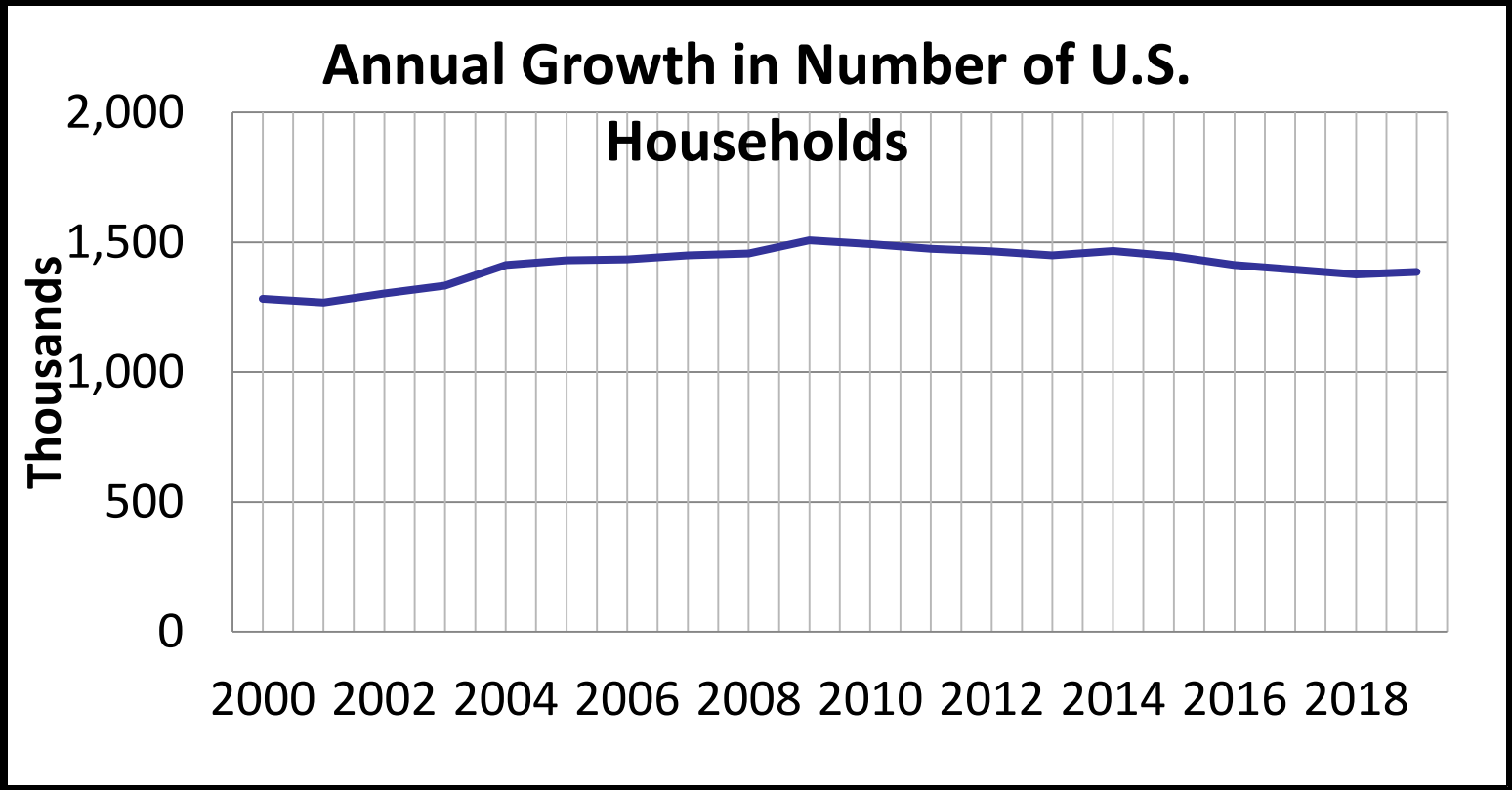
3 Major Reasons that Housing Drives Infrastructure Improvements….

1. A Good Economy Yields More Tax Revenue….
2. Employed Citizens Travel More…..
3. More Consumer Spending Means More Goods Shipped via Rail, Truck, Air and Ship…..

