



Grant's Investment Conference

David Einhorn

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Zero Bound Odyssey: A Place Where No Policy Has Gone Before

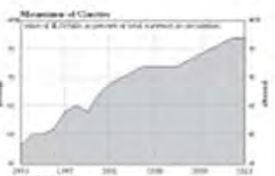
GRANT'S

INTEREST RATE OBSERVER

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Fiat-fest 2014

July 20, 2014. The usual summer...
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Jim, thank you for inviting me back. Though I have been a paid up subscriber for decades, I am now quite worried about your franchise. You see, a number of years ago, I heard you quip that bonds constitute “return-free risk”, but back then they still had some yield.

Today, in parts of the world, rates are zero or even negative, which makes the title “Grant’s Interest Rate Observer” a paradox. How do you observe interest rates when they have ceased to exist? You may have to re-think your brand.

Mmmm... donuts



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I last spoke here three years ago and talked about what I dubbed the Fed's Jelly Donut monetary policy. I observed that accommodative policy has diminishing returns that had long-since passed the point of being productive and was now actually slowing the recovery. I compared it to eating a 36th Jelly Donut.

By keeping rates too low, the Fed sought to create a stock market wealth effect. I suggested that while this would increase income inequality, the wealth effect would not likely translate to enough additional consumption to offset the even bigger drain from lost income to savers.

GroupThink



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Policy makers and mainstream economists are stuck in GroupThink that easy money always helps the economy, despite basic economic principles that suggest diminishing or negative marginal returns.

Going around in circles

“[T]he best way to improve the returns attainable by savers was to do what the Fed actually did: keep rates low...so that the economy could recover and more quickly reach the point of producing healthier investment returns.”

– Ben Bernanke, March 30, 2015

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In a recent blog post, Mr. Bernanke wrote: “the best way to improve the returns attainable by savers was to do what the Fed actually did: keep rates low, so that the economy could recover and more quickly reach the point of producing healthier investment returns.”

This is circular reasoning: He is assuming that which he seeks to prove, namely that ultra-low rates actually help the economy. But, that is the open question.

Source: <http://www.brookings.edu/blogs/ben-bernanke/posts/2015/03/30-why-interest-rates-so-low>

Consumer recovery?

Balance Sheet of Households (\$ billions)

	2014
Assets	
Real Estate	\$ 23,539
Deposits	\$ 10,231
Liabilities	
Home Mortgages	\$ 9,380
Consumer Credit	\$ 3,316

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A quick look at the household balance sheet shows about \$10 trillion held in short-term rate-sensitive instruments like savings accounts and money markets.

Most household liabilities are fixed-rate mortgages, where payments are unaffected by rate changes. Consumer credit is \$3 trillion, some of which is also fixed. I estimate households have about \$7 trillion in exposure to short-term interest rates, so a 1% change in rates adds about \$70 billion to annual income.

Source: <http://federalreserve.gov/releases/z1/current/z1r-5.pdf>

Spenders becoming savers

“Since the financial crisis, U.S. savers alone have lost roughly USD 470 billion in interest rate income, net of lower debt costs.”

– Swiss Re, “Financial repression: The unintended consequences”

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Swiss Re recently calculated that from 2008-2013, U.S. households lost \$470 billion of income due to excessively low interest rates.

Because savers perceive interest income as more recurring than volatile stock market gains, and because interest income is spread more broadly than equity gains, it's fair to assume that a much greater proportion of interest income would be spent.

Source: http://media.swissre.com/documents/Financial_Repression_pub_web.pdf

What wealth effect?

S&P 500 Index



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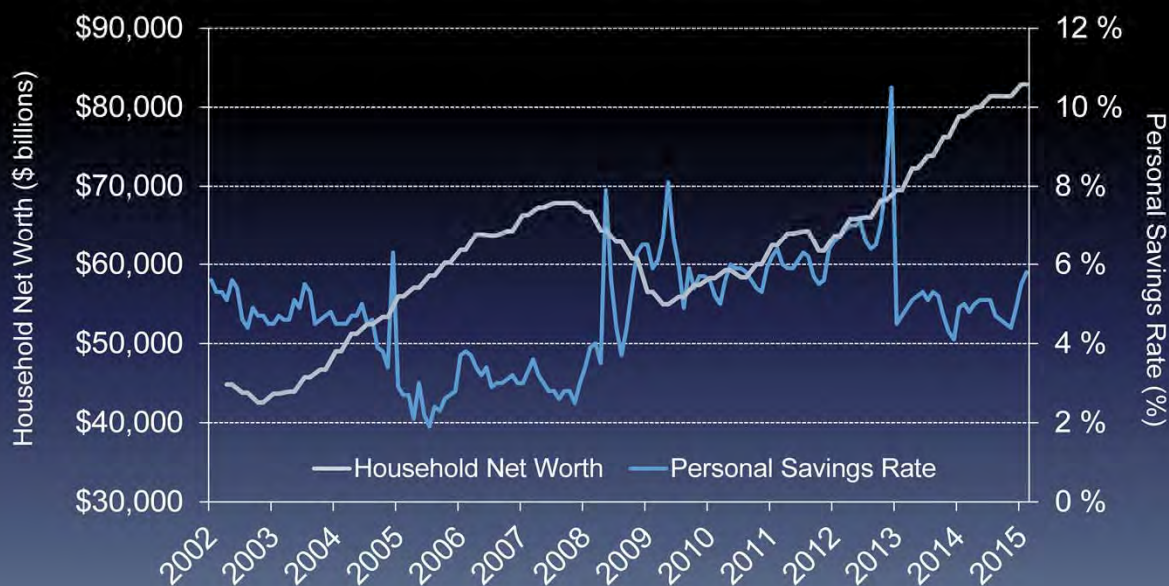
The Fed expected the wealth effect would drive growth to 3-4%. Despite the stock market rising about 50% over the last three years and tripling over the last six, GDP growth has stagnated at around 2%.

Source: Bloomberg L.P.

<http://www.businessinsider.com/fed-gdp-forecast-2012-9>

<https://research.stlouisfed.org/fred2/series/A191RO1Q156NBEA>

Saving one's bacon



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If people were spending the paper gains from rising asset prices as the Fed hoped, the savings rate would have plummeted as it did during the housing bubble, when cash-out refinancings against rising home values drove spending.

Instead, the savings rate has remained at or above the pre-housing bubble levels, even though household net worth has reached new highs. As Swiss Re put it, "Overall, there is no clear evidence of equity-related gains having translated into additional consumption and thus no real economic growth."

Source: Bloomberg L.P.

<https://research.stlouisfed.org/fred2/series/PSAVERT/>

http://media.swissre.com/documents/Financial_Repression_pub_web.pdf

“Think of the soon-to-retire office worker. She saved because she wanted enough money to retire. Given the terrible returns on savings ... the prospect of continuing low interest rates might make her put even more money aside. Indeed ... the existence of savers who have suffered a loss of savings and have end-of-working-life savings objectives can imply that lower real interest rates are contractionary – savers put more money aside as interest rates fall in order to meet the savings they think they will need when they retire.”

-- Raghuram Rajan, Lecture delivered at the BIS on June 23, 2013

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Low interest rates make workers save more, as they can't anticipate earning safe income on savings. They also make retirees spend less, as they have less current and future income and need to stretch savings over their remaining lives. Both dynamics create less spending and a slower recovery.

Source: <http://www.bis.org/events/agm2013/sp130623.htm>

Intersection



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I remain of the view that higher rates will surprise by improving the economy on Main Street even though it is quite possible they would create some turbulence on Wall Street, as most equities are now highly priced and a select group are in a bubble.

Commodities... boom?



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When I spoke three years ago, I was also worried about how Jelly Donut policy was driving commodity price inflation. The recent fall in many commodities has surprised me. It has turned out that over several years, sharply rising commodity prices and low interest rates created a boom in investment, and excess supply in everything from iron ore to oil.

Lackluster demand has failed to keep up with this growing supply and, ironically, it turns out that the loose monetary policy put in place by central bankers to fight deflation has in fact contributed to it.

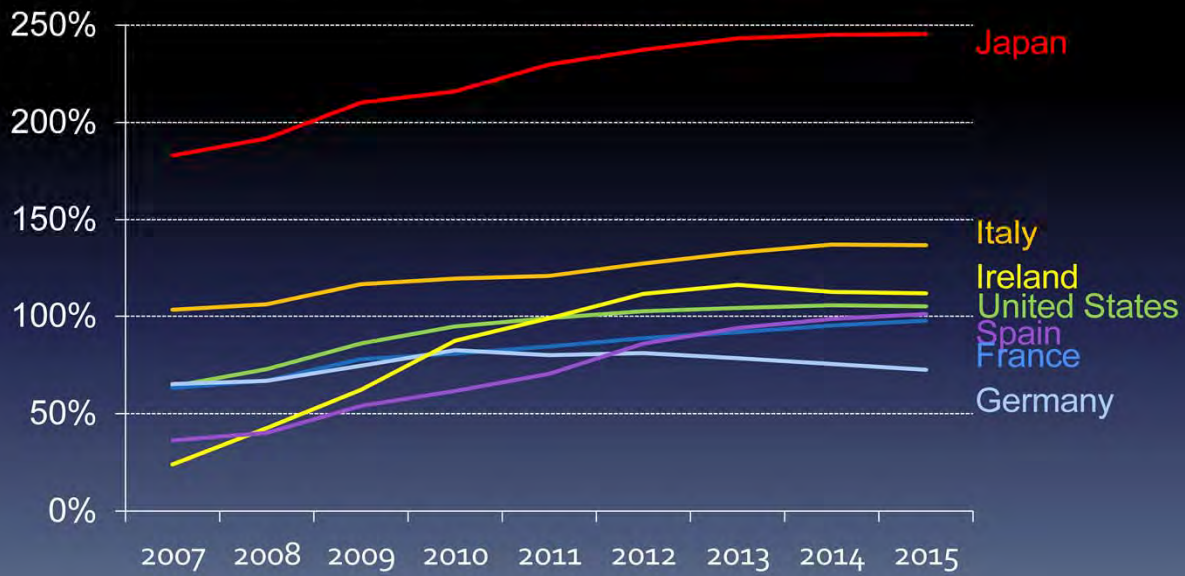
Subsidizing the government



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The question is who benefits from the harm to savers? Of course, it is governments who are able to borrow more cheaply.

