



IN-Q-TEL IDENTIFIES, ADAPTS, AND DELIVERS INNOVATIVE TECHNOLOGY SOLUTIONS TO SUPPORT THE MISSIONS OF THE CENTRAL INTELLIGENCE AGENCY AND THE BROADER U.S. INTELLIGENCE COMMUNITY.

Why Tech Transfer is Critical: Are You Ready for **WWE**?

Peter Kuper

February 25, 2015

- ▶ **15 Years Wall Street Analyst**
 - So I know how to BS with the best of them

- ▶ **5 Years IQT**
 - So I've heard the BS from the best of them

- ▶ **6 Years Advisor to DoE Lab**
 - So I've seen the best of both (BS and real deal)

It Used To Be This



But Now It Is This



It Used To Be This



But Now It Is This



It Used To Be This



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But Now It Is This



- ▶ Practically every nation is ramping up cyber warfare operations
 - Russia is already well established cyber command as it sees cyberspace “will be a theater of war in future military confrontations”
 - China’s PLA Unit 61398 suggested to have attacked 141 non-Chinese organizations in 20 countries
 - NATO has run an annual cyberwar exercise with 29 nations since 2011
 - South Korea launched its cyberwarfare command in 2009
 - North Korea’s Unit 121 and the [Chilbosan Hotel](#) in Shenyang, China
 - India plans to gear up with 500,000 cyber warriors by 2017
 - Iran reportedly hacked many US major banks and an unclassified network of the US Navy and Marine Corp over the past two years.
 - Israel gets it...

“The heroes of Israel's future wars will not be dust-covered tankers, anonymous pilots or paratroopers in red berets.

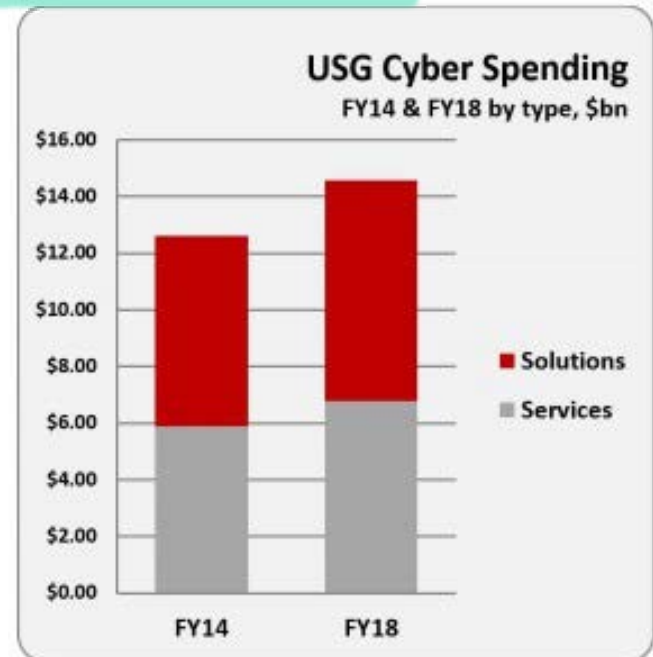
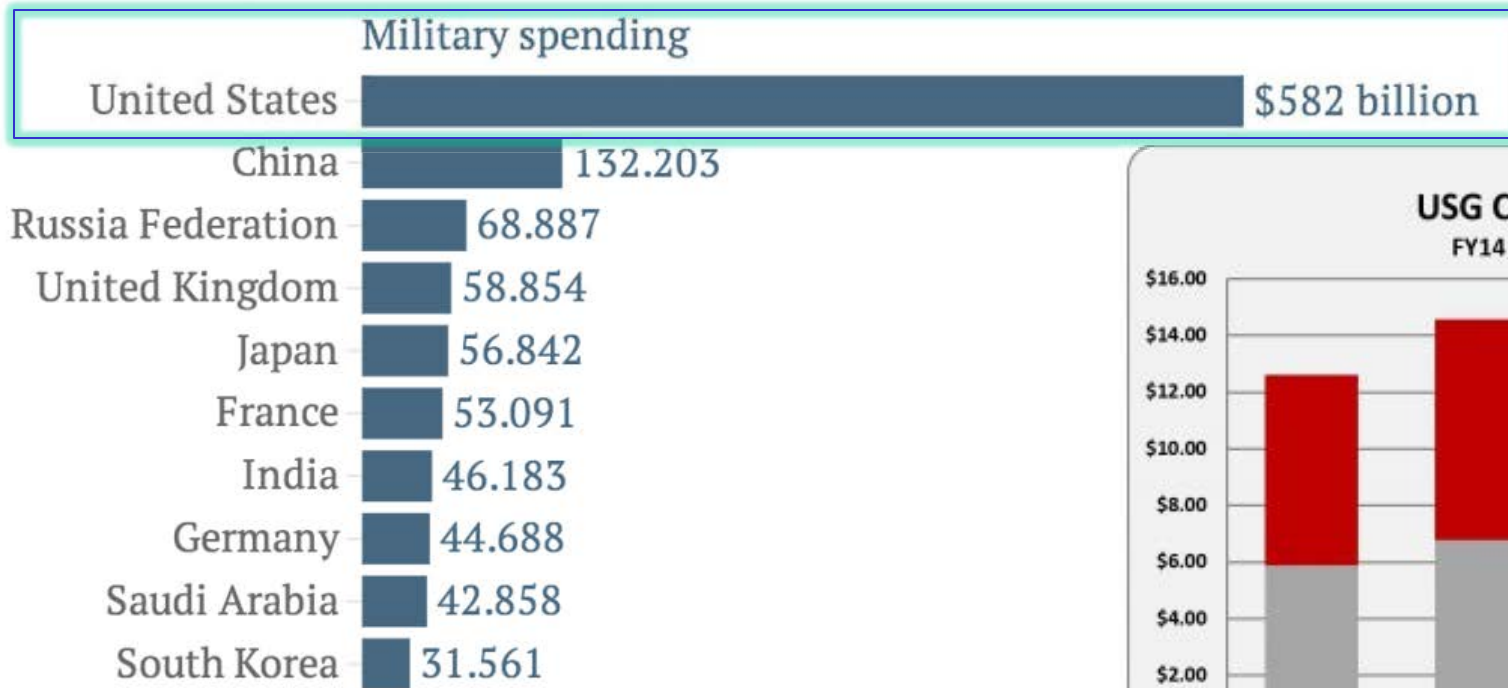
Those heroes would be the techies, hackers, web and high-tech geeks that lie around in the halls and rooms of Israeli intelligence, bombarding their bosses with ideas, developments and new devices.”

About That Increased Investment...

A \$1.4BN increase over 4 years??
 Given other countries' relative spend on cyber versus traditional military, we are being "outgunned"

The "bullish" case: With a cumulative market valued at \$65.5 billion (2015 – 2020), about 6.2% CAGR.

Defense budgets in 2013



Note: The DIA recently suggested China military spend more likely \$240BN in 2013

Quartz | qz.com

Military Equipment for Local Police

As the nation's wars abroad wind down, many of the military's surplus tools of combat have ended up in the hands of state and local law enforcement. Totals below are the minimum number of pieces acquired since 2006 in a selection of categories.



Other Hot “Security” Investment Areas



435

Other armored vehicles

Including cars and trucks



44,900

Night vision pieces

Including sights, binoculars, goggles, lights and accessories



533

Aircraft

Planes and helicopters



93,763

Machine guns

5.56 mm and 7.62 mm rifles



180,718

Magazines

No ammunition

Ferguson, MO Pop: 21,000

- ▶ How to “police” 21,000 people?
- ▶ Since 2003, \$9.4 million for police in St. Louis County including two helicopters, a Bearcat, and night vision equipment.
- ▶ “The focus is terrorism, but it’s allowed to do a crossover for other types of responses...It’s for any type of civil unrest...the grant [has] no restriction put on that by the federal government.”
 - *Nick Gragnani, executive director of St. Louis Area Regional Response System*

AGAIN, Ferguson, MO Pop: 21,000

▶ What grant?

- Department of Homeland Security has distributed more than \$34 billion through “terrorism grants,” enabling local police departments to acquire equipment

▶ But wait – there’s more!!!

- Enter the 1033 program. The Department of Defense provides military-grade weapons and equipment to local law enforcement agencies
- “1033 program has transferred more than \$5.1 billion worth of property. In 2013 alone, \$449,309,003.71 worth of property was transferred to law enforcement.”

Damn the Pumpkins!

- ▶ This is not an isolated scenario
- ▶ Keene, a small New Hampshire town (pop. 23,000) had 3 homicides from 1999 to 2012
- ▶ Yet, in 2011 it spent ~\$286,000 of tax dollars on a BearCat armored personnel-carrier
- ▶ The police chief of Keene justified the acquisition to patrol the town's "Pumpkin Festival and other dangerous situations"

- [*The Economist*](#)

Oh The TERROR!!!



We Got This...



...And This is What You Get

“Bring out the BearCat”

“Indeed, in the Keene case, the mere presence of advanced weaponry only seemed to aggravate the situation.”