And…The Housing Market is Driven by…

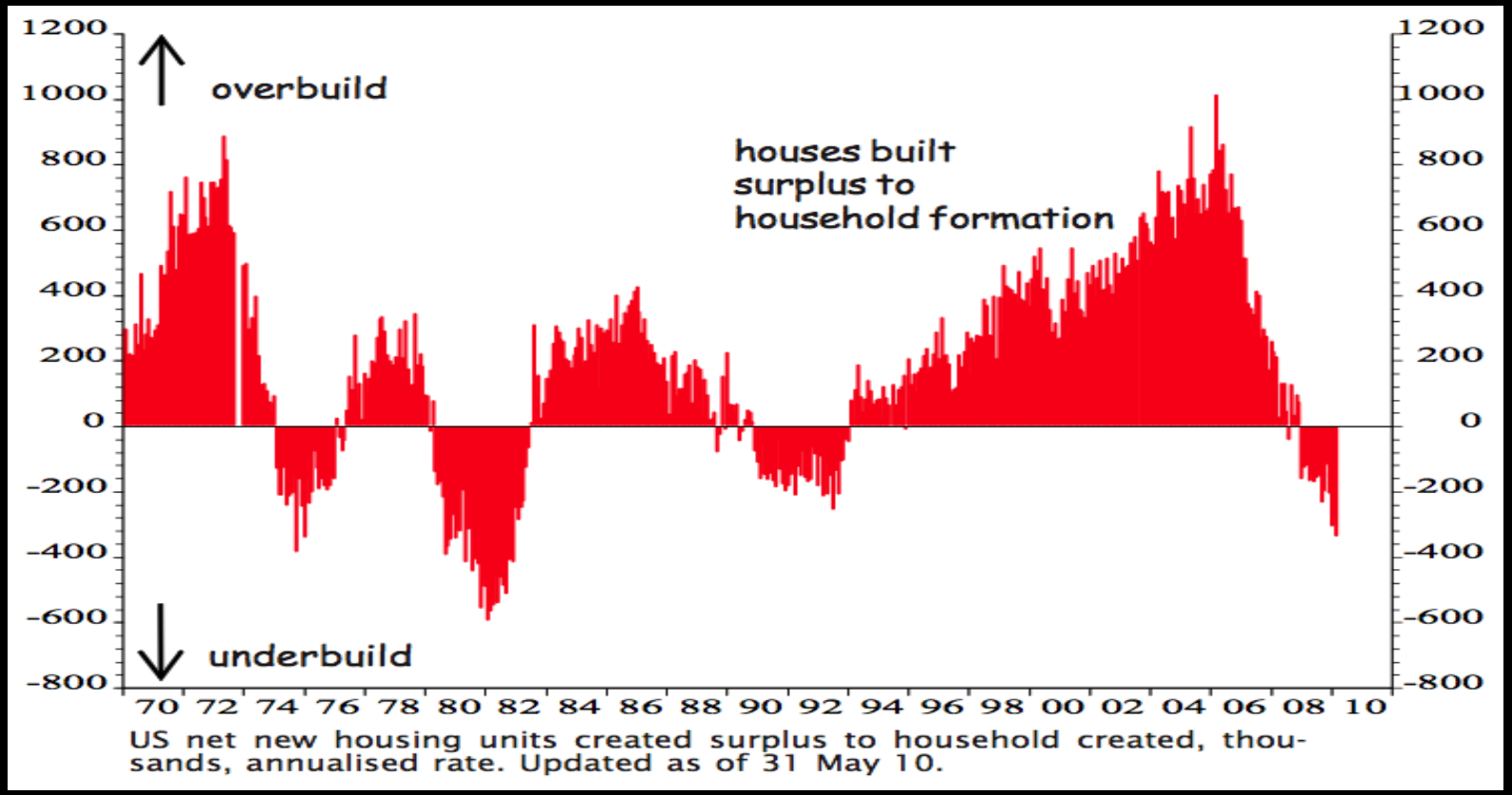


New Household Formation is Currently at About 1.5 Million New Families per Year

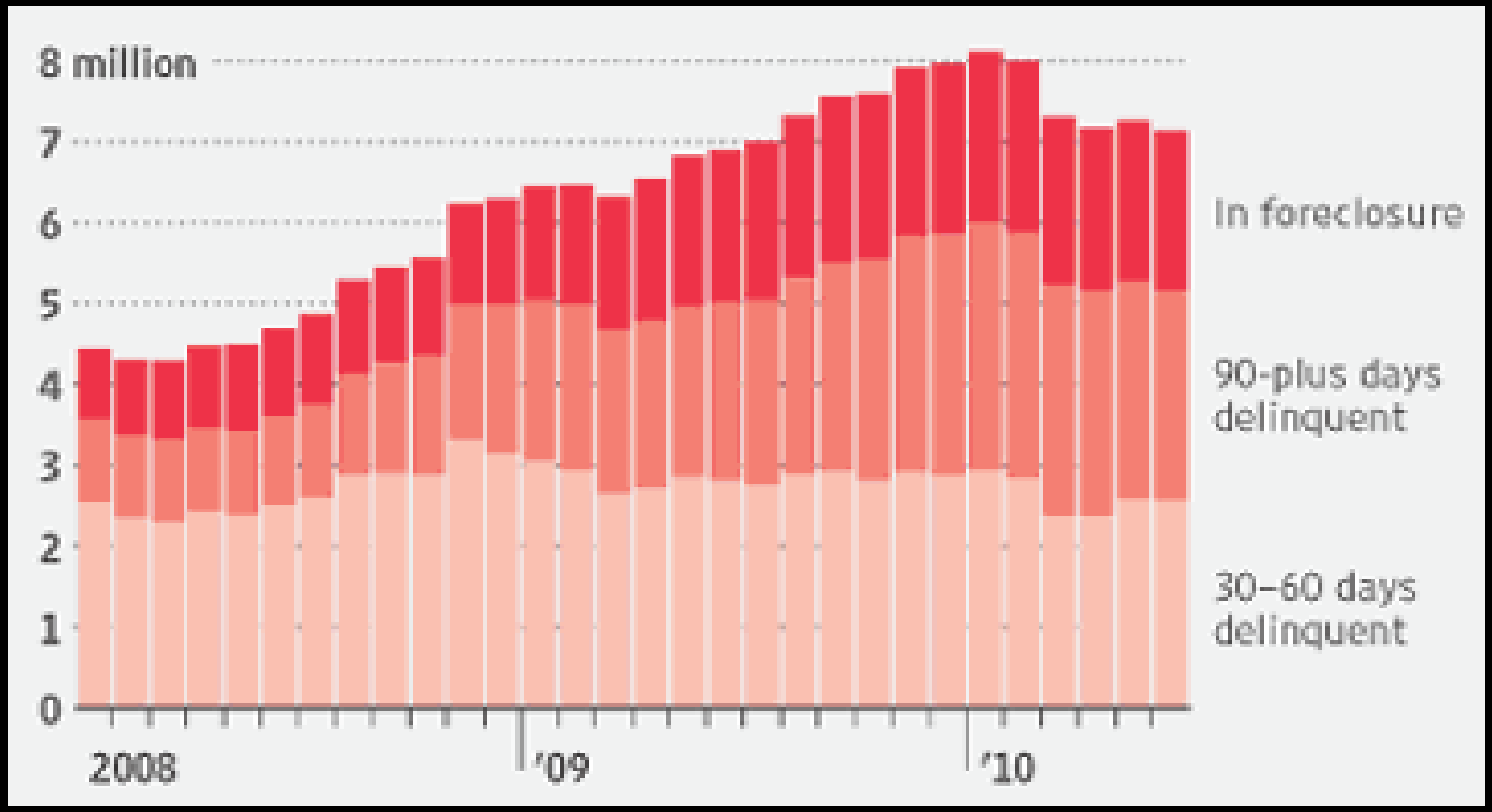


Source: U.S. Census Bureau