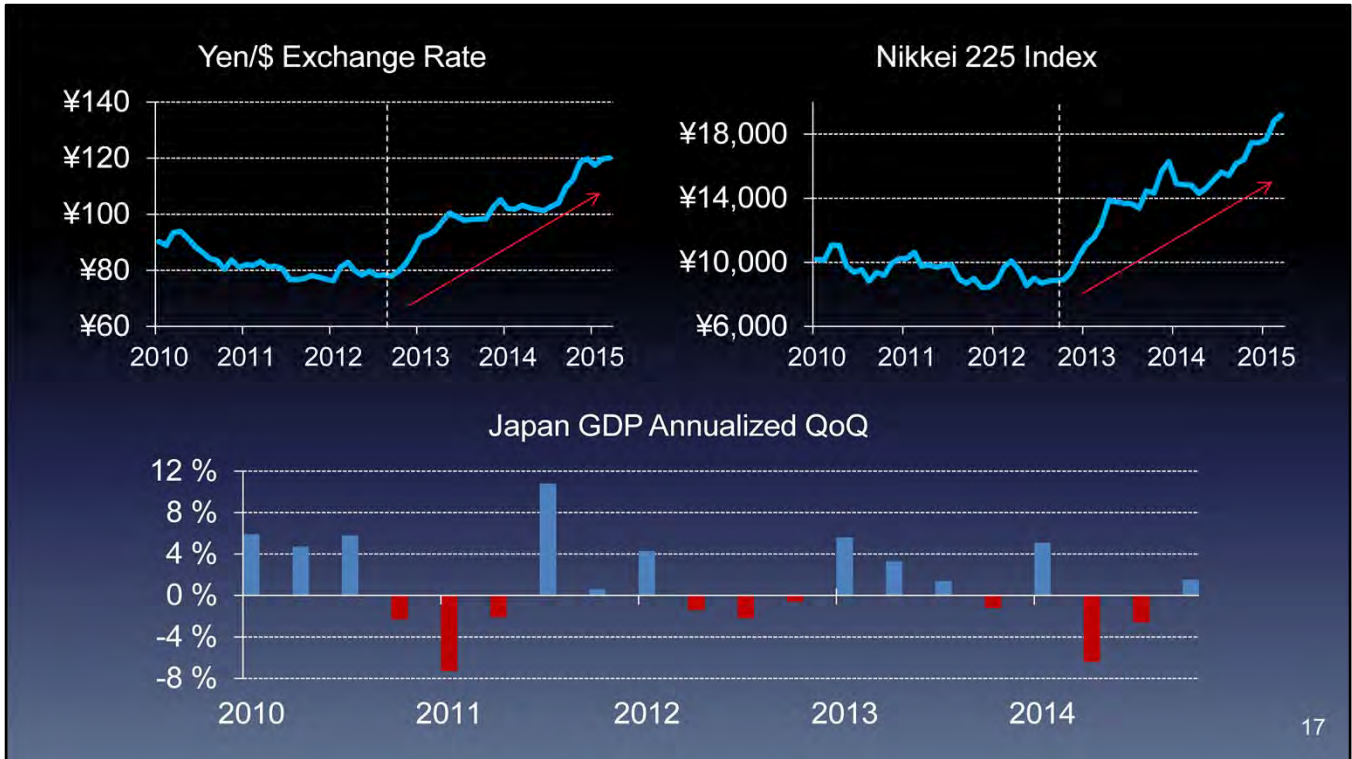
Debt / GDP ratios



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It shouldn't be surprising that Japan and Europe, which have worse fiscal situations than we do, have implemented even more aggressive monetary policy.

Source: <http://www.imf.org/external/data.htm>



Japan has had near-zero interest rates for many years.

Since Japan ramped up its QE in the fall of 2012, its currency has weakened by about 50% and its stock market has rallied over 115%. However, GDP has barely budged, as stock market gains haven't translated into economic growth there, either.

Source: Bloomberg L.P.

Honesty is not the best policy



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In Europe, we can see Greece being taught that "Honesty is NOT the best policy."

Let's play a game... Can anyone name a European country expected to run surpluses sufficient for it to pay its debt out of its tax revenues?

The only thing that separates Greece from France, Ireland, Italy, Portugal and Spain is that the Greeks openly admit that they can't repay their debts, while the rest remain silent. Greek 10-year debt yields more than 10%, while all these other countries have lower rates than the U.S.

Not one of them plans to repay its debt out of tax collections. Greece's loss of access to the capital markets is a heavy price to pay for its candor.

Careful what you wish for...

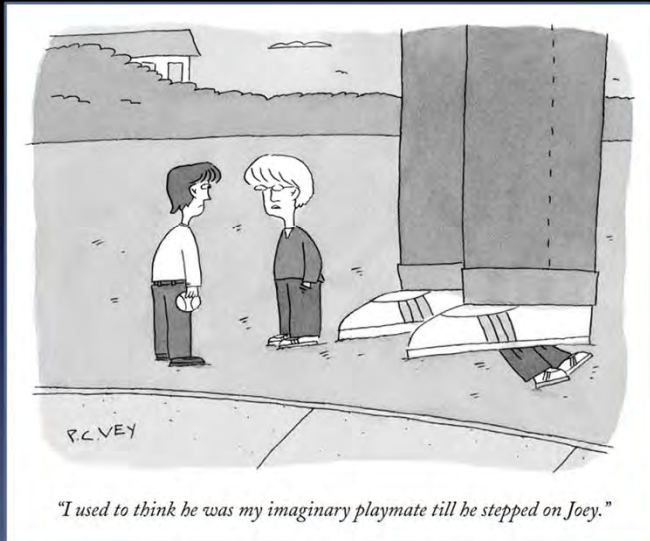


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The ECB had managed to lower sovereign yields with forward guidance, targeted bank lending programs, and the threat of QE. It's therefore puzzling that the ECB is actually going through with buying billions of Euros worth of bonds at negative yields, when it could declare victory simply by threatening to buy them, if needed, to enforce interest rate policy.

I wonder whether ECB President Mario Draghi spent so much political capital fighting the German Bundesbank for the ability to do QE, that now that he has emerged victorious, he will follow through whether it's needed or not.

Imagine that



"I used to think he was my imaginary playmate till he stepped on Joey."

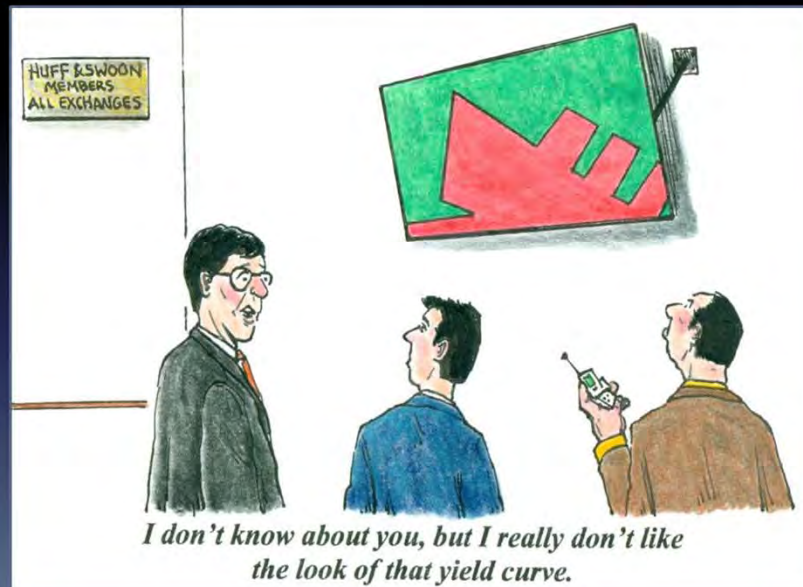
20

Which brings us to the curious existence of negative yielding bonds.

Logically, interest rates should always be positive. People should prefer a dollar today to something less than a dollar in the future. If you have a dollar, you can literally avoid negative rates by sticking it under the mattress. Tempur-Sealy may be a long.

Negative interest rates are like the square root of negative one: they exist in theory, but no one is supposed to be able to see them.

Modern economics

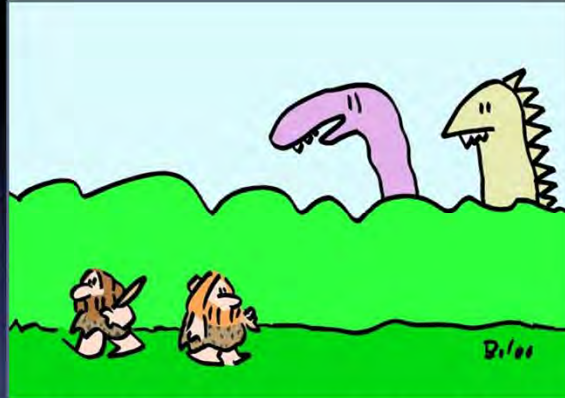


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Yet \$3 trillion of sovereign debt from seven European nations and Japan has negative yields. Germany's extend to 7 years, and Switzerland's to 10 years.

Source: <http://www.project-syndicate.org/commentary/negative-nominal-interest-rates-by-nouriel-roubini-2015-02>

Front running...



"You have to be careful about them
— They're low on the food chain,
but they keep cutting in line."

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The ECB says it will buy bonds with yields as low as its deposit rate – now at negative 0.2% – to implement QE. So, it's easy to imagine that some short-term traders are buying negative-yielding bonds with the intent of flipping them to the ECB at a mark-up.

What's a negative bond yield?



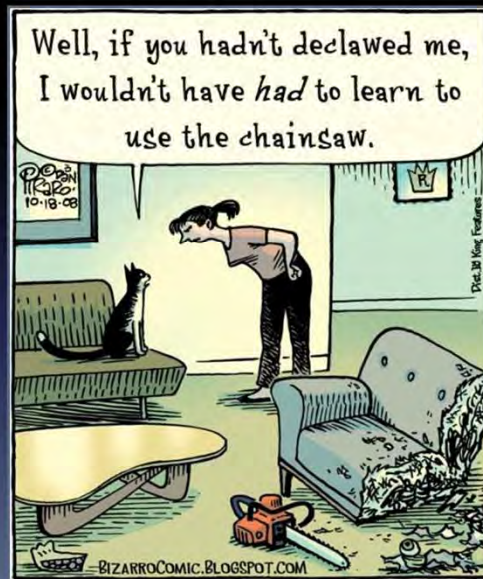
Sandra's not quite sure what a low-yield bond is, but she thinks Larry might be a lot like one.

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I think the more interesting question is why do long-term investors who bought sovereign bonds for the income continue to hold them at negative yields? Why not sell and capture all the future income and then some today? Why continue to take duration risk, liquidity risk and even credit risk without any compensation?

We think the answer lies in the new regulatory regimes that are shaping the behavior of large financial institutions today.

Seemed like a good idea...

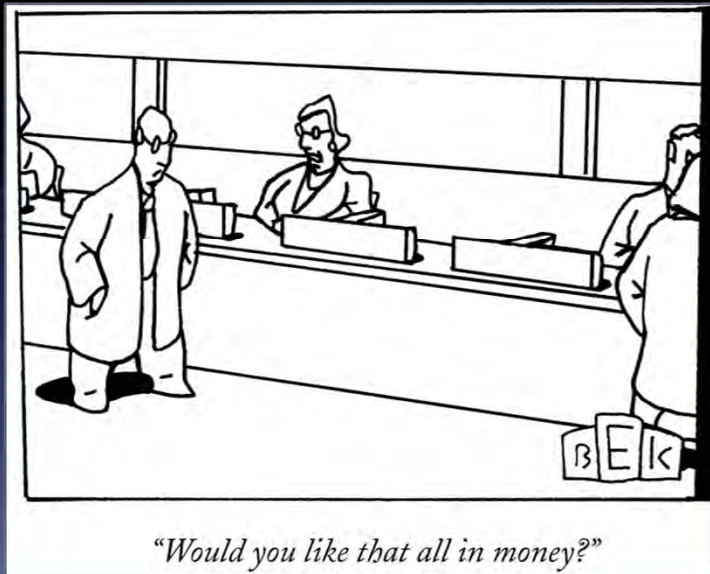


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Post crisis, Basel III regulations for banks and Solvency II regulations for insurers were designed to improve their financial stability. However, it's not clear that the designers contemplated negative bond yields.