Former Boston police commissioner:
“The donning of riot helmets and the use of chemical munitions had the effect of creating confusion and perpetuating the unruly behavior of the crowd”.

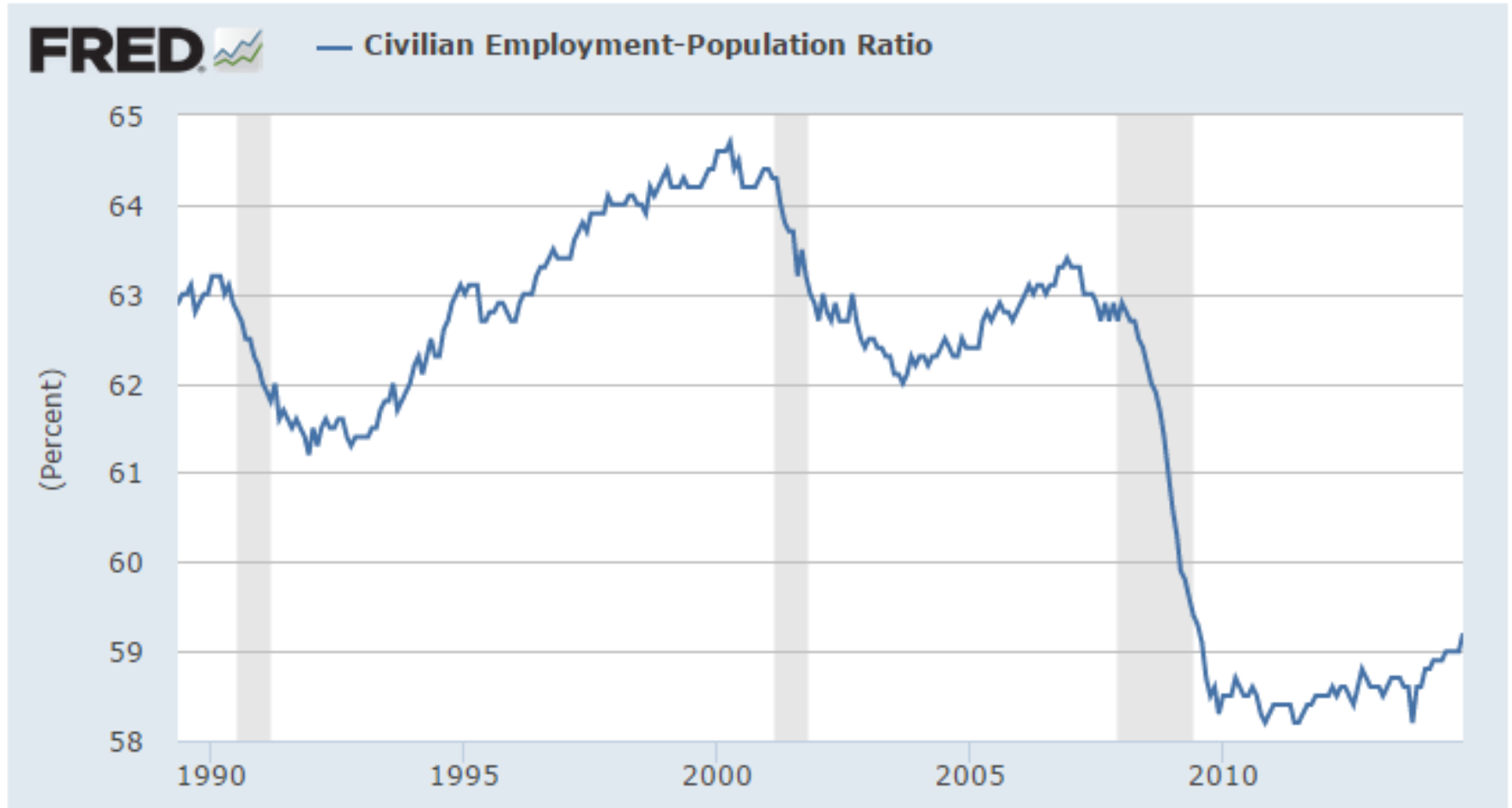
**"It's just like a rush.
You're revolting from
the cops".**



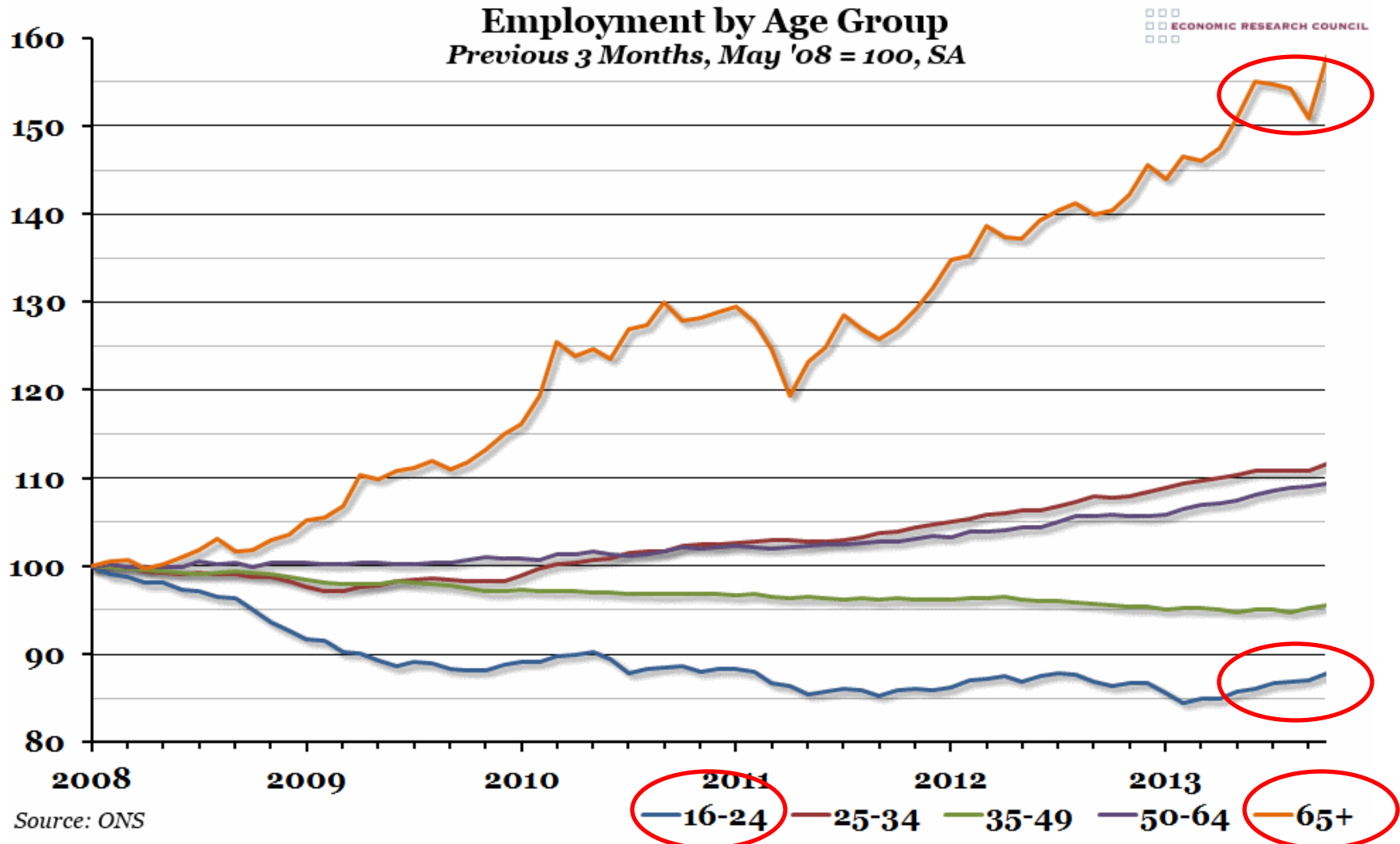
Maybe because the “recovery”
never actually happened...

About Those Jobs Created...