But…In the past Decade…
We Built Way Too Many Houses



And …Foreclosures Dumped More Homes Onto An Already Weak Market

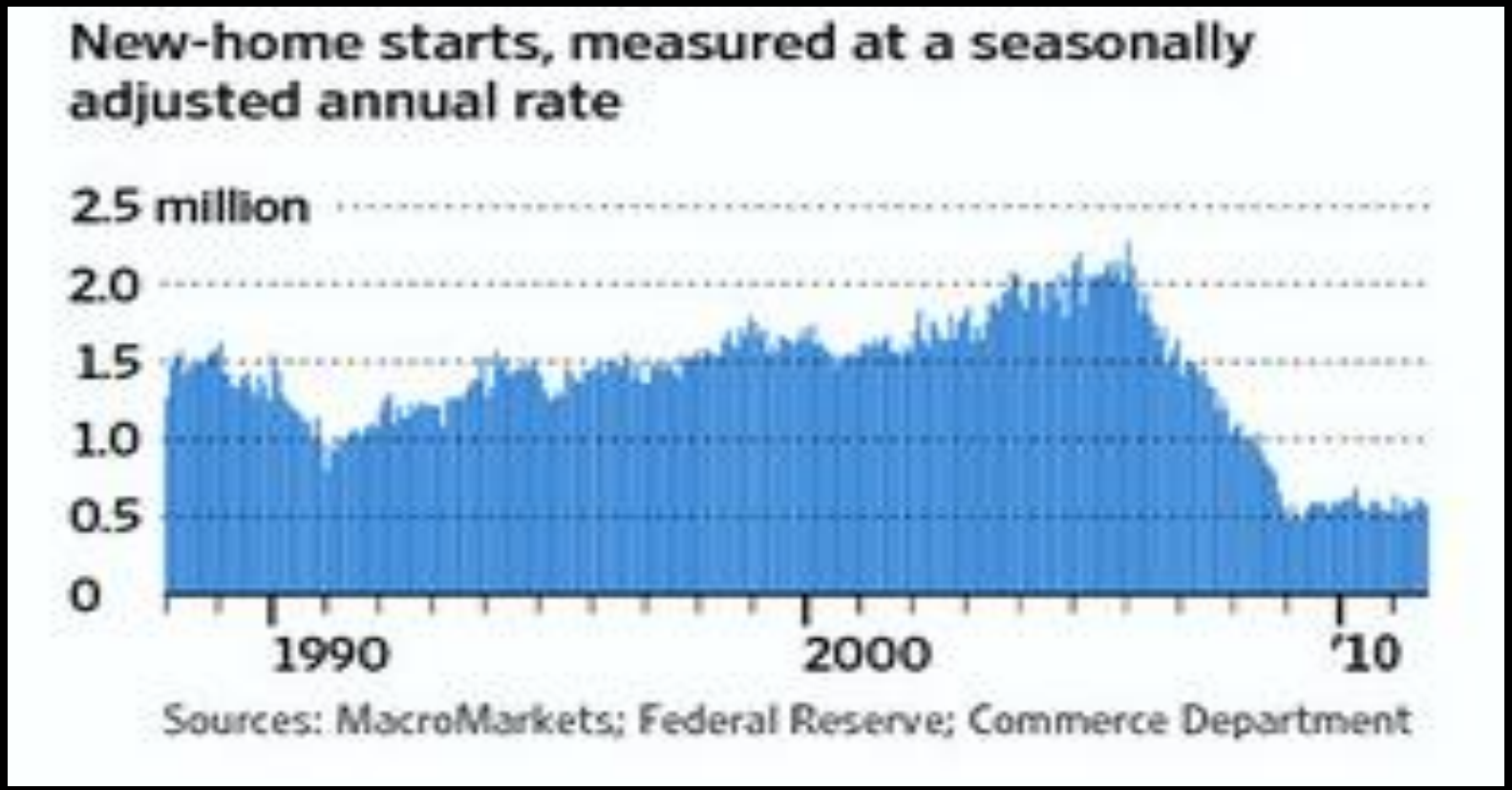


Source: *The Wall Street Journal,* July 27, 2010

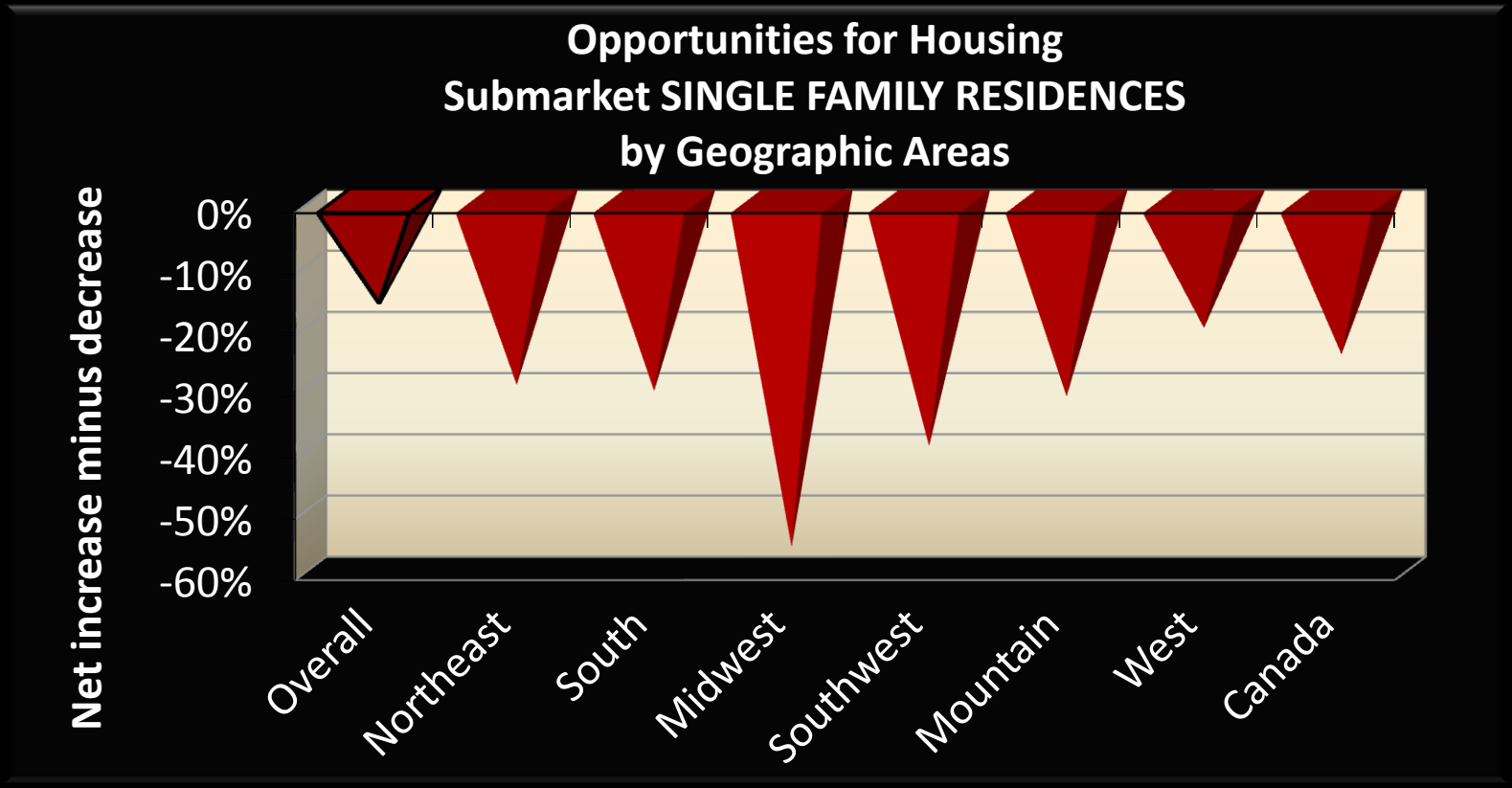