Requiring financial institutions to hold bonds that are guaranteed to lose money destroys value and adds significant and underappreciated systemic risk.

Basic banking



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Let's start with banking. At their most basic purpose, banks exist to take deposits from those with money that isn't needed today to lend to those who can use it for productive endeavors. Deposits used to be valued as a stable funding source, and banks competed hard to gather them from individuals and businesses.

Zero interest rate policy is combining with new liquidity requirements to make commercial deposits unattractive, leading banks to abandon their core purpose of accepting deposits.

No deposit, no returns



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Under the new Basel III regulations, there is something called the Liquidity Coverage Ratio, which requires banks to maintain lots of very safe liquid assets like government bonds to cover funding stress.

This ratio also categorizes certain deposits as “non-operating” and assigns them punitive haircuts.

In response, banks are hoarding sovereign debt, while looking for loopholes enabling them to more profitably carry these non-operating deposits. In some cases, they’re shunning them altogether.

Gone are the days when a bank will give you a free toaster for opening an account; these days they are giving back the dough. It has gotten so bad that in February, JPMorgan announced it planned to return \$100 billion to customers.

Regulation Whack-A-Mole



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Some efforts to improve regulatory ratios include:

- Asking customers to switch unwanted deposits into securities the bank can hold in custody;
- Asking customers to take out loans to buy treasuries;
- Asking customers to transact through off-balance sheet derivatives such as swaps; and
- Asking customers to replace physical positions with synthetic look-alikes, collateralized with U.S. treasuries.

None of these changes make banks safer or benefit the customers. They raise costs, reduce liquidity, and add leverage and counterparty risk.

Breaking the zero lower bound

“Wilkins here, has come up with a real gem of an idea. Why not charge our customers for actually depositing their money with us?”



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Last year, the ECB and other European countries began charging banks for deposits. The Danish and Swiss now charge 75 basis points. Banks are beginning to pass the negative rates onto commercial customers.

There is a limit to this, of course. At some point banks will decide it's cheaper to hold physical currency in their vaults than it is to maintain excess deposits at central banks. Correspondingly, customers can decide they would rather hold cash than pay for the privilege of depositing money.

We are paying attention to a possible transition from banks rejecting depositors to depositors rejecting banks.

Source: GS Global Macro Research, "Negative Interest Rates: Helpful or Harmful?", February 27, 2015.

Duration matching



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Solvency II was established with the goal of rewarding financial institutions for minimizing risk.

For insurance companies with long-term liabilities, it makes sense to own long-dated assets, as mismatched duration is a real operating risk.

In a normal environment, life insurers are wise to lock in long-term cash flows so that they will have income to pay distant benefits.

Insolvency II

Asset class - rating - duration	Solvency II standalone charge	Solvency II all-in charge
Money market	0.9%	0.8%
Corporate debt A 5 years	7.0%	4.3%
Corporate debt A 10 years	10.5%	3.9%
EU Government debt 10 years	0.0%	-2.1%
Residential mortgage loan, 10yrs, 80% LTV	0.0%	-2.1%
Covered bond AAA 5 years	3.5%	2.6%
Real estate	25.0%	13.9%
Equity type 1 (EU/OECD listed equities)	39.0%	23.4%

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So, the designers of Solvency II gave government bonds that reduce duration risk a lower capital charge than cash. The first column is the stand-alone market risk charge for certain assets. The second column considers other factors including diversification and duration matching. Government debt actually has a negative capital charge. It appears that Solvency II did not anticipate negative bond yields, as holding debt with locked in negative yields can't possibly be safer than selling and holding cash. Under the new rules, selling the bonds to hold cash would create a capital charge. That is like using bubble wrap filled with a corrosive to help protect a package.

Source:

<https://www.ageas.com/sites/default/files/Regulatory%20Impact%20on%20Banks%20and%20Insurers%20Investments%20-%20final.pdf>

Sovereign debt portfolio

Asset class - rating - duration	Euro (bn) portfolio	Solvency II all-in charge	Capital charge
Money market	-	0.8%	-
EU Government debt 10 years	40.0	-2.1%	-0.84
Real estate	5.0	13.9%	0.70
Equity type 1 (EU/OECD listed equities)	5.0	23.4%	1.17
	50.0	2.1%	1.03

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Here is an example. Imagine an insurer who has a simple portfolio with 40 billion euros of sovereign debt and 5 billion euros each of real estate and equities.

If the sovereign debt trades to a negative yield, it would be wise to sell it to hold cash. Selling the debt would increase liquidity, raise the portfolio's return, lower duration risk, reduce market risk, and even reduce credit risk, as government debt can default.

But let's see what happens if the insurer does this.

Source:

<https://www.ageas.com/sites/default/files/Regulatory%20Impact%20on%20Banks%20and%20Insurers%20Investments%20-%20final.pdf>

Cash portfolio

Asset class - rating - duration	Euro (bn) portfolio	Solvency II all-in charge	Capital charge
Money market	40.0	0.8%	0.32
EU Government debt 10 years	-	-2.1%	-
Real estate	5.0	13.9%	0.70
Equity type 1 (EU/OECD listed equities)	5.0	23.4%	1.17
	50.0	5.3%	2.19

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Under Solvency II, the impact would be an additional capital charge of over 1 billion euros. To compensate, the insurer could sell other riskier assets – in this case almost its entire equity portfolio – or it could raise fresh equity by selling stock.

You can see how Solvency II practically forces companies to hold sovereign debt. We think this is the best explanation for the persistence of negative interest rates in bonds with duration.

Source:

<https://www.ageas.com/sites/default/files/Regulatory%20Impact%20on%20Banks%20and%20Insurers%20Investments%20-%20final.pdf>

Destructive forces



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We have passed the point where Jelly Donut policy is merely slowing the recovery. Distortions are now adding risk to the banking and insurance markets and leading to poor incentives for the largest players in the financial system.

Monetary policy and regulations have combined like a failed chemistry experiment to create a potentially destructive force that should not exist outside of fiction. I think this adds to the ultimate attraction of holding gold instead of green.



Let's talk about a couple of stocks.

“A recession is when you have to tighten your belt; depression is when you have no belt to tighten. When you've lost your trousers - you're in the airline business.”

— Sir Adam Thomson, Founder and Chairman of British Caledonian, one of Britain's most successful independent airlines

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“A recession is when you have to tighten your belt; depression is when you have no belt to tighten. When you've lost your trousers - you're in the airline business.”

Source: <http://www.economist.com/blogs/gulliver/2011/12/business-quotations>

Aircraft leasing



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Airlines have generated the worst return on capital of any industry.

But if you've always dreamed of owning an airplane, there is a way to own hundreds of them and generate a respectable return: You can go into the aircraft leasing business.

Source: IATA Economics Briefing 10, "Profitability and the Air Transport Value Chain", June 2013; Industry Median ROIC without goodwill, 1965 - 2007, McKinsey & Company for IATA.

The leasing business model



Buy from manufacturer or
airline in sale-leaseback



... 10-12 years later, get
plane back, re-lease or sell



Lease to airline

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This is how it works:

You borrow money to buy planes from the manufacturers and lease them to the airlines at locked-in monthly payments, usually for an initial period of ten to twelve years. You can also do sale/leaseback deals with the airlines themselves.

At the end of the lease, you get the plane back and re-lease it or sell it.

Taking flight



VALUE PROP PLANE

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Today, 40% of the global airline fleet is leased compared to less than 2% in 1980.

Many emerging market airlines lack good access to capital markets and bank financing. Leasing allows them to finance fleet growth. Other airlines lease to access newer planes without taking residual value risk.

Source: http://www.boeing.com/assets/images/bcc/images/Lessors/Slide2_900.png



Stock price	\$ 44.76
Diluted Shares Outstanding	214.6
Market cap (\$ millions)	\$ 9,605

Historical Overview	2012	2013	2014
Adjusted EPS	\$1.90	\$2.54	\$4.79
Owned fleet (# of aircraft)	212	236	1,132
Fleet book value (\$mm)	7,262	8,086	35,891
Shareholders' Equity (\$mm)	2,122	2,425	7,864
Adjusted Net Debt	5,283	5,941	28,412
Debt / Equity Ratio (x)	2.5x	2.4x	3.4x

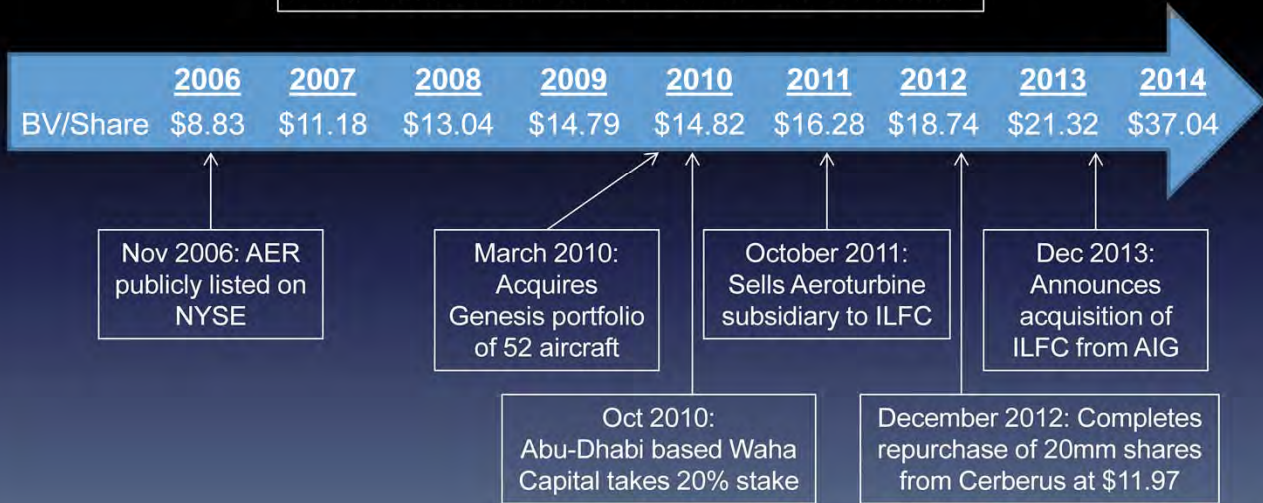
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Our long idea is AerCap Holdings N.V., ticker AER. AerCap is the largest and, in our view, the best managed independent lessor. In a market with few bargains, we believe that the stock is cheap and offers a good risk-reward opportunity.