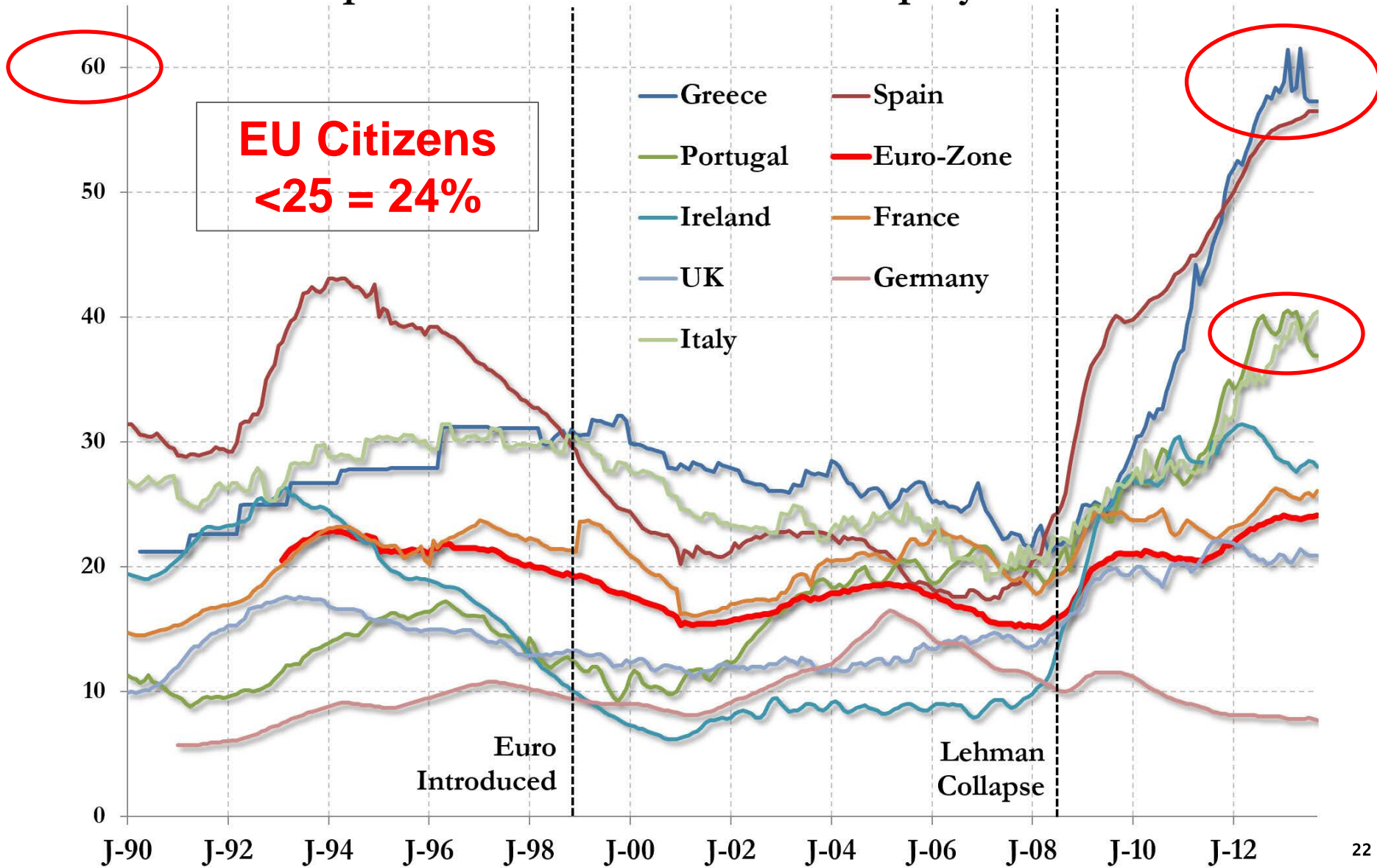
59.2% of Americans are working



And Any Jobs Going to “Retirees”



European Under-25 'Youth' Unemployment Rates



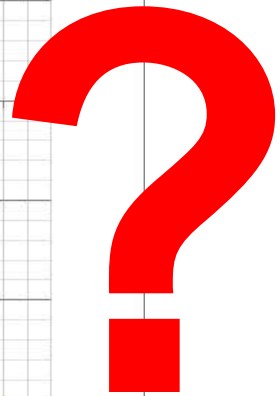
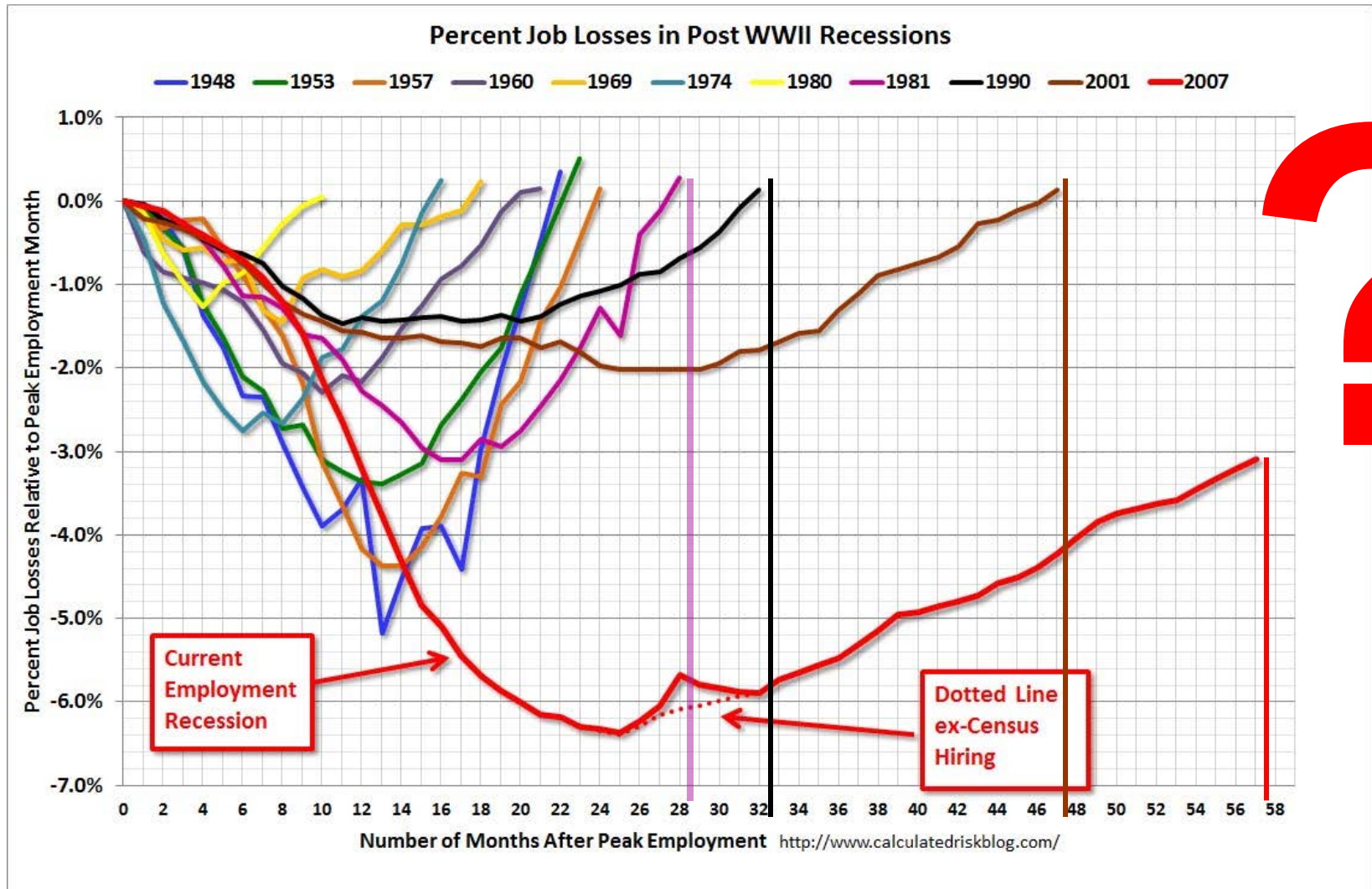
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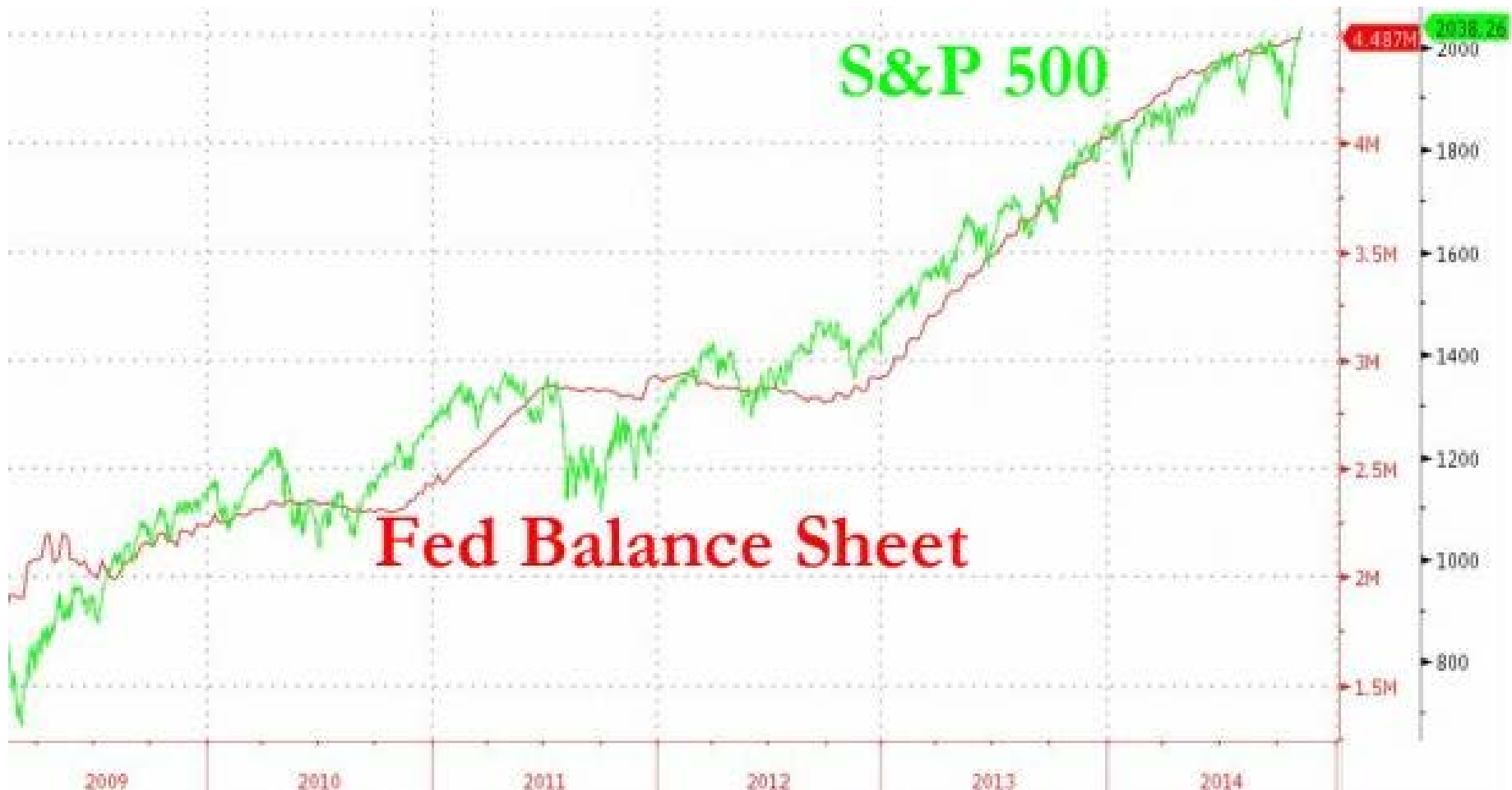
But Now It Is This