Causing New Home Sales to Plummet…



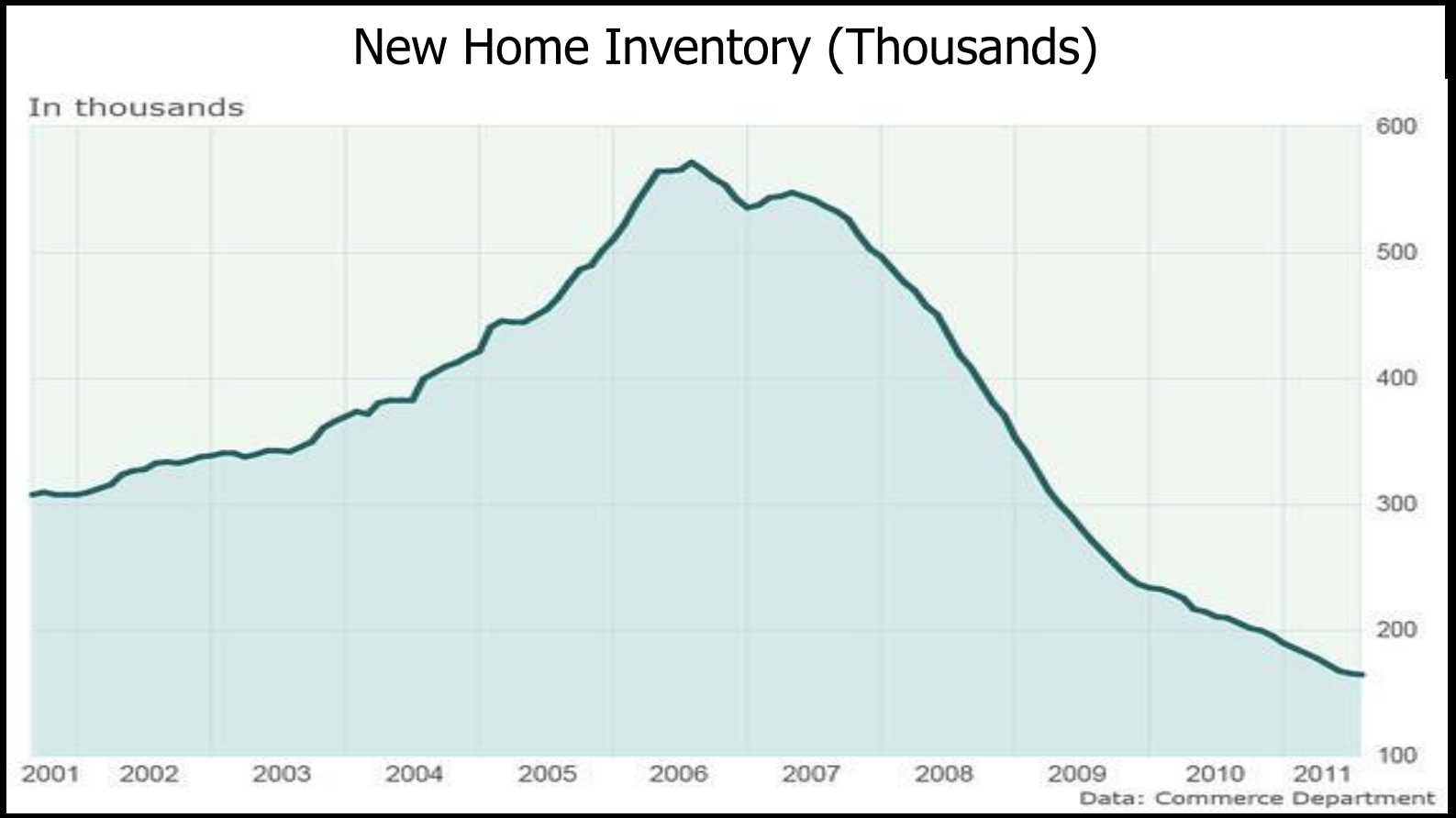
Which in Turn Caused ……
New Home Starts to Nosedive



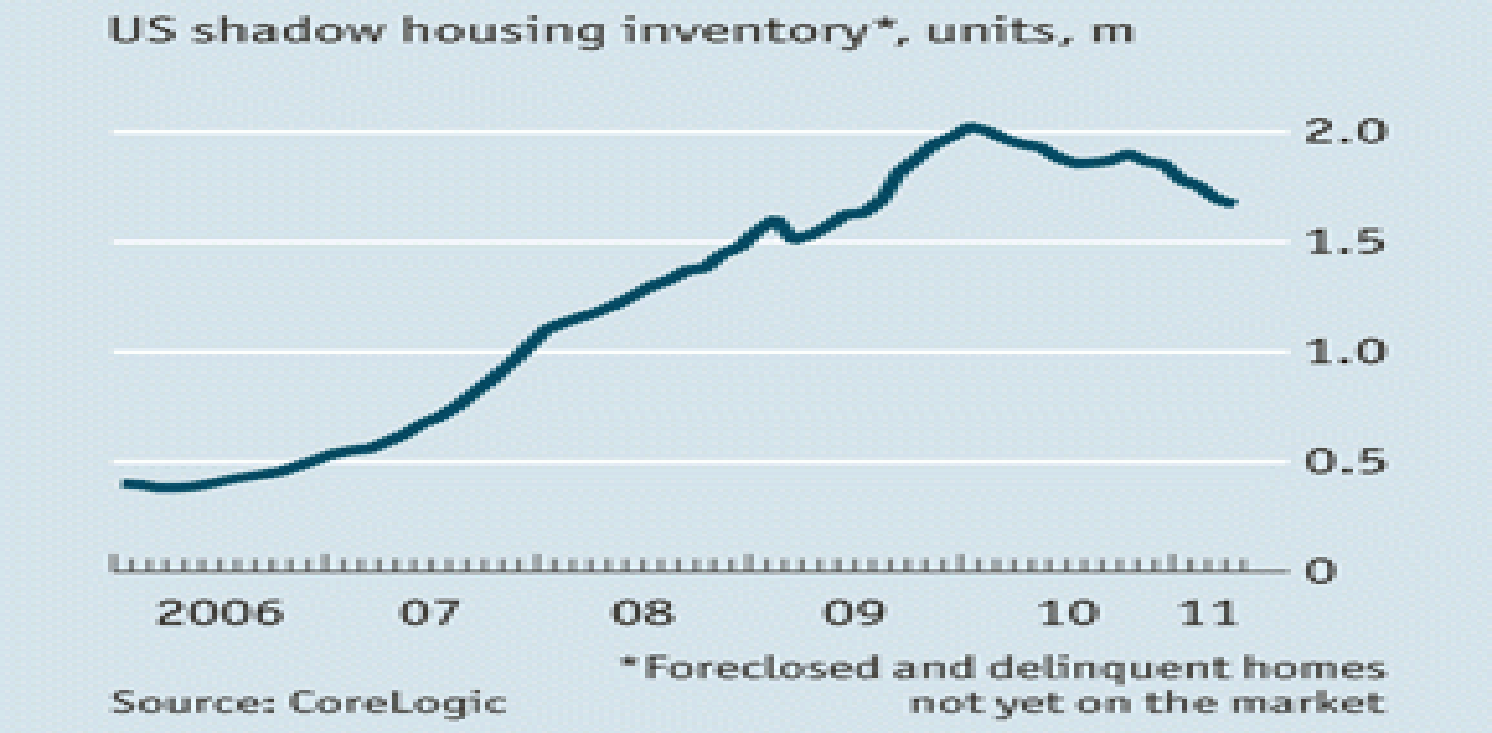
Which Continues to Depress the Housing Market