Source: Bloomberg L.P., issuer filings, management public statements, and Greenlight calculations derived from issuer filings and public statements. Greenlight's adjustments to figures in filings and public statements were in the sole discretion of Greenlight. AerCap stock price throughout the presentation is the closing price as of April 2, 2015.

Cruising altitude

Book value/share CAGR 2006 – 2014: 19.6%



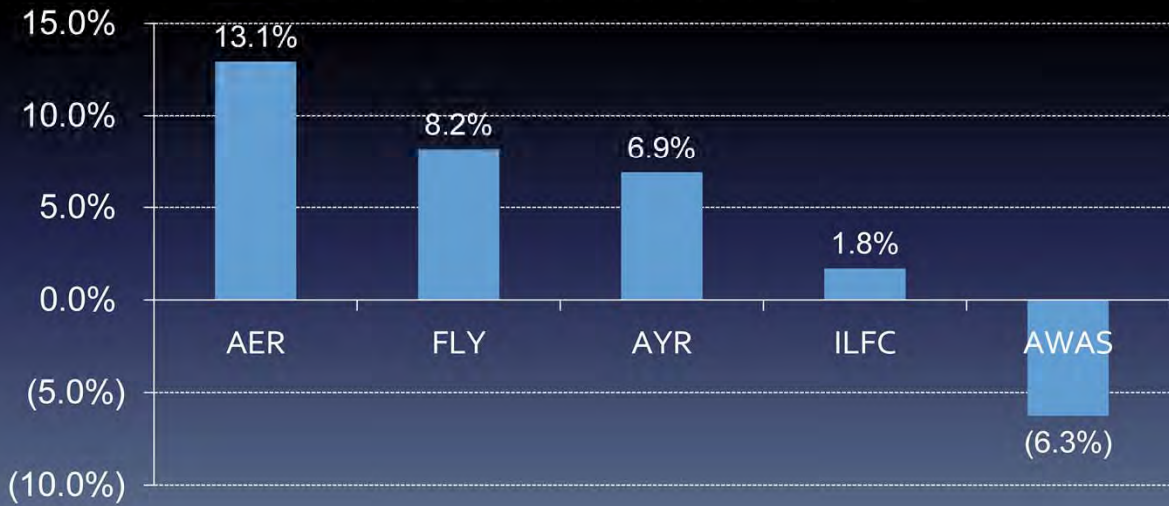
40

Several smaller leasing companies merged to form AerCap, which then publicly listed in November 2006. Since then, it's grown book value per share 19.6% a year.

Source: Bloomberg L.P., issuer filings, management public statements, and Greenlight calculations derived from issuer filings and public statements. Greenlight's adjustments to figures in filings and public statements were in the sole discretion of Greenlight.

Best in class

GAAP ROE: 2007 - 2013 Average (%)



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CEO Gus Kelly runs the business in a disciplined, shareholder-friendly way. Within the leasing industry, AerCap stands out for its record of excellent risk-adjusted returns and opportunistic growth.

Source: Bloomberg L.P., issuer filings, management public statements, and Greenlight calculations derived from issuer filings and public statements. Greenlight's adjustments to figures in filings and public statements were in the sole discretion of Greenlight.

New lease economics

As % of Aircraft Purchase Price

Basic lease payments	11.0%
Maintenance revenue	<u>1.0%</u>
Total lease revenue	12.0%
Depreciation	(3.4%)
Leasing costs	(0.8%)
SG&A	<u>(1.0%)</u>
Pre-tax ROA (%)	6.8%

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Here are the numbers:

Lease payments vary depending on the plane. Wide-bodies generate higher up-front lease rates but bear more remarketing risk given a smaller customer pool. AerCap tends to focus on lower risk narrow-bodies.

Maintenance revenue funds aircraft overhaul expenses.

Depreciation is over 25 years with a 15% residual or scrap value.

Pretax return on assets is almost 7% after subtracting leasing costs, which include credit losses and corporate SG&A.

Source: Greenlight estimates.

New lease economics

Debt	75.0%
Equity	25.0%
Pre-tax ROA	6.8%
Interest expense	<u>(3.0%)</u>
Pre-tax income	3.8%
Tax rate	12.5%
Net income	3.3%
ROE (%)	13.3%

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AerCap debt finances about 75% using both secured and unsecured mostly fixed rate debt, which currently costs under 4%. AerCap is domiciled in Ireland, so the tax rate is low.

Altogether, AerCap earns a low teens ROE on a new leasing deal excluding gains or losses when the lease ends. The company bears credit risk, residual value risk and the obvious tail risk...

Source: Greenlight estimates.

Tail risk



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Snakes on a Plane

Credit risk

	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>
Lost basic lease rents, net of deposits	0.0	(14.3)	(5.0)	(4.4)	(5.4)	(10.9)	(0.2)
Default related expenses/impairments	<u>(2.5)</u>	<u>(4.4)</u>	<u>(19.9)</u>	<u>8.6</u>	<u>29.5</u>	<u>(32.2)</u>	<u>(10.3)</u>
Total default & restructuring impact	(2.5)	(18.7)	(24.9)	4.2	24.1	(43.1)	(10.5)
<i>as % of Average Flight Assets</i>	<i>(0.1%)</i>	<i>(0.5%)</i>	<i>(0.5%)</i>	<i>0.1%</i>	<i>0.3%</i>	<i>(0.5%)</i>	<i>(0.1%)</i>

Average credit cost: (0.2%)

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AerCap manages credit risk by aggressively monitoring customer creditworthiness and diversifying its customer base.

Between 2007 and 2013, which included the financial crisis and some idiosyncratic airline defaults, AerCap's annual defaults were approximately 2.5%.

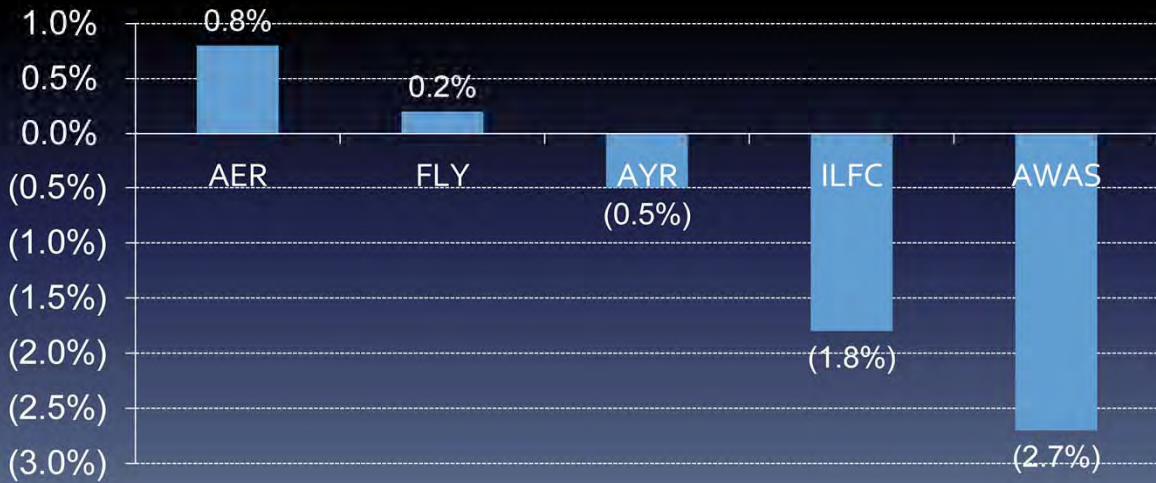
Losses were low, averaging only 0.2%, because around 80% of the defaulted planes were repossessed and then re-leased or sold, and 20% of the defaulted planes went back to the airline under a restructured lease.

Despite the macroeconomic turbulence, AerCap's average portfolio utilization during this period has been almost 99%.

Source: AER filings, Greenlight calculations derived from issuer filings, and Greenlight estimates.

Residual value risk

Gains on Fleet: 2007 - 2013 annual average



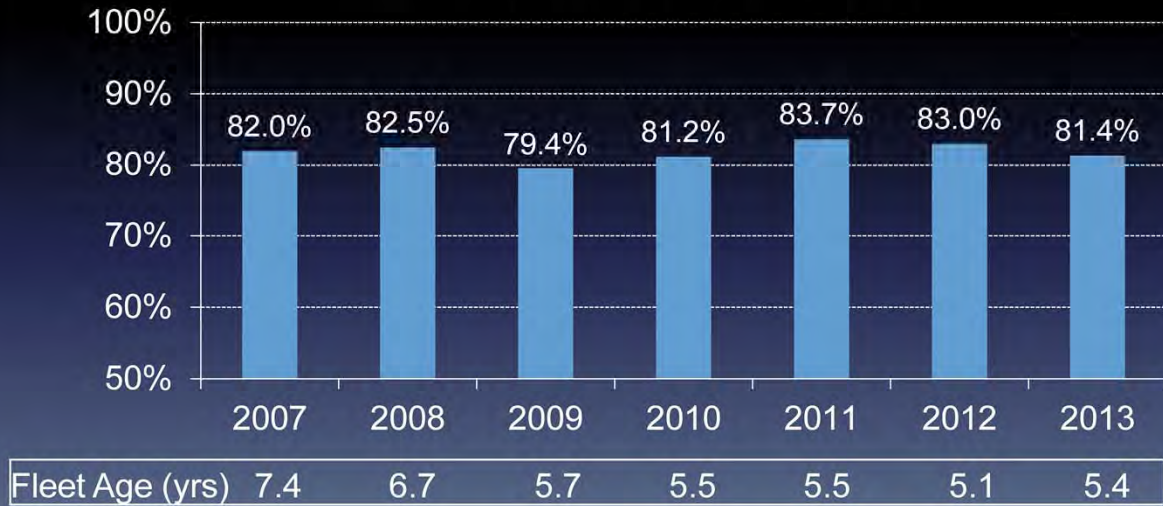
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Unlike several of its private and publicly traded peers, AerCap did not have to take large asset value impairments during and after the crisis. In fact, AerCap has usually disposed of planes at a premium to their carrying values.

Source: Bloomberg L.P., issuer filings, management public statements, and Greenlight calculations derived from issuer filings and public statements. Greenlight's adjustments to figures in filings and public statements were in the sole discretion of Greenlight.