Hang Overs Only Getting Worse

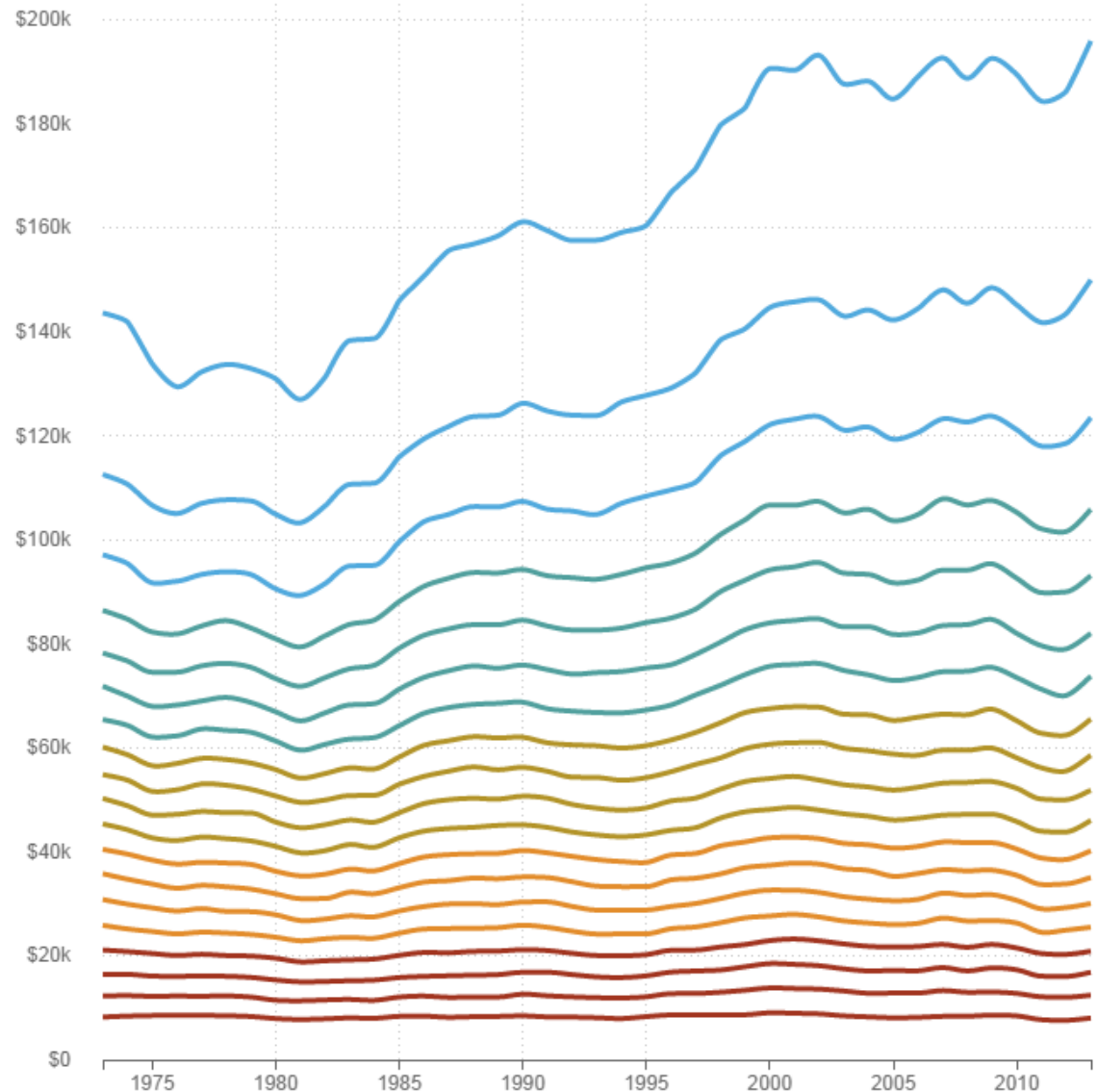


But the Stock Market Says All is Great!



Look Who's Doing Better

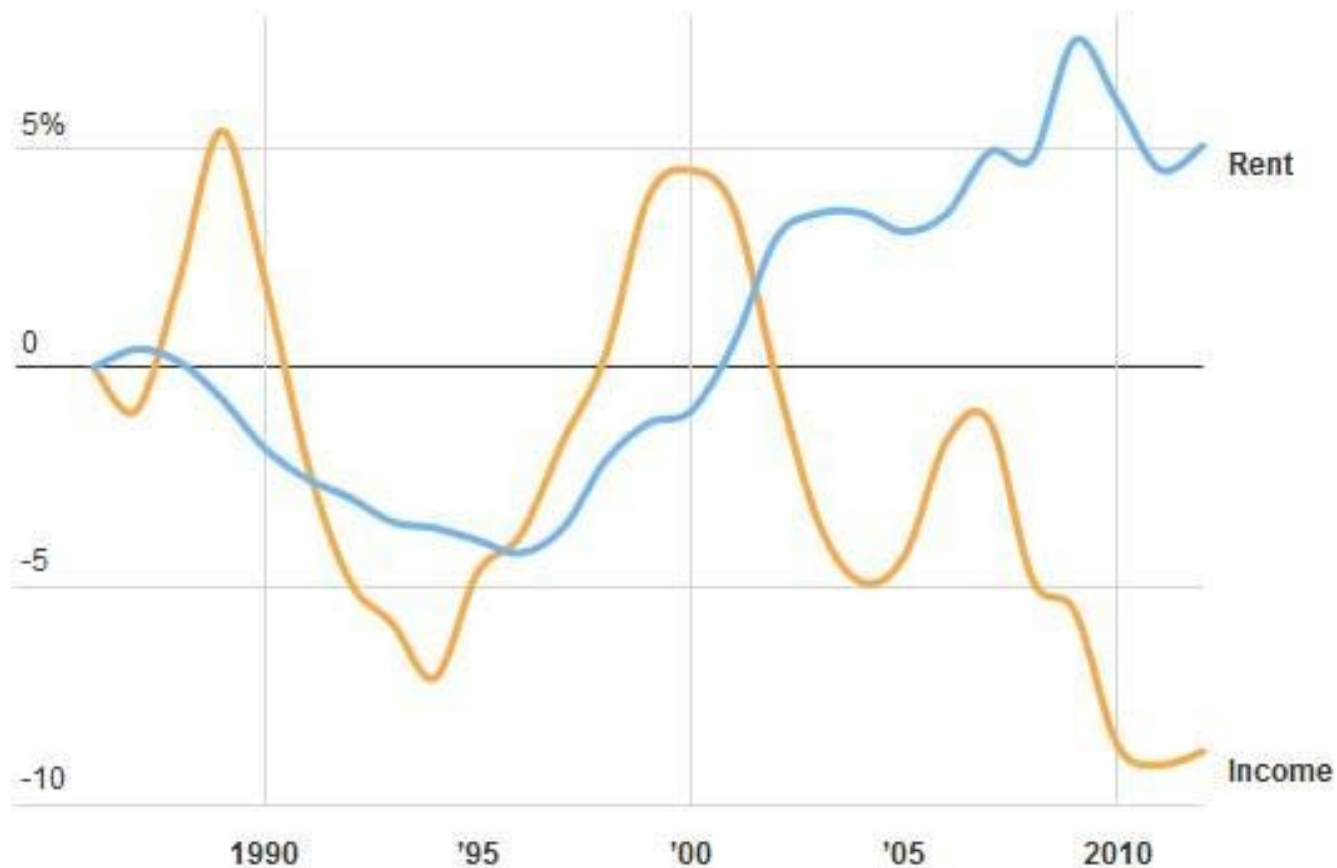
- ▶ What Income inequality?
- ▶ If you're in the top 15% you're fine
- ▶ Anyone below 85th% is making less than peak earnings
- ▶ **Anyone below 50th% is the same or below 1973 income levels**
- ▶ Anyone below 40th% is earning less than they did in 1973



Up and To The Right (or down and to the left)

Rent Prices Are Going Up, But Your Income Isn't

The percent change in median renter income compared to median monthly rent since 1986.