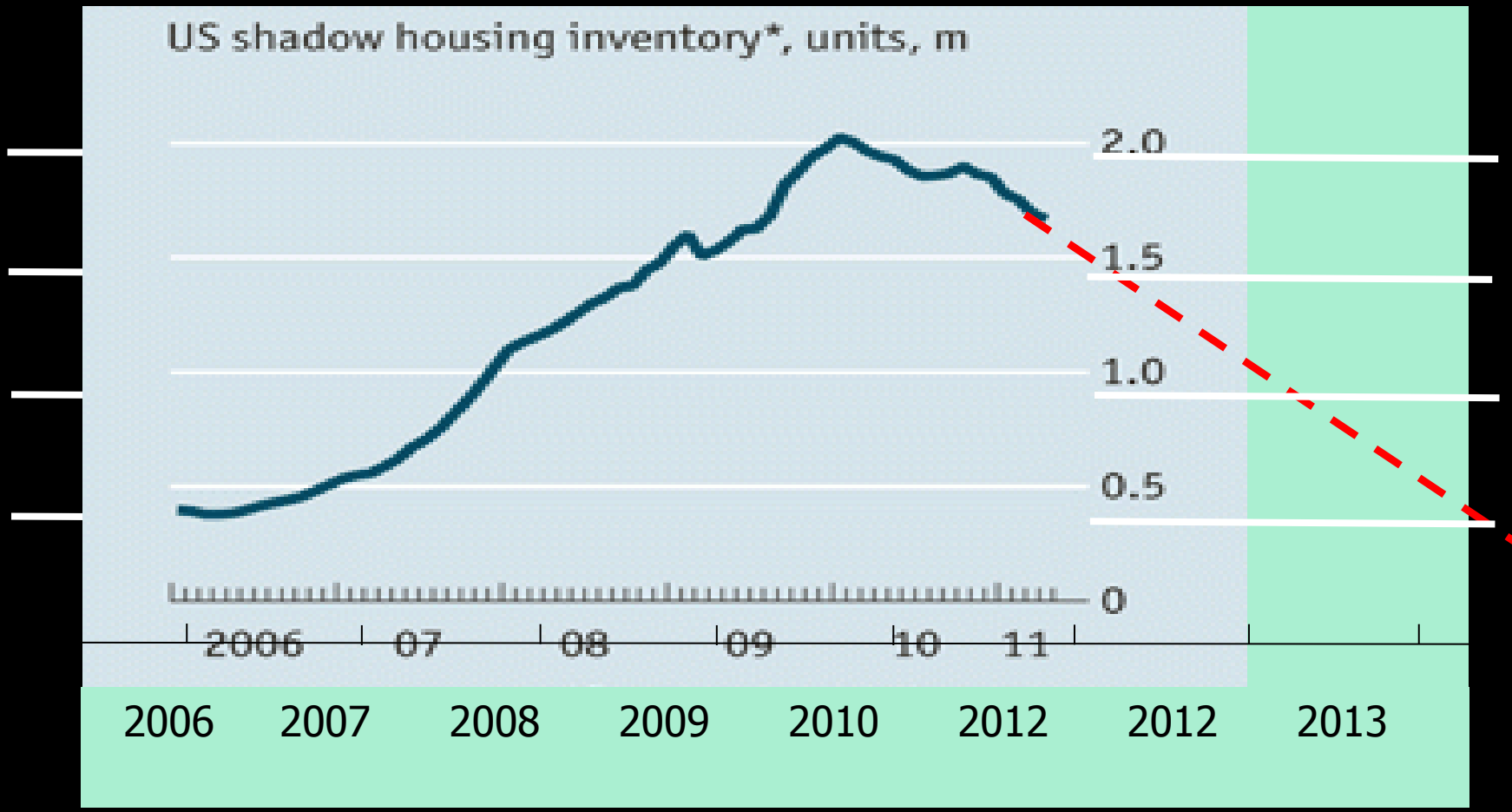
But….Here's a Very Good Sign….



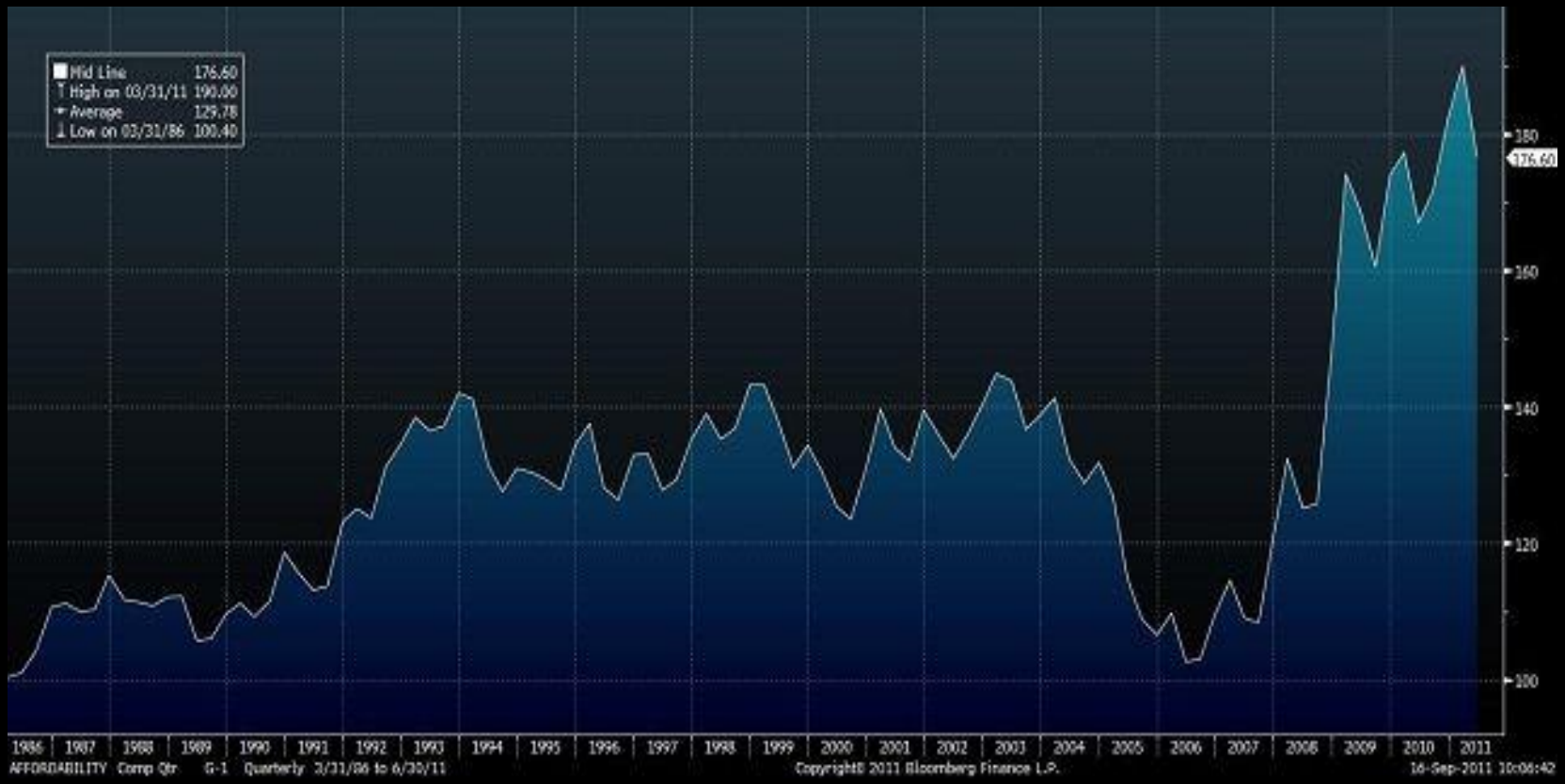
Although….. There is Still a Large "Shadow Inventory"