Avoiding turbulence

Narrowbody aircraft as % of AER fleet



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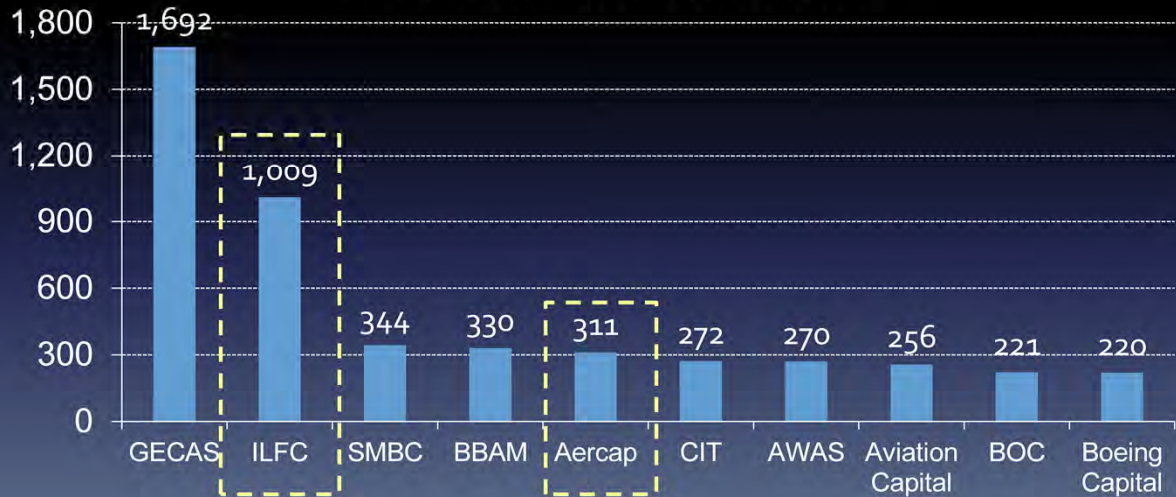
AerCap focuses its portfolio on the most widely used current-generation aircraft, especially narrow-bodies. While these aircraft provide lower up-front rental yields, they have held their value better over time and through cycles.

Management has a good track record of showing discipline. The company did not overpay for new aircraft in the lead-up to the crisis, and it routinely sells older aircraft, which are more sensitive to cyclical downturns and technological obsolescence.

Source: AER filings, Greenlight calculations derived from issuer filings, and Greenlight estimates.

ILFC : One man's loss...

Aircraft Lessors by Fleet Size, 2013



48

One of the first aircraft lessors, ILFC was acquired by AIG in 1990 and was the second largest lessor in the industry behind GE.

It ran into trouble during the recession.

AIG was forced to take \$5 billion of asset impairments between 2010 and 2013 due to its aging fleet with too many wide-bodies.

Not surprisingly, AIG concluded that ILFC was a non-core asset and last year sold it to AerCap.

Source: Represents owned & managed fleet, Flightglobal Insight, and Greenlight calculations.

...is another man's gain

	<u>Deal Announced</u>	<u>Deal Closed</u>
Equity consideration	2,432	4,545
Cash consideration	<u>3,000</u>	<u>3,000</u>
Total purchase price	\$5,432	\$7,545
Adjusted ILFC Book Value	11,297	11,297
P/BV (x)	<u>0.48x</u>	<u>0.67x</u>
Debt assumed	21,441	21,441
Deal enterprise value	26,873	28,986
Appraised value of ILFC fleet	~32,000	~32,000
EV/Appraised value	<u>0.84x</u>	<u>0.91x</u>

49

AerCap bought it at a sizeable discount to its already written down book value.

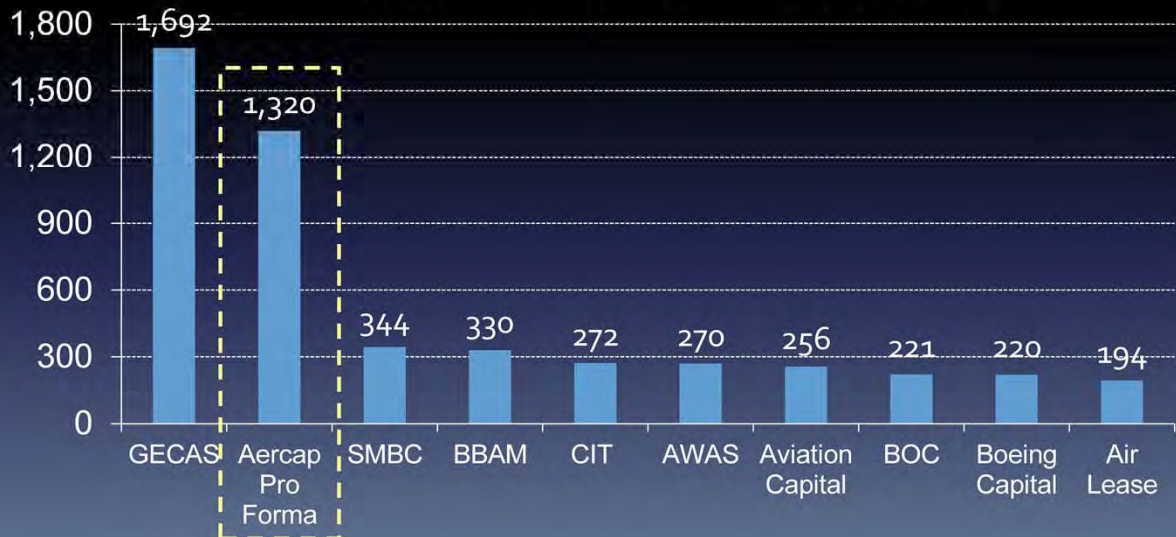
AerCap paid \$3 billion in cash and issued 97.6 million shares to AIG.

It was a bargain. AerCap paid only 84% of ILFC's appraised fleet value and less than half its adjusted book value.

Source: Bloomberg L.P., issuer filings, management public statements, and Greenlight calculations derived from issuer filings and public statements. Greenlight's adjustments to figures in filings and public statements were in the sole discretion of Greenlight.

Fleet dreams

Aircraft Lessors by Fleet Size (pro-forma), 2013



50

The acquisition significantly increased AerCap's size, adding around 1,000 owned and managed planes to its fleet.

AerCap is now the largest independent lessor in the world. Along with GE, they control over 40% of the leasing market.

Source: Represents owned & managed fleet, Flightglobal Insight, and Greenlight calculations.

Order book & synergies



51

AerCap also obtained ILFC's large, attractively-priced order book of next generation planes, which is now a couple billion dollars in the money.

AerCap is also in the process of reducing combined SG&A and lowering its tax rate by moving ILFC's U.S. assets to Ireland, where AerCap enjoys a 12.5% tax rate.

Source: AER filings, management public statements, and Greenlight calculations.

A cheap stock

	Consensus		
	2014A	2015E	2016E
EPS	\$4.79	\$5.26	\$5.50
P/E	9.3x	8.5x	8.1x

52

AerCap has already exceeded its initial pro forma EPS guidance.

On current consensus EPS estimates for 2015, AerCap's stock trades at an attractive 8.5x earnings.

Source: Bloomberg L.P. and Bloomberg consensus estimates retrieved April 2015.

Future opportunities

~5% average fleet growth from order book to 2018

Incremental OPEX and tax synergies

Share repurchases using excess capital

~10% 2015 – 2018 EPS CAGR

53

While the stock is cheap on 2015 earnings, we believe there is more to come.

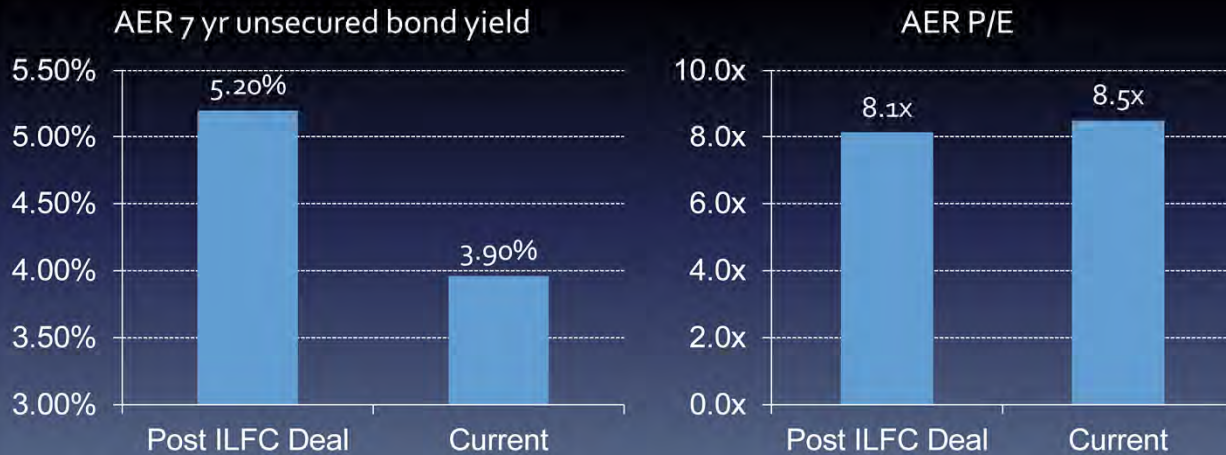
AerCap's fleet will grow 15% by 2018 as it takes delivery of new planes.

As I mentioned, SG&A and the tax rate will improve.

Combined with buybacks funded by the ongoing generation of excess capital, we believe that AerCap can grow its EPS by around 10% annually over the next few years.

Source: Greenlight estimates.

The credit markets get it... but the equity markets don't



54

The company's 7-year unsecured bond yields have declined to under 4% since the deal was announced. They should decline further once the company regains the investment grade credit rating it lost due to the ILFC transaction.

Though the stock has advanced, the P/E multiple has barely changed despite strong post-deal execution and improving earnings.

We think that the equity market will follow the credit market and re-rate the company.

Source: Bloomberg L.P.; Bloomberg consensus estimates retrieved April 2015 and Greenlight calculations.

Shareholder friendly

“We'll find the right way to deploy our shareholders' capital because in the end that's why we're all here, [is] to make sure that our shareholders get a fair risk and return from the money we deploy for them”

– CEO Gus Kelly, Q2 2014 Earnings Call

55

AerCap's management team doesn't just talk about managing the business for shareholders. In addition to running the business well, AerCap has been an aggressive buyer of its own stock at low prices. During 2011 and 2012, the company repurchased 24% of its shares outstanding at an average of less than \$12 a share.

Management has good incentive to create shareholder value. In the ILFC deal, senior management was awarded a large batch of restricted stock units that vest in 2018 and 2019, two-thirds of which depend on performance. All told, in an expensive market, this appears to be a cheap stock.

Source: AER Q2 2014 earnings call on August 12, 2014.

Where does it hurt?

We think athenahealth is a short. Last May, at the Sohn conference, I explained why we thought athena was a very good example of the bubble going on in a segment of the market.

In case you missed it, I will briefly summarize the thesis and then bring everyone up to date on what's happened since then. For further reference, the full presentation is online at our website.

athenahealth



Practice
management

Electronic Health
Records (EHRs)

Other services

57

athenahealth handles the billing for physicians through a web-based platform. The company also provides electronic health records and other services, and charges a percentage of collected bills.

The company's business is primarily in the outside of the hospital, or ambulatory market.

Source: athenahealth website at <http://landing.athenahealth.com/g/improvecare>, retrieved May 2014.