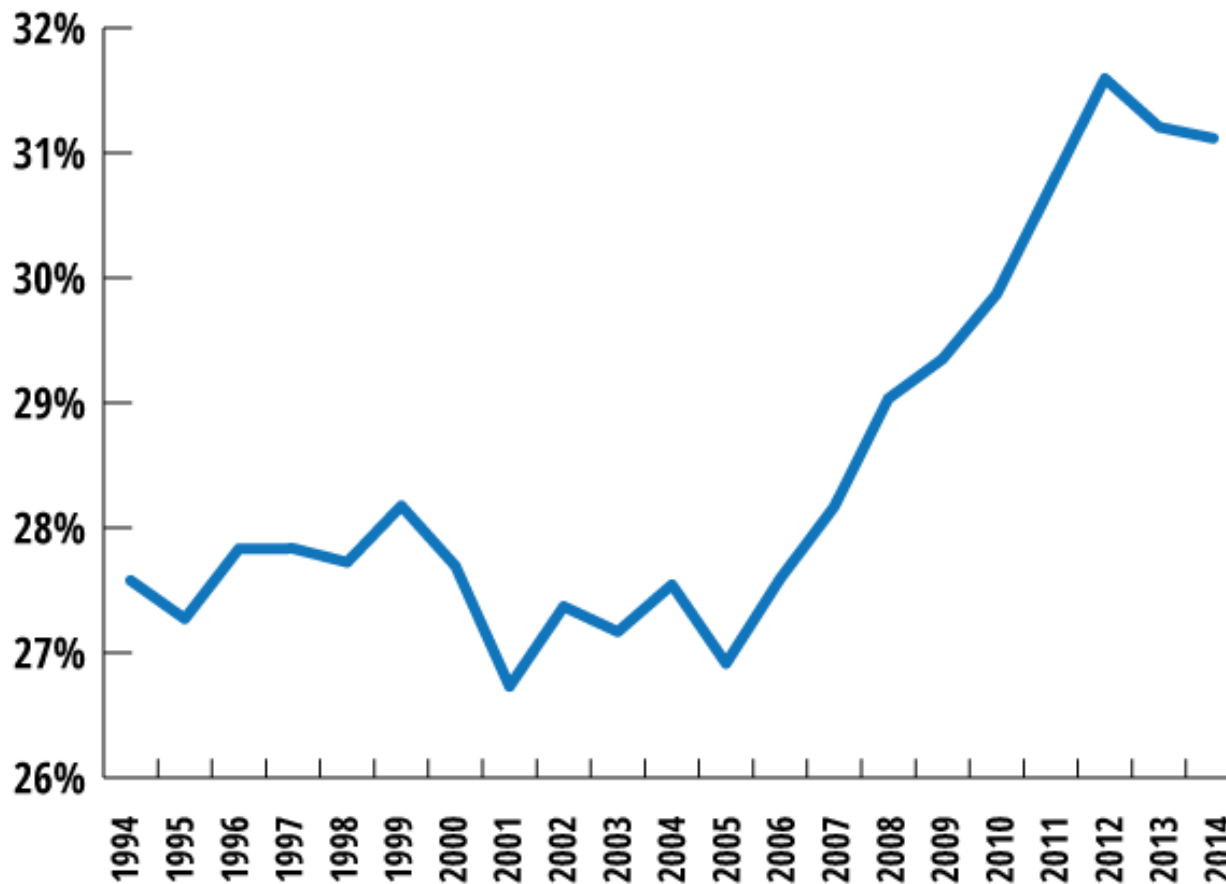


Created with [Datawrapper](#)

Source: [Joint Center for Housing Studies of Harvard University](#)

Angry, Indeed...

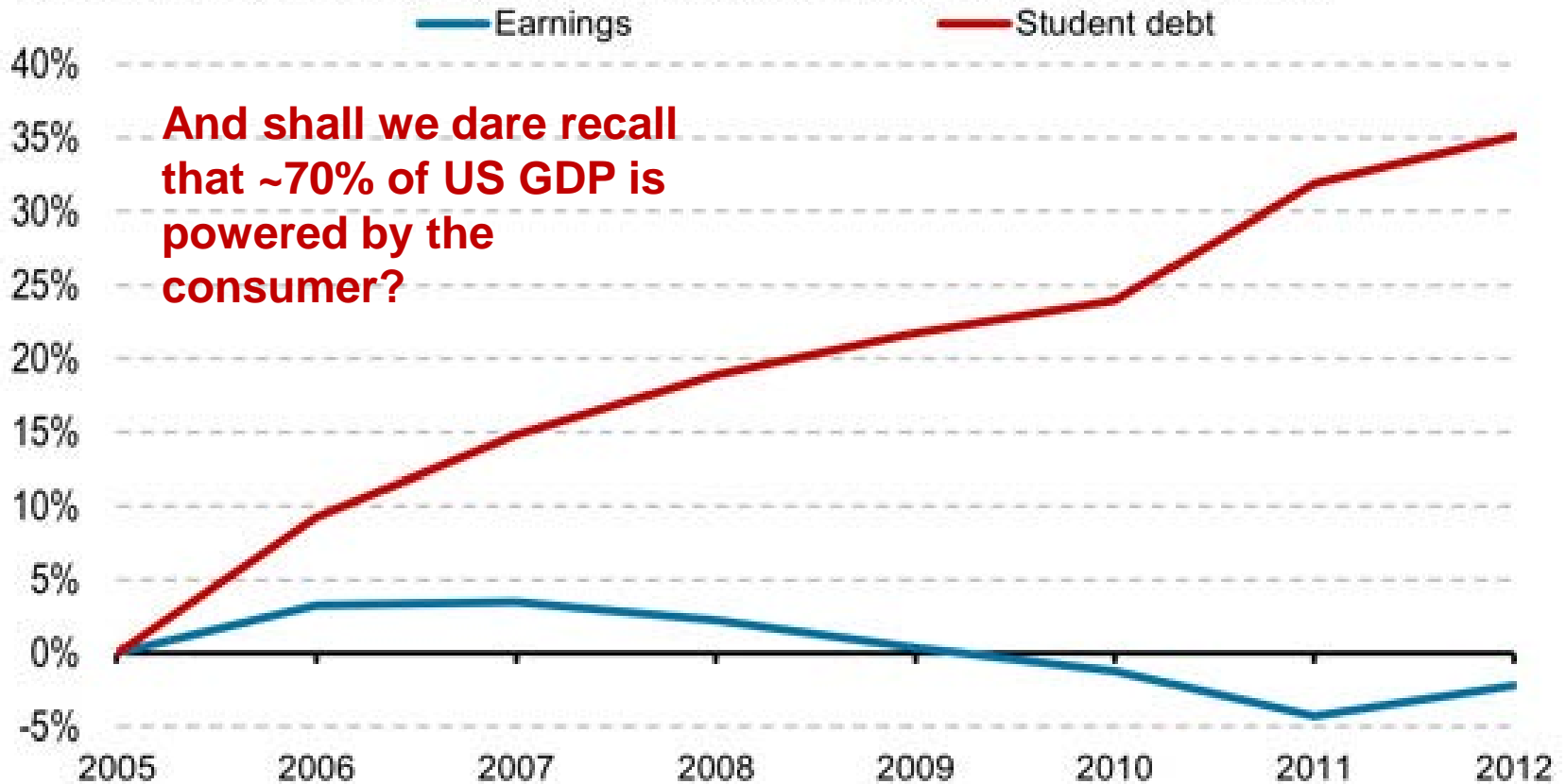
9trulia 18-34 Year-Olds Living With Parents



And That is Likely to Persist

What Young People Make and What They Owe

Percent change from 2005 in median annual earnings of people 25-34 years old holding just a bachelor's degree and average student loan balance for people under 30 years old.



And shall we dare recall that ~70% of US GDP is powered by the consumer?

Source: National Center for Education Statistics (earnings); NY Fed (student debt) | WSJ.com

And You Wonder Why...

- ▶ People feel like they are not getting ahead.
- ▶ Americans feel they are no longer dealing “our” government, but “THE” government.
- ▶ There is unrest in the streets (and fields).
- ▶ You’re an educated, unemployed, broke 20something. What are you going to do?
- ▶ Ferguson, Keene, etc., are essentially a barometer of what is really going on.

What does this have to do with cyber security?