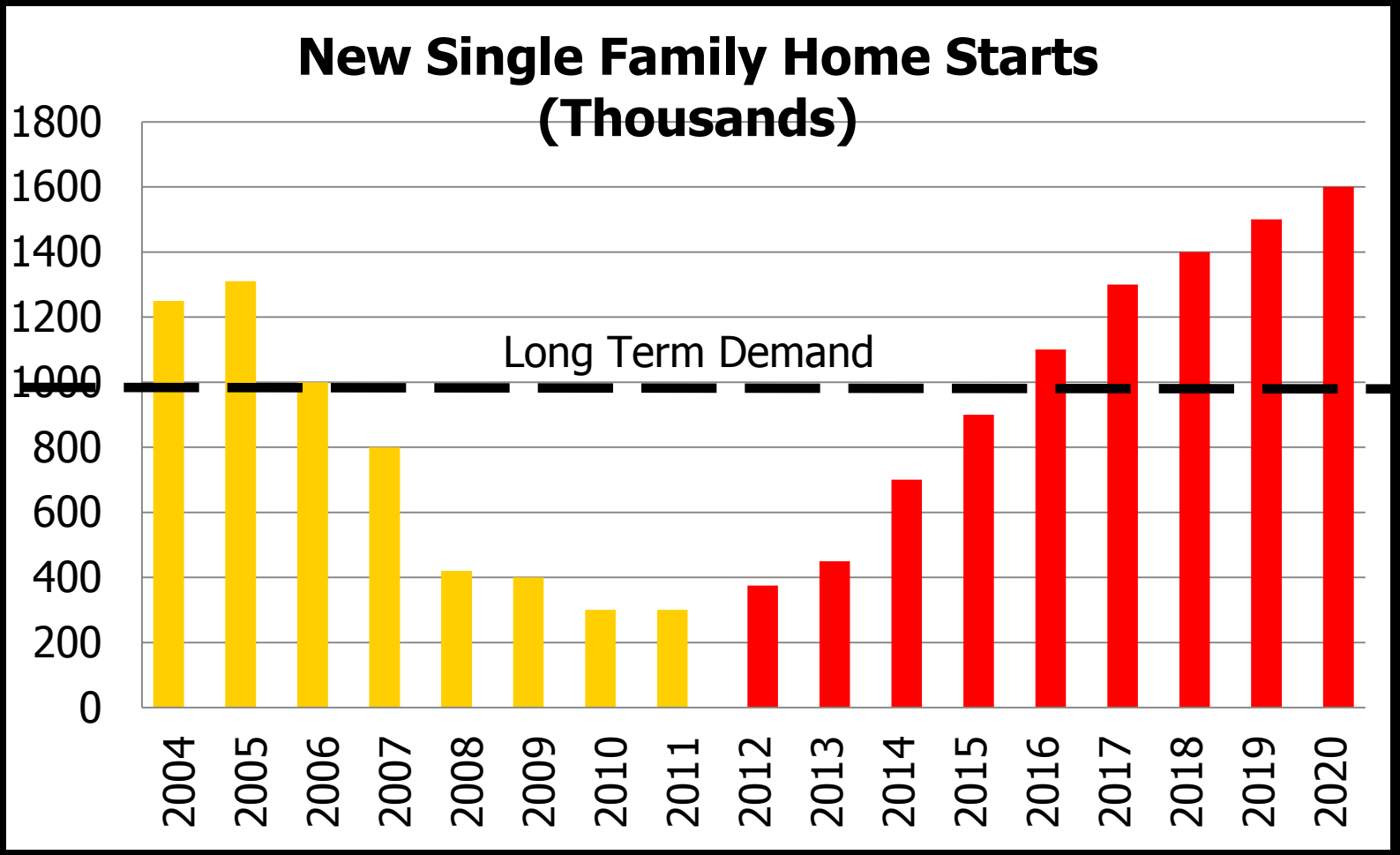
Current Trends WILL Continue…



And Greater Affordability Should (Soon) Increase Sales



Sooo……Here is Our Fearless PSMJ Forecast……



Our PSMJ Big Picture View of the Major Design and Construction Markets

Markets	Short-Term Prospects (-2 to +2)	Long-Term Prospects (-2 to +2)	10-Year Profitability (-1 to +1)	Total Points (-5 to +5)
Energy/Utilities	+2	+2	+1	+5
Industrial	+1	+2	+1	+4
Water/Wastewater	+1	+1	+1	+3
Healthcare	+1	0	+1	+2
Environmental	+2	+1	-1	+2
Transportation	+1	+1	-1	+1
Housing	-1	+2	0	+1
Education	-1	+1	0	0
Commercial	-1	+1	+0.5	-0.5
Govt. Buildings	-1	-1	+1	-1

Now Let's IMAGINE ....

a Bold New Future for Infrastucture Innovation.....

What does a BRIGHT FUTURE ECONOMY mean for the Infrastructure Workforce??

Some Real Stories to Think About…



Creativity in Infrastructure Economics…4 Real Stasiowski Stories

1. LG and the Chicago "L"……
2. Buying ALL the Bridges……
3. California "Free" ways…..
4. 60 Bridges in 12 Months in AUS…

And now….

7 Earthquakes coming in the Design and Construction World…..

- No more employees……
- No more drawings…….
- Geographic irrelevance…….
- Explosion in training…….
- Acceleration in Speed of Delivery…….
- TEXT as THE business tool…….
- Death of the ‘old’ business model of professional practice

Three 2020 Predictions and What They Mean to You…

1. Roaring 20's All Over Again
2. Retiring Baby Boomers
3. Real Shortage of Natural Resources

Prediction #1: Roaring 20's Again…



World Economic Growth Will Come Back Stronger Than Expected….