Nascent hospital entrant

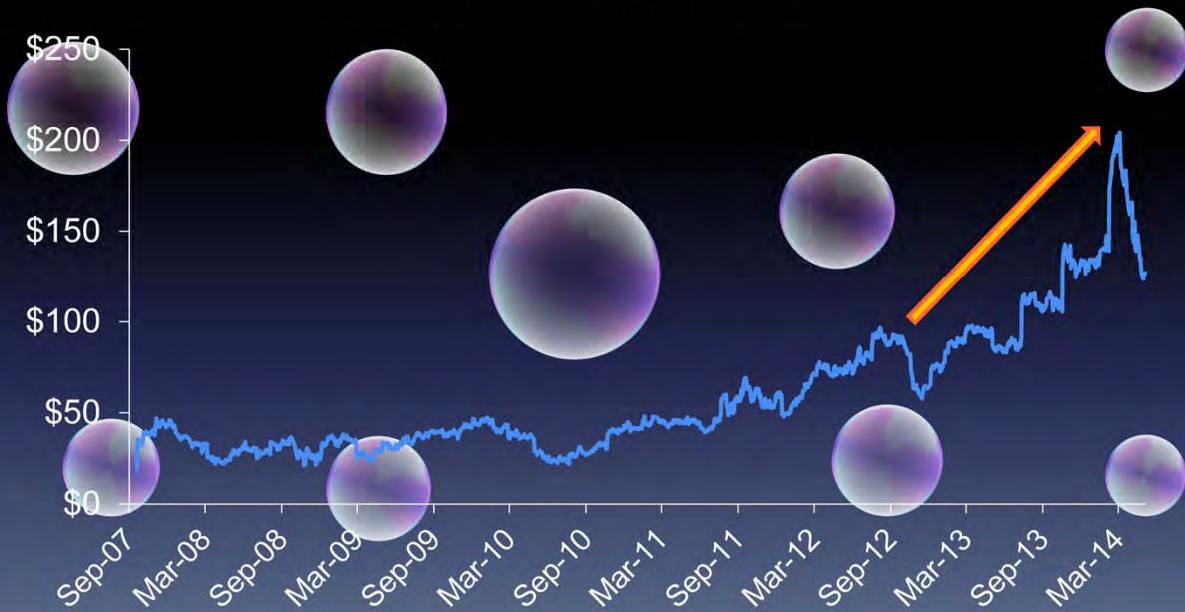


58

At the time of our presentation, athena was beginning to enter the inpatient or hospital market, through a new service which would take over a hospital's admissions, referrals, and other administrative functions.

athena had just announced its first two alpha customers in April 2014, long-time athena clients Steward Health Care and Griffin Hospital.

Bubble-icious



59

We called athena a bubble stock because its shares had gone parabolic even as its fundamentals deteriorated. At the time of Sohn, even though the stock had rolled over, it still traded at more than 100x forward earnings that are adjusted to ignore stock compensation expense.

Source: Bloomberg L.P.

Analysts hype the company

“ATHN is not an Electronic Health Records company. It is a fusion of SaaS, mobile, social, and crowdsourcing rolled into one, with an underlying platform that is able to monetize each.”

Piper Jaffray, October 21, 2013

60

Analysts compared it to cloud companies, social media companies and SaaS companies and applied similarly aggressive valuations.

But what we saw was a company that used a website to partially automate a still very paper and labor intensive back-office billing collection process.

Source: Piper Jaffray & Co. report dated October 21, 2013.

Jonathan Bush



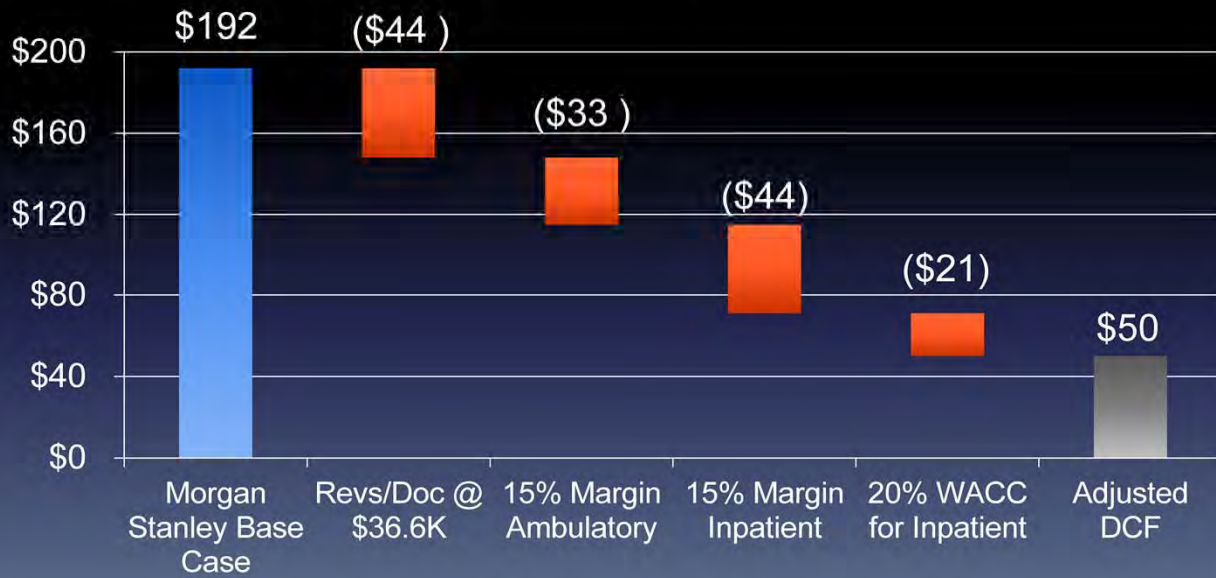
61

Essentially, we see it as a business process outsourcer, with a very promotional CEO.

Source: Compilation comprised of excerpts from the following, retrieved April 2014:

- 1) Health Datapalooza on June 3, 2013 (https://www.youtube.com/watch?v=Ka_gTyVRjSE).
- 2) athenahealth 6th Annual Investor Summit on December 12, 2013 (<http://investors.athenahealth.com/events.cfm>).
- 3) EHRTV interview with Ann and Eric Fishman on October 27, 2010 (<http://www.ehrtv.com/athenahealth-jonathan-bush-nov-2010/>).
- 4) FOX News Network on March 27, 2012 (<http://video.foxbusiness.com/v/1532985902001/athenahealth-ceo-on-health-care-law-cloud-computing/#sp=show-clips>).
- 5) Cable News Network on April 20, 2011 (http://money.cnn.com/video/news/2011/04/18/n_athena_cloud.cnnmoney/).

Adjusted DCF



62

A few weeks before we presented, Morgan Stanley released a report that included a DCF. Morgan Stanley used a series of what we thought to be exceedingly aggressive assumptions that I reviewed in detail last year.

The punchline was that when we replicated their framework with more realistic assumptions, we came up with a base case DCF value of \$50 per share.

Source: Morgan Stanley & Co. estimates as provided to Greenlight in April 2014 and Greenlight calculated adjustments to Morgan Stanley & Co. estimates. Greenlight's adjustments to Morgan Stanley's methods, factors, and calculations were in the sole discretion of Greenlight.

Bear case

- Consolidation
 - Saturation
 - Capitation
 - Capital misallocation
- DCF Value: \$14

63

We also presented a bear case that highlighted several large headwinds that athena would have to contend with that led to a DCF value of just \$14 per share.

Source: Morgan Stanley & Co. estimates as provided to Greenlight in April 2014 and Greenlight calculated adjustments to Morgan Stanley & Co. estimates. Greenlight's adjustments to Morgan Stanley's methods, factors, and calculations were in the sole discretion of Greenlight.

A problem of **Epic** proportions

Doctors using Epic: ~275,000

U.S. population with Epic-based electronic health records: ~50%

Attrition rate of hospital clients: ~0%

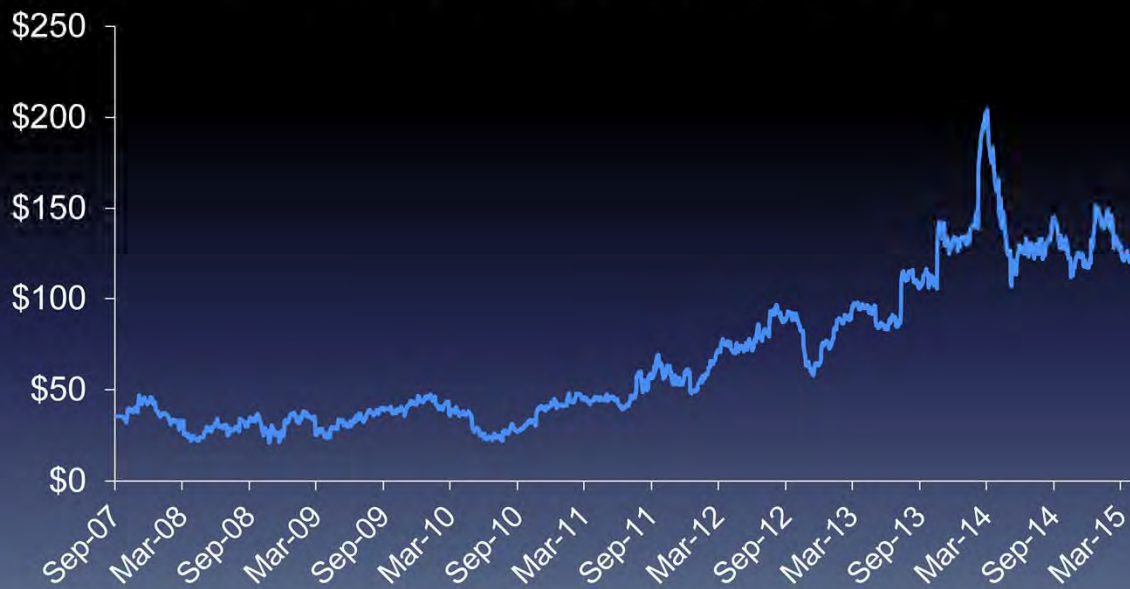
64

The bull case assumed that athena would successfully expand to be a leading player in the inpatient market.

We observed that Epic Systems would be a big obstacle to athena's success there, as it would be difficult for athena to develop a product that would displace Epic's dominant software solution for hospitals.