Everything.

Why Take On This?



Reuters

When you can do this?

From the Comfort of Your Favorite Coffee Shop





Michael Curry @mcurryfelidae07 · 2h

Remember: Mike Brown was assaulted & murdered by an officer *because* he was jaywalking. #pumpkinfest #WhitePrivilege

↩ Reply ↻ Retweet ★ Favorite

Knowledge Is Free.

We Are Anonymous.

▶ **Virtual Vigilance**
• Some say the protest is already figured out

We Do Not Forgive.

We Do Not Forget.

Expect Us.



Define “Nation-State”



#OpIsrael

“The OpIsrael campaign was launched by the hacking collective in retaliation for attacks on Gaza.”

- *BBC News*

Think Your Company is Not A Target?

The hackers who successfully infiltrated the network of JPMorgan Chase and hit 83 million records also breached the networks of approximately nine other financial institutions, none of which has been publicly named.

The report quotes unnamed U.S. officials, who suspect the hackers were operating from Russia and “appear to have” ties to the Russian government:

“It could be in retaliation for the sanctions” placed on Russia, one senior official briefed on the intelligence said.

- ▶ It's not just traditional targets...
 - Montana confirmed that 1.3 million people were being notified of a breach after hackers accessed a public health department server
 - Community Health Systems Inc, one of the biggest U.S. hospital groups, said a cyber attack from China in the theft of 4.5 million records
 - Anthem database hack exposing 80 million customers and employees.

Sony's Snowden Moment

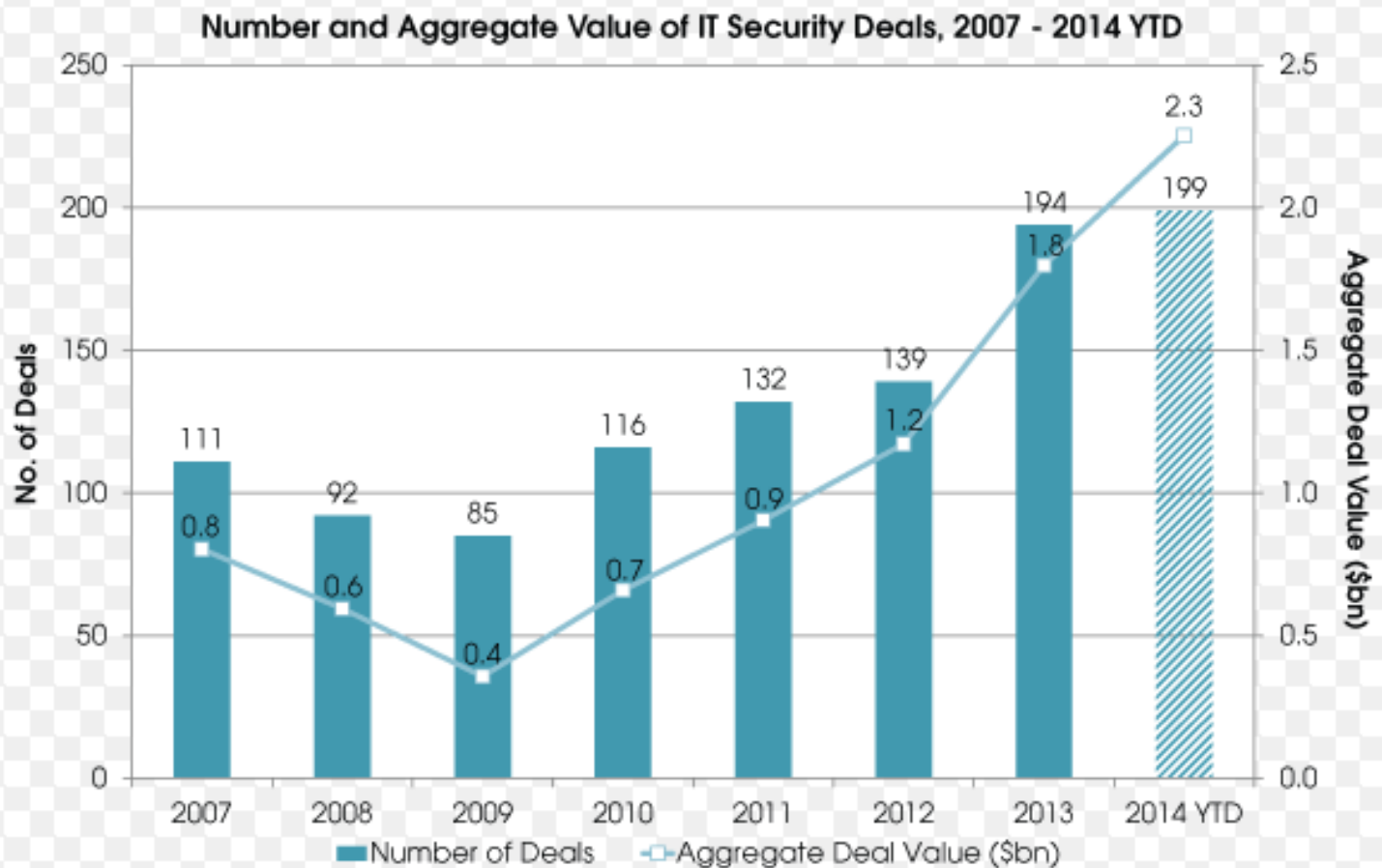
“I ran this company and I had to worry about everybody ... People were really scared. ... But nagging in the back of my mind, I kept calling [IT] and being like, ‘They don’t have our emails, tell me they don’t have our emails,’” she said. “But then they did. That was a bad moment. And you know what you write in emails.”

– *Amy Pascal, ex-Sony Pictures co-chair*

Not Wanting to be the Next Sony

- ▶ And so now we get this:
 - Piper Jaffray: Security the top spending priority for CIOs this year “with a whopping 75% of the respondents saying they would increase spending in 2015.”
 - ComputerWorld survey in Nov 2014 found overall security budgets will increase 46% in 2015
 - Gartner: Companies to spend **\$77BN** in ITsecurity in 2015 going to **\$93BN by 2017**
 - Cyber security insurance projected to double in 2014 to \$2BN

199 security deals in 2014 (Q3YTD); 46 Series A, +21% from 2013
- more deals at this stage than in any other year since 2007