1. Coming Inflation will Raise Asset Values and Reduce National Debt…(Hint: Watch for Interest Rate Increases)
2. Birth Rates Will Continue to Boom Globally…
3. Aging Baby Boomers will Spend $$ Millions in Their Final Years….
4. Lending Will Resume With Ferocious Velocity but Under New Rules…
5. Corporations Will Invest the Billions Currently Held on the Sidelines…

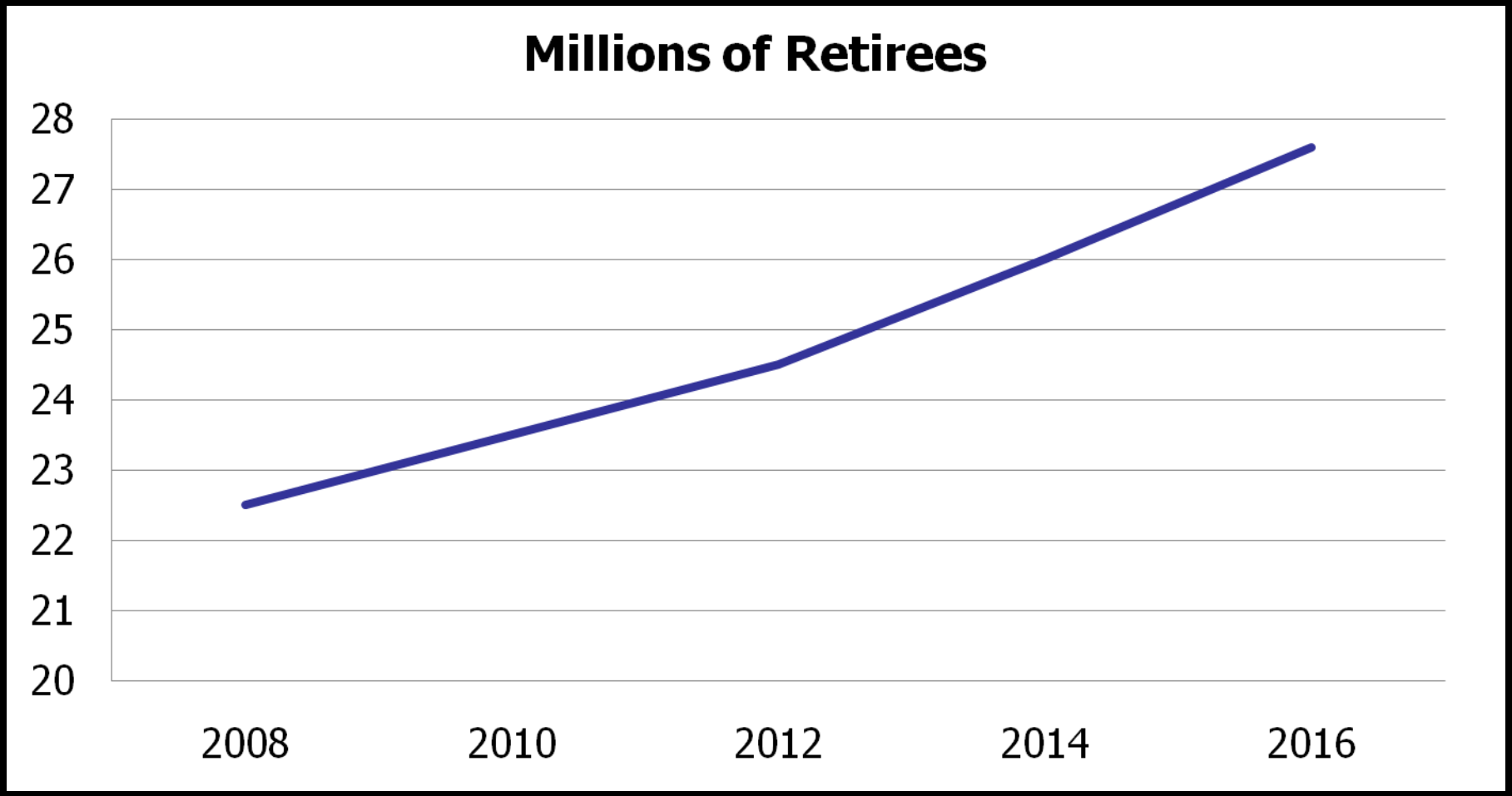
What You Should Do NOW….

1. Redefine What a JOB is for GEN Y's……
2. Benchmark Pricing to VALUE not COST….
3. Study Demographics Ferociously….
4. Buy Infrastructure Assets NOW…..
5. Marry Infrastructure Technology and Economics….
6. Move to a City Near You…….

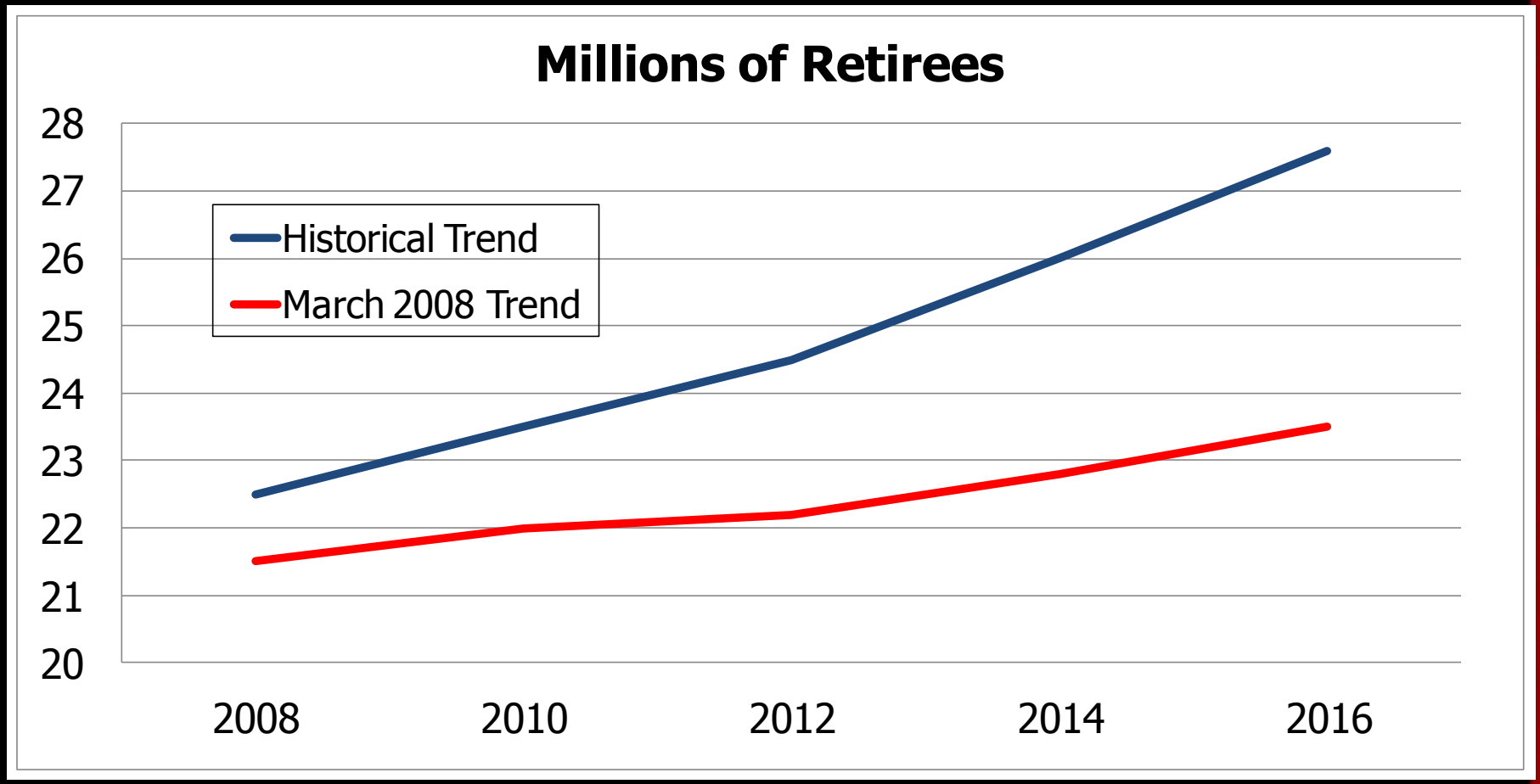
Prediction #2:
Non Retiring Baby Boomers