Source: The Verona Press, August 9, 2013, <http://www.connectverona.com/articles/2013/08/09/epic-wows-chamber-group>.

athenahealth (ATHN)

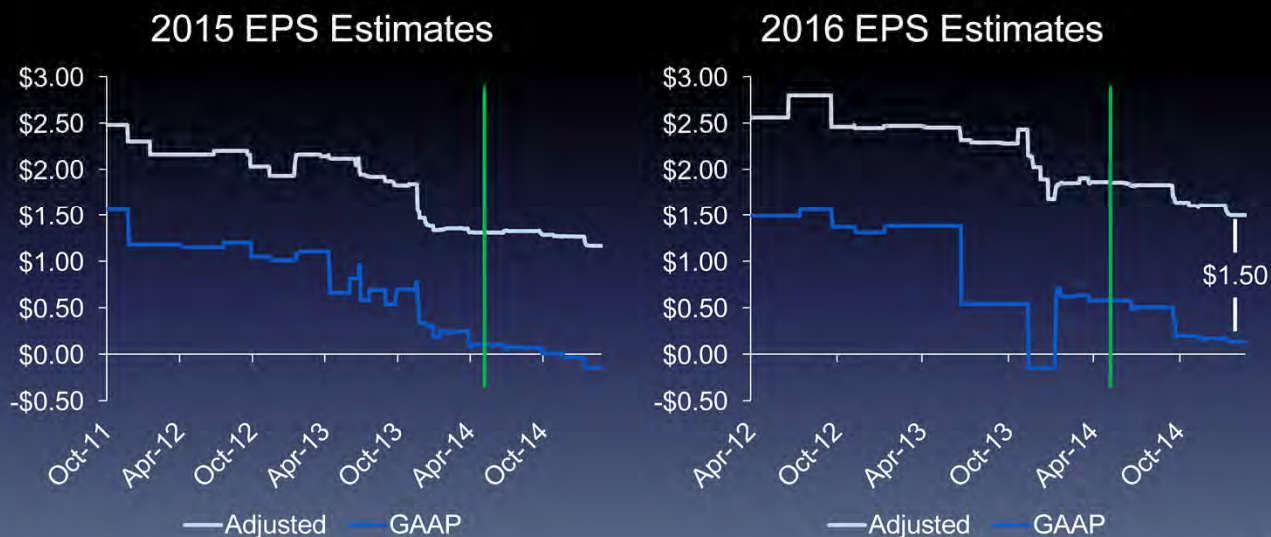


65

So what's happened since?
The stock is pretty much in the same place.

Source: Bloomberg L.P.

Earnings estimates still falling



66

athena has a long history of deteriorating earnings estimates. Over the last year, estimates have continued to decline. This is true for both GAAP and adjusted earnings. On a GAAP basis, EPS has declined over the last three years and the company currently operates at a loss.

Note that the gap between GAAP and non-GAAP earnings is now \$1.50 per share. In 2010 it was \$0.28 per share and has grown every year since.

Like many companies, athena has learned that if Wall Street counts cash compensation but not stock comp, it may as well pay its people in as much stock as possible.

Source: Adjusted and GAAP EPS estimates are historical Bloomberg consensus estimates for noted time periods as retrieved from Bloomberg in March 2015.

Reality GAAP

	Year Ended December 31,		
	2014	2013	2012
CASH FLOWS FROM FINANCING ACTIVITIES:			
Proceeds from issuance of common stock under stock plans and warrants	21,041	31,133	18,699
Taxes paid related to net share settlement of stock awards	(28,879)	(12,075)	(4,248)
Excess tax benefit from stock-based awards	10,060	6,910	14,179
Proceeds from long-term debt	—	200,000	—
Proceeds from line of credit	—	155,000	—
Payments for line of credit	—	(120,000)	—
Payments for long-term debt	(15,000)	(11,250)	—
Net settlement of acquired company's board of directors equity shares	—	(5,806)	—
Debt issuance costs	—	(1,699)	—
Payment of contingent consideration accrued at acquisition date	—	(525)	(1,550)

(28,879) (12,075) (4,248)

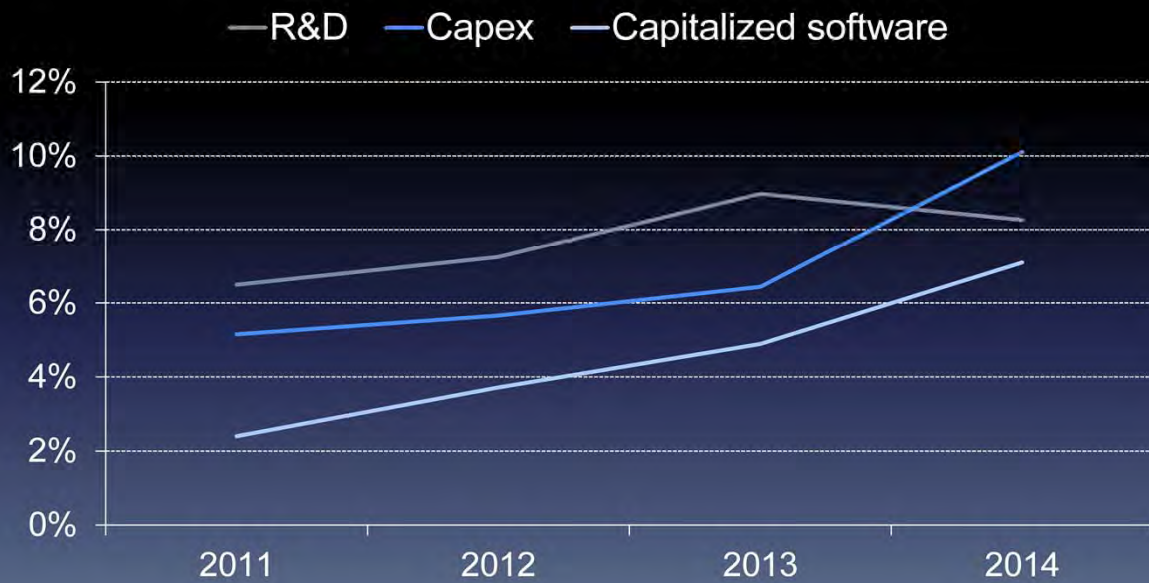
67

But look at this excerpt from the cash flow statement.

athena wants everyone to back out the stock compensation because it's a "non-cash" expense. Yet, it pays out cash taxes as part of its stock compensation scheme. At \$28 million, that's more than the company's entire free cash flow.

Source: ATHN 2014 Form 10-K

Earnings quality got worse



68

athena tells investors to ignore current profits because it needs to invest to maximize its growth opportunity. In 2014, R&D expenses were expected to grow and pressure operating margins, but this didn't happen. R&D expenses on the income statement actually declined as a percentage of sales last year.

Where did athena invest?

It invested in CapEx, which went from 6% of sales to 10%. It also grew total R&D substantially.

But, it capitalized the increasing part, with capitalized software going from 4.9% to 7.2%.

Margins fell, only it wasn't due to higher investment for growth, as the growth investing was mostly capitalized rather than expensed.

And had it not capitalized all these expenses, margins would have fallen even further.

Source: athenahealth's filings on Form 10-K and 10-Q; and Greenlight calculations derived from athenahealth's filings.

Accounting change

“During 2014, we began to sell go-live and training support services separate from the required implementation services. Fees associated with required implementation services are included in our ongoing monthly rate; therefore, they are being recognized ratably over the customer life. Go-live and training support services can be purchased by the customer from us or third-party vendors, and therefore, are recognized upon delivery of service. Previously deferred revenue balances related to implementation services, including go-live and training support services, will continue to be amortized over those remaining customer lives.”

– ATHN 3Q 2014 10Q, page 13

69

athena slipped an accounting change into its third quarter 10Q to accelerate revenue recognition. While there is no disclosure of the impact, in our experience this is the sort of thing companies do when they are straining to meet expectations. Notably, that quarter, athena exceeded consensus revenue estimates by 0.25%.

Clinical term: doesn't suck



70

So coming back to the bull case, here's Jonathan in October of last year reminding everyone that the company's goal is to grow 30% a year.

Source: <http://video.cnbc.com/gallery/?video=3000319485>

Bookings growth slowing

“During 2014, we did not get there. We did great, we did huge but we didn’t get all the way to that 30% growth rate that we wanted . . . enterprise fell a little short.” – 4Q 2014 earnings call

“Although we fell short of our 30% bookings growth goal in 2014, we were able to finish the year strong and have entered 2015 with positive momentum.” – 4Q 2014 prepared remarks

71

athena missed that 30% goal in 2014.

According to Jonathan Bush, despite missing this target, it did “great” and “huge”, and enterprise, which is about half its bookings, just “fell a little short”.

Source: athenahealth website at

<http://investor.athenahealth.com/phoenix.zhtml?c=213592&p=quarterlyearnings>, retrieved March 2015.

Enterprise bookings announcements

2011 Contracts		2012 Contracts		2013 Contracts	
Promedica	400	Emergency Med Phys	800	HPP	2,000
University Hospitals	1,000	Children's LA	500	Rush Health	300
Caromont	200	HMA	1,200	Riverside	400
Florida Women's Care	170	MedExpress	450	Integrus	400
Summit	230			Ascension	4,000
				Marquette	250
Total	2,000	Total	2,950	Total	7,350

72

In general, athena is fairly transparent with its disclosure, but it doesn't disclose its bookings, presumably for competitive reasons. However, the company issues press releases for new clients with over 150 physicians, known as the enterprise group.

So, we can tabulate the press releases to estimate enterprise bookings. You might not think this qualifies as deep research but none of the sell side analysts have written about this and the results are revealing.

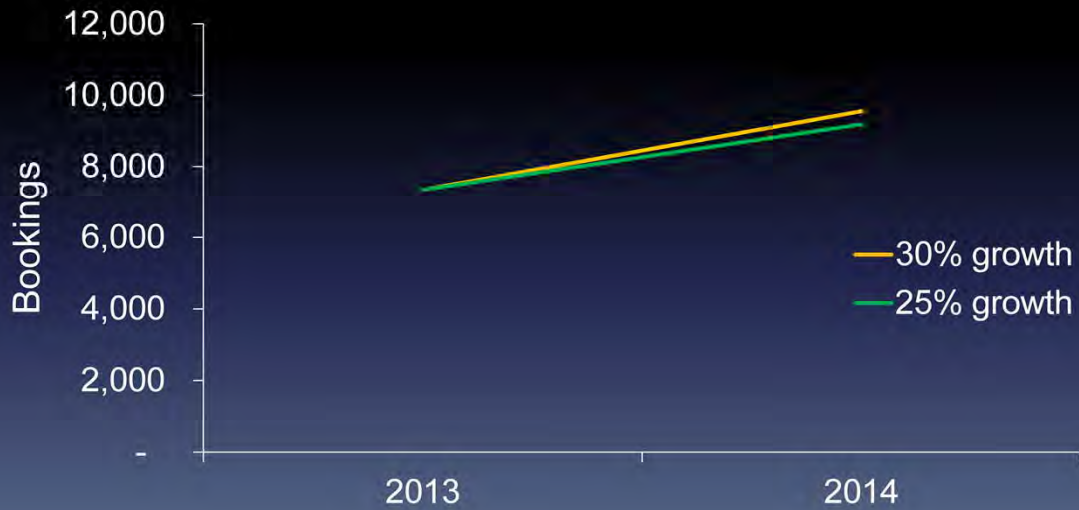
Here you see athena announced 2,000 new provider wins in 2011.

In 2012 it announced 2,950 new providers.

In 2013, you can see it had two enormous wins, which drove the increase to 7,350.

Source: Greenlight calculations for new athena collector enterprise customers based on athenahealth press releases at <http://newsroom.athenahealth.com/phoenix.zhtml?c=253091&p=irol-overview>.