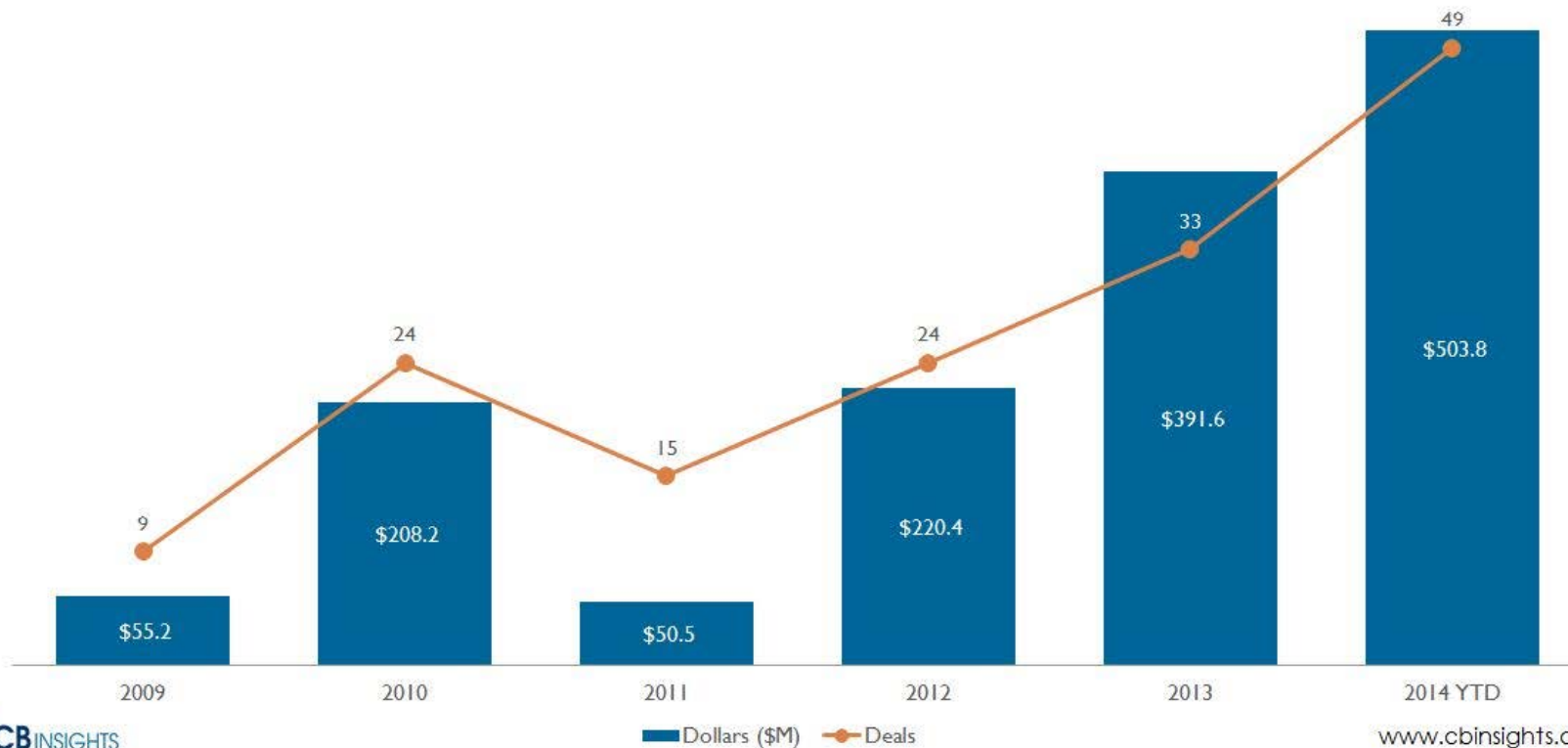


Source: Preqin Venture Deals Analyst

Corporate VC's Back With a Vengeance

Corporate Cybersecurity Investment and Deal Volume Trend

\$M, 2009-2014 YTD



And Look Who's a Player

The Most Active Corporate Investors in Cybersecurity Since 2009

Rank	Investor
1	Intel Capital
2	Google Ventures
3	Qualcomm Ventures
4	Juniper Networks
5	In-Q-Tel
6	NTT DoCoMo Ventures
6	Siemens Venture Capital
6	T-Venture
9	Citrix Systems
9	Samsung Ventures
9	Salesforce Ventures
9	Cisco Investments
9	Citi Ventures
9	Symantec

VC's Making It Rain

- Public market valuations for security very rich
 - FEYE: 30% premium
 - PANW: 76% premium
 - PFPT: 26% premium
 - SPLK: 70% premium
- Oh, and that is for revenues (in 2016), not earnings...
- 2016 P/E analysis:
 - FEYE: NMF
 - PANW: 72.7X
 - PFPT: NMF
 - SPLK: 621.1X

Software Vendors with Revenue Growth >20%				Revenue					
				2014E		2015E		2016E	
	2/13	Mkt. Cap (\$MM)	EV/Sales	Rev Grw. Est	EV/Sales	Rev Grw. Est	EV/Sales	Rev Grw. Est	
ATHN	Athenahealth Inc.	\$134.61	\$5,141	7.0x	26.5%	5.7x	22.1%	4.7x	21.4%
BNFT	Benefitfocus, Inc.	\$21.08	\$539	3.8x	29.5%	3.0x	26.3%	2.4x	24.6%
CRM	Salesforce.com inc.	\$62.85	\$41,389	7.7x	31.9%	6.3x	21.1%	5.1x	23.1%
CSLT	Castlight Health, Inc. Class B	\$9.19	\$830	14.6x	240.8%	8.1x	80.5%	4.8x	68.7%
CSOD	Cornestone Ondemand, Inc.	\$35.03	\$1,876	6.9x	42.5%	5.4x	28.2%	4.3x	26.0%
CVT	Cvent, Inc.	\$28.33	\$1,171	7.0x	27.6%	5.6x	25.4%	4.5x	22.6%
DATA	Tableau Software, Inc. Class A	\$99.90	\$6,927	15.1x	77.5%	10.6x	42.2%	7.8x	35.6%
DWRE	Demandware, Inc.	\$55.99	\$2,033	11.4x	49.6%	7.8x	46.2%	5.6x	39.2%
ECOM	ChannelAdvisor Corporation	\$9.69	\$241	2.1x	24.8%	1.8x	13.0%	1.5x	19.5%
EOPN	E2open, Inc.	\$8.55	\$251	2.9x	12.9%	2.7x	7.0%	2.4x	13.4%
FEYE	FireEye, Inc.	\$42.26	\$6,357	14.0x	163.5%	9.6x	45.6%	7.0x	37.7%
FLTIX	FleetMatics Group Ltd.	\$38.99	\$1,472	5.8x	30.6%	4.6x	24.7%	3.9x	19.1%
HDP	Hortonworks, Inc.	\$22.81	\$1,302	23.1x	96.2%	14.2x	62.5%	9.1x	55.1%
JIVE	Jive Software, Inc.	\$5.34	\$387	1.5x	22.5%	1.4x	9.7%	1.2x	12.2%
LNKD	LinkedIn Corporation Class A	\$269.00	\$29,139	12.1x	45.2%	9.0x	34.2%	6.9x	30.4%
LOCK	LifeLock, Inc.	\$14.10	\$1,320	2.2x	28.8%	1.8x	22.8%	1.5x	18.4%
MDSO	Medidata Solutions, Inc.	\$46.58	\$2,527	7.4x	21.0%	6.2x	19.7%	5.2x	19.8%
MKTO	Marketo, Inc.	\$28.24	\$1,160	7.0x	56.3%	5.1x	36.7%	3.9x	31.7%
N	NetSuite Inc.	\$101.72	\$7,972	14.0x	34.2%	10.8x	29.4%	8.5x	27.8%
NEWR	New Relic, Inc.	\$33.75	\$1,554	12.6x	NA	9.3x	34.5%	7.2x	30.3%
NOW	ServiceNow, Inc.	\$77.55	\$11,529	16.2x	60.7%	11.4x	42.8%	8.1x	40.5%
PANW	Palo Alto Networks, Inc.	\$135.27	\$10,895	17.7x	51.0%	12.5x	41.9%	9.5x	31.9%
PAYC	Paycom Software, Inc.	\$32.37	\$1,743	11.6x	40.3%	8.9x	29.9%	7.0x	27.5%
PCTY	Paylocity Holding Corp.	\$28.59	\$1,443	12.5x	NM	9.2x	35.5%	7.3x	26.8%
PFPT	Proofpoint, Inc.	\$55.97	\$2,164	10.8x	41.8%	8.5x	27.1%	6.8x	25.3%
RNG	RingCentral, Inc. Class A	\$16.04	\$798	3.1x	37.0%	2.4x	28.5%	1.9x	24.4%
SPLK	Splunk Inc.	\$64.18	\$7,783	15.9x	45.6%	12.0x	31.8%	9.2x	31.0%
TRAK	Dealertrack Technologies, Inc.	\$42.84	\$2,315	3.4x	75.7%	2.8x	20.4%	2.3x	15.1%
TXTR	Textura Corp.	\$26.21	\$668	9.6x	76.4%	6.8x	42.0%	4.7x	42.6%
ULTI	Ultimate Software Group, Inc.	\$163.76	\$4,646	7.5x	23.3%	6.1x	22.0%	5.0x	21.5%
VEEV	Veeva Systems Inc Class A	\$30.12	\$4,346	12.7x	48.3%	9.9x	28.4%	7.7x	27.7%
WDAY	Workday, Inc. Class A	\$91.84	\$16,927	19.9x	66.9%	13.2x	50.8%	8.9x	48.3%
YDLE	Yodlee Inc	\$13.07	\$382	3.5x	NM	2.9x	21.7%	2.4x	20.5%
ZEN	Zendesk, Inc.	\$25.38	\$1,849	13.6x	76.3%	9.2x	48.5%	6.7x	37.3%
Comparable Companies Average:				9.9x	55.0%	7.2x	32.4%	5.4x	29.3%

List composition based on Wells Fargo Securities, LLC estimates (for CRM, HDP, JIVE, MKTO, MRIN, N, NOW, VEEV, and WDAY) and FactSet estimates of revenue growth (for all others).
Source: Wells Fargo Securities, LLC estimates and FactSet

Why Do People Rob Banks?