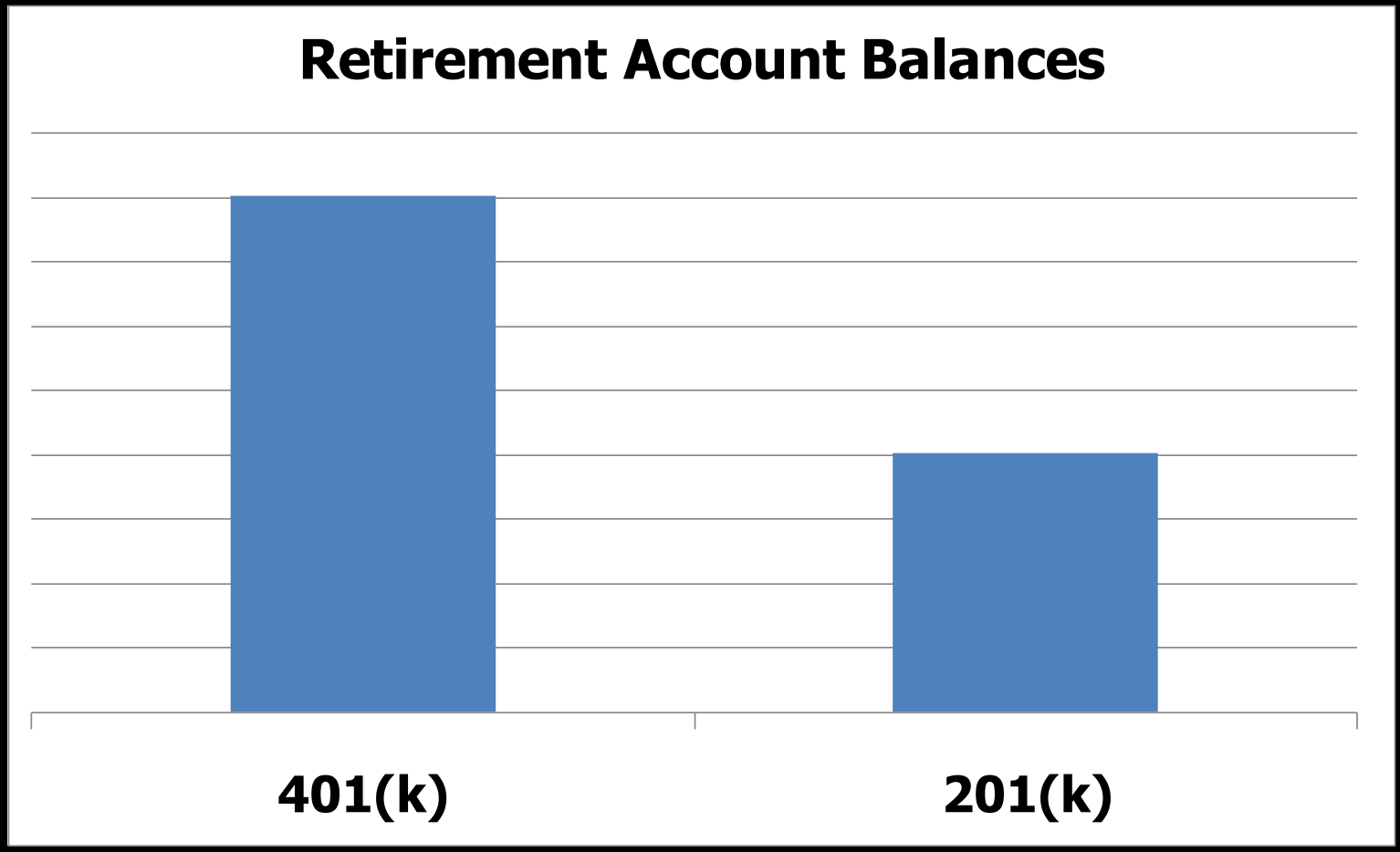
It Looked Like There Would be a Massive Wave of Retirees



...But That Wave of Retirees May Not Be So Big After All



Especially When Considering the Recent Decline in Retirement Accounts



What You Should Do NOW…

1. Team retirees with **GEN Y students**…..
2. More **Independent Contractors NOW**…….
3. Look at **"partial retirees"** as a way to balance the infrastructure workforce……..
4. Start signing up retirees as **"casual"** employees……
5. Relocate **TRAINING** in areas with lots of retirees and GEN Y's……..

Prediction #3:
Real Shortage of Natural Resources



Prices of Natural Resources Will Go Up Exponentially…

1. Petroleum Products Everywhere……..
2. Water Resources…….
3. Wind Energy…….
4. Food Supply Worldwide……..
5. Metals and Other Materials……
6. Clean Air…….

What Should You Do?

1. Get Involved in Conservation Everywhere….
2. Develop Financial Modeling around Less Resources...
3. Push All Students into New Economic Discussions based on Major Shortages of Everything….
4. Invest Energy and Resources in "Outside the Box" thinking that addresses Global Shortages…(Mining on an Asteroid ??)

But Isn't this .....Our Biggest Opportunity in 7 Decades...



Some Questions to Ponder……



Imagine…….What if ??????



Imagine……

What does 2020 look like for CUTC ??



How Fast is YOUR Future Changing?



What are the Principles That Will DRIVE you from Today Onward…..???



What Unexpected New Events will Shape Our Future……???



7 Urgent Actions you must take now……

- Adapt a CULTURE of permanent change……
- Restructure how you capitalize projects…..
- Embrace technological new ideas BEFORE your competitors…..
- Share your Intellectual Capital FREELY…..
- Build a network of knowledge you can tap fast..
- Control your world through speed of delivery….
- Marry Infrastructure and Economics….
- Redefine what a JOB is in GEN Y terms……

Remember……

"Change always brings bold new opportunities…..be vigilant !!!! Think GLOBALLY!!! And most importantly….

Do it even faster…..!!!!!"



--Frank A. Stasiowski, FAIA

2020…..IS….Today !!!……



Bold Thoughts ?? Questions?? or Mind Blowing Comments Please !!

- Call or connect with PSMJ Resources, Inc. at
  - 617-965-0055 or

www.psmj.com

- To contact Frank:
  - Phone: 617-965-0055
  - E-mail: fstasiowski@psmj.com

- For a copy of this Presentation, please email…..

education@psmj.com

NOW….it's up to you…..