WANTED BY THE FBI

BANK ROBBERY

UNLAWFUL FLIGHT TO AVOID CONFINEMENT - ARMED ROBBERY

Photograph taken October 24, 1945

Photograph taken April 3, 1945



WILLIAM FRANCIS SUTTON

It Used To Be This



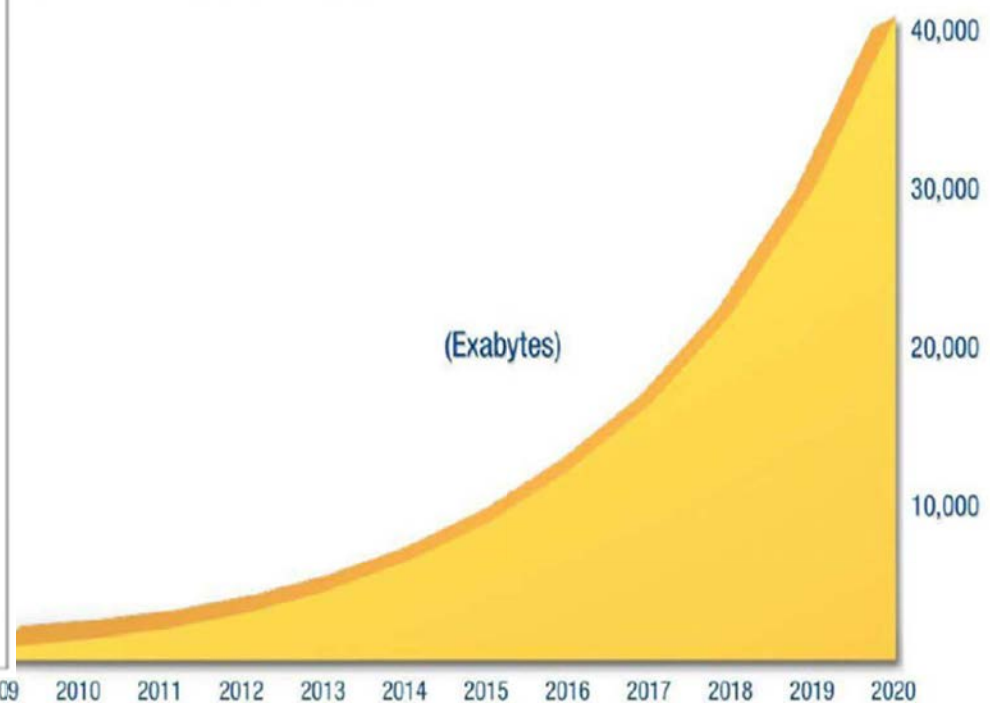
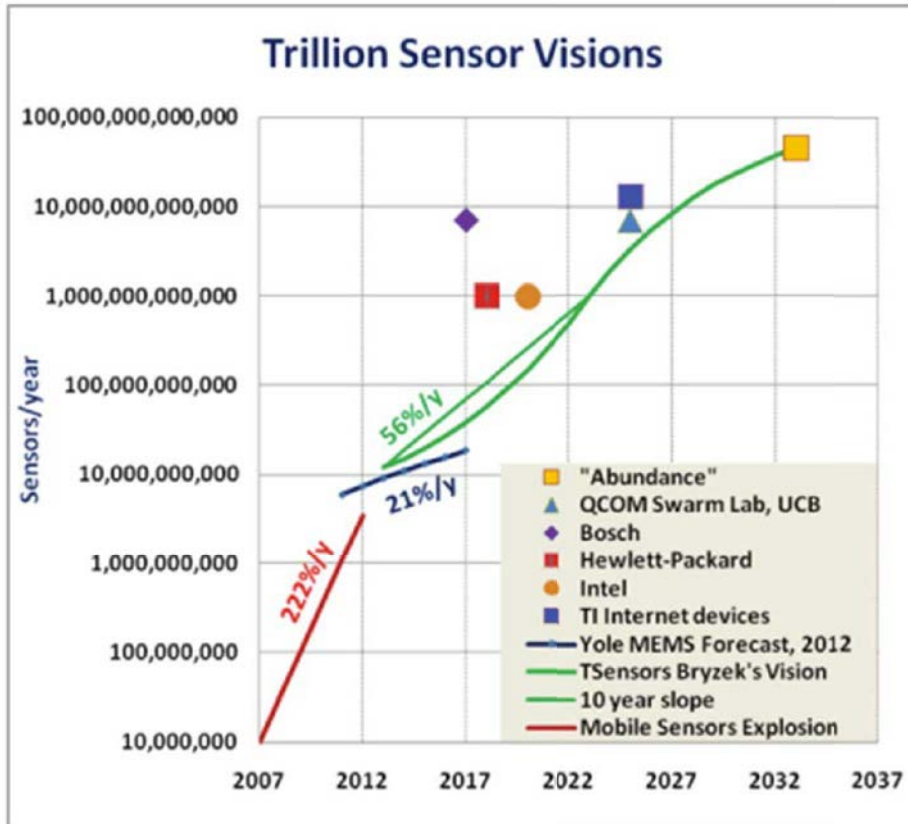
But Now It Is This



More Sensors...

...More Data

44 Zettabytes by 2020



This IDC graph predicts exponential growth of data from around 3 zettabytes in 2013 to approximately 40 zettabytes by 2020. An exabyte equals 1,000,000,000,000,000 bytes and 1,000 exabytes equals one zettabyte. Source: IDC's Digital Universe Study, December 2012, <http://www.emc.com/collateral/analyst-reports/idc-the-digital-universe-in-2020.pdf>.

*Note 1 ZB = 1 BN TBs

VC Money Already Flowing to IoT

VC Investments In IoT Startups Are Piling Up

Investments In IoT Startups (\$Millions)



BI INTELLIGENCE

Source: CrunchBase, TechCrunch

But Automation Already Revealing Issues

YAY!

A new technology to catalogue vulnerabilities!

- From CSA Survey:

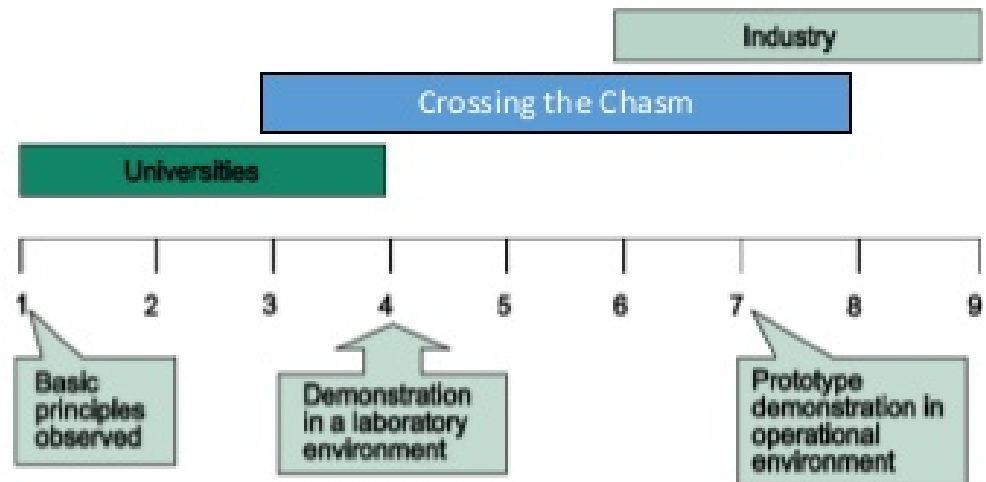
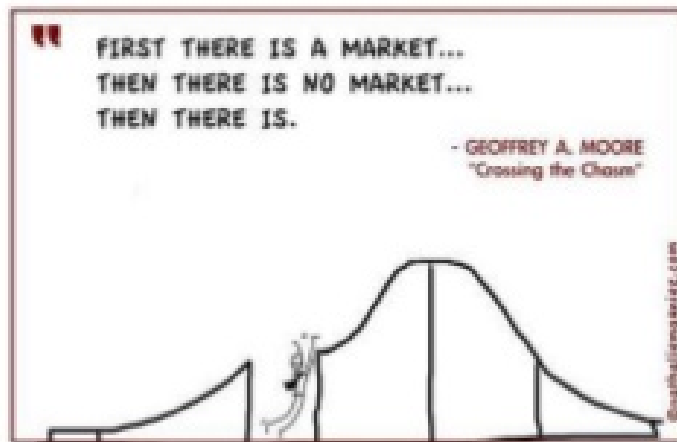
“Nearly 72 % admitted that they did not know the number of shadow IT apps within their organization, but certainly want to.”

...And IOT has just begun

IP Portfolio Management - valley of death

- **Translational Research (“Crossing the Chasm”)**

- Bridging domain specific Technology Readiness Level (TRL) gaps between 4 and 6



Cyber Security Will Remain Hot

▶ Attackers to multiply

- Nation States ramping
- Organized crime reaping tremendous rewards
- Citizen unrest will seek a more sustainable outlet

▶ Attack surface to multiply

- Cloud, mobile spreading data even further
- Think cyber war affecting physical domain is all bluster?
ATMs spit out cold hard cash
- IT doesn't know what's on their networks – good or bad
- IoT is just getting started...

▶ And the money is there, everywhere

Cyber Security Will Remain Hot

- ▶ **There is an undeniable crucial need for innovation**
- ▶ **Tech transfer will see greater interest if it can succeed in crossing the chasm**
 - **That means finding the champion to get it over the line**
- ▶ **It took IQT over a decade to figure its model out**
- ▶ **We don't have the luxury of another decade so let's get this worked out this year**

What's your idea?

QUESTIONS ?

20130430-eSYMC-1s Intv~Trades \$23.93

Exch	Quote	Trade	Share	Q/T	S/T	%t	%Td	%Sh
Totl	31,655	3,743	1,180,917	9	316			
NOEX	13,648	1,474	664,213	9	151	43	39	56
NOAD	1	0	0	1	0	0	0	0
AMEX	368	43	4,800	9	112	1	1	0
CEDE	617	23	4,100	25	164	1	1	0
PACF	2,882	547	136,892	5	250	9	14	11
CINC	1,772	8	5,600	222	700	5	0	0
PHIL	1,295	25	3,270	52	131	4	1	0
BOST	2,448	58	9,099	42	157	7	1	0
CHIC	2	0	0	2	0	0	0	0
NOGX	0	624	157,821	0	253	0	16	13
NTRF	0	47	18,000	0	383	0	1	1
BATS	2,786	379	79,277	7	209	8	10	6
BATY	1,996	78	12,883	26	165	6	2	1
EDGE	2,172	224	29,833	10	133	6	5	2
EDGX	1,668	211	55,129	8	261	5	5	4

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Trade Volume