How short is enterprise?



73

So what happened in 2014?
athena had a target of 30% growth.
Jonathan says they came up a little short.

The green line is our sense of what “a little short” might mean.

They said thirty, so maybe they only grew 25%, which would be about 9,200 new providers.

Source: Greenlight calculations for new athena collector enterprise customers based on athenahealth press releases at <http://newsroom.athenahealth.com/phoenix.zhtml?c=253091&p=irol-overview>.

Enterprise bookings announcements

<u>2011 Contracts</u>		<u>2012 Contracts</u>		<u>2013 Contracts</u>		<u>2014 Contracts</u>	
						Women's Health USA	250
						Florida Cancer	300
						UTP	260
						St. Peter's Healthcare	176
						Phoebe Physician Group	260
Total	<u>2,000</u>	Total	<u>2,950</u>	Total	<u>7,350</u>	Total	<u>1,246</u>

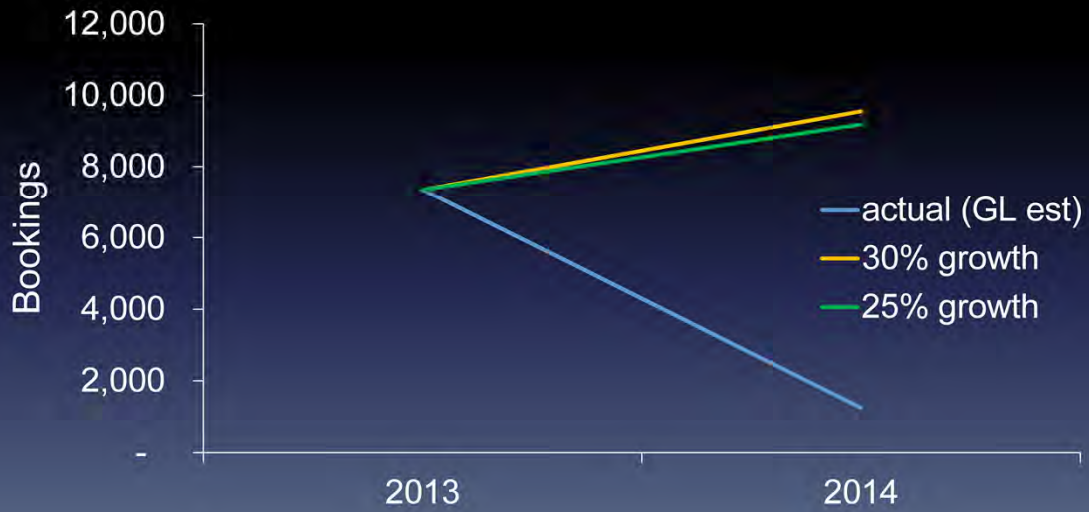
74

So, how did they do?

athena announced a few small contracts totaling only 1,246 providers.

Source: Greenlight calculations for new athena collector enterprise customers based on athenahealth press releases at <http://newsroom.athenahealth.com/phoenix.zhtml?c=253091&p=irol-overview>.

How short is enterprise?



75

You can see that announced enterprise bookings fell 83%.

Source: Greenlight calculations for new athena collector enterprise customers based on athenahealth press releases at <http://newsroom.athenahealth.com/phoenix.zhtml?c=253091&p=irol-overview>.

It's all about the base

“Of course, looking forward from where we are with our sort of less than 30% bookings growth here in 2014, are we ready to grow 30% from where we got? Absolutely.”

– Jonathan Bush, 4Q 2014 earnings call

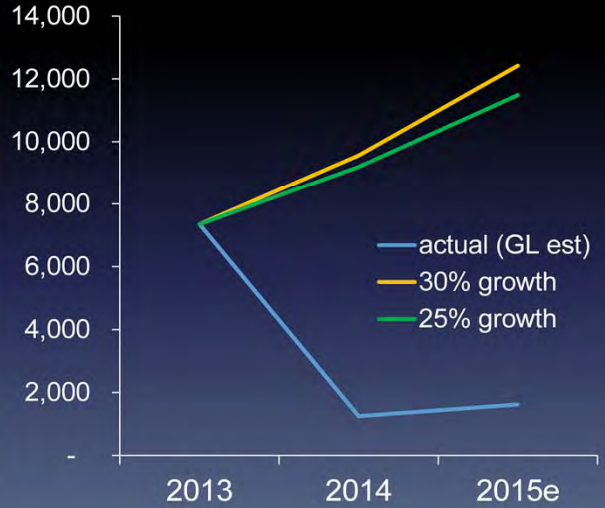
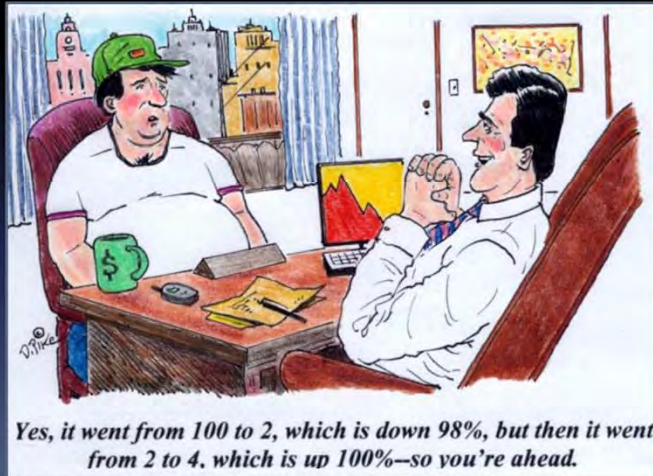
76

At the analyst day in December, the bullish highlight was that bookings growth would return to 30% in 2015.

Source: athenahealth website at

<http://investor.athenahealth.com/phoenix.zhtml?c=213592&p=quarterlyearnings>, retrieved March 2015.

“A little short”



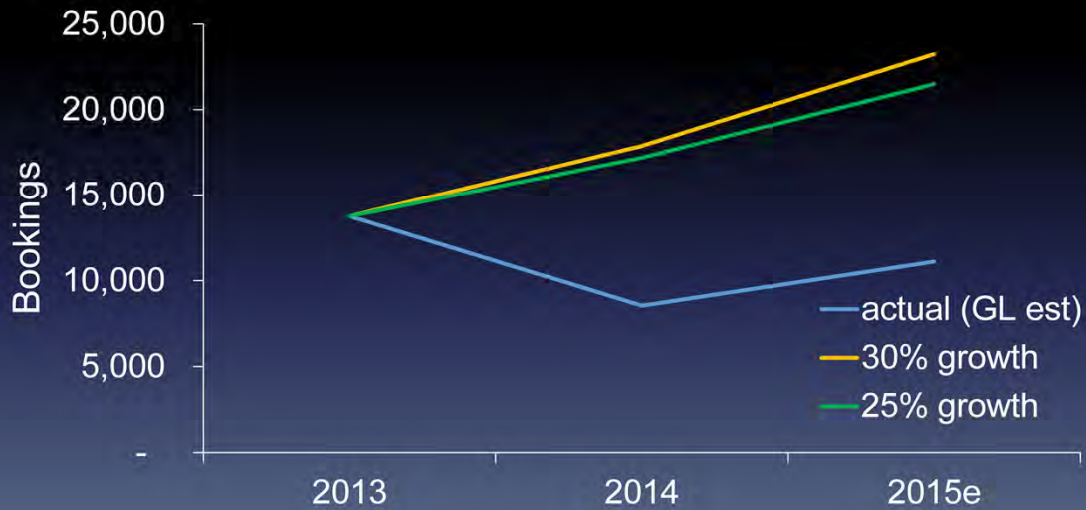
77

But, that 30% is off the now-lower base. Investors have been led to believe that 2014 was a small hiccup and that athena’s bookings are tracking to the green line. We think the reality is that bookings growth will come off a substantially lower base and are more like the blue line.

athena might cheer 30% enterprise bookings growth, but that won’t even take it back to its 2011 level.

Source: Greenlight calculations for new athena collector enterprise customers based on athenahealth press releases at <http://newsroom.athenahealth.com/phoenix.zhtml?c=253091&p=irol-overview>.

Total bookings



78

What does this mean for overall bookings?

We know that enterprise bookings were slated to be 50% of total bookings in 2014, so if these bookings declined 83%, overall bookings were down in 2014 versus 2013.

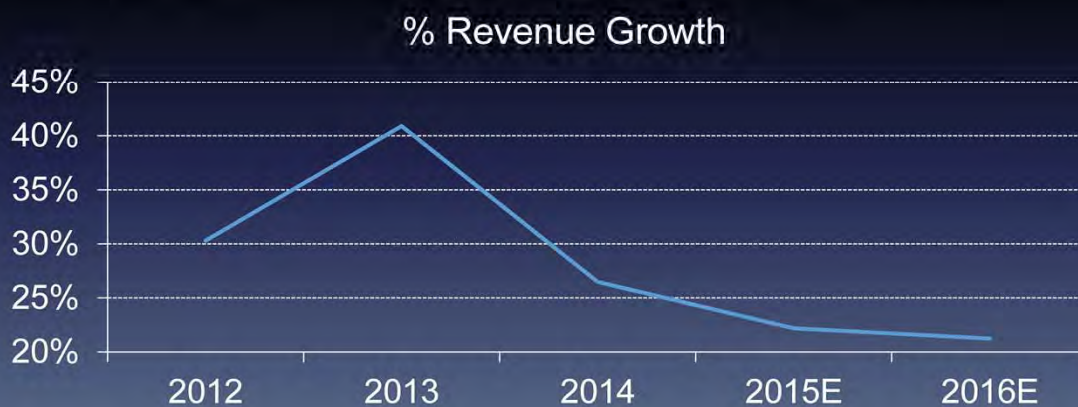
Again, if athena resumes 30% bookings' growth off the lower base, it won't return to 2013 levels this year.

Even growing 30% over last year's depleted base could be a challenge because in the first quarter athena announced just one small contract.

Source: Greenlight calculations for new athena collector enterprise customers based on athenahealth press releases at <http://newsroom.athenahealth.com/phoenix.zhtml?c=253091&p=irol-overview>.

Slowing down

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015E</u>	<u>2016E</u>
Revenues	422	595	753	920	1,115



79

Bookings are a leading indicator of installations and installations are a leading indicator of revenue. So, the decline in bookings probably didn't affect 2014 revenues, but will provide a headwind in 2015 and probably an even bigger headwind in 2016. The street expects revenues to decelerate from the historical rate of over 30% to 22% this year and 21% next year.

Management insists that the long-term revenue growth rate is still 30%.

Source: Bloomberg consensus estimates retrieved in March 2015.

Thirty percent



80

And in case you're curious as to where that 30% target comes from.

Source: <http://blogs.vmware.com/euc/2011/07/fortune-brainstorm-javier-soltero-on-how-the-enterprise-can-innovate.html>, retrieved April 2014.

Capitulation

Clients at risk



250 providers, 3Q15

400 providers, 1Q16

1,000 providers, 1Q15

81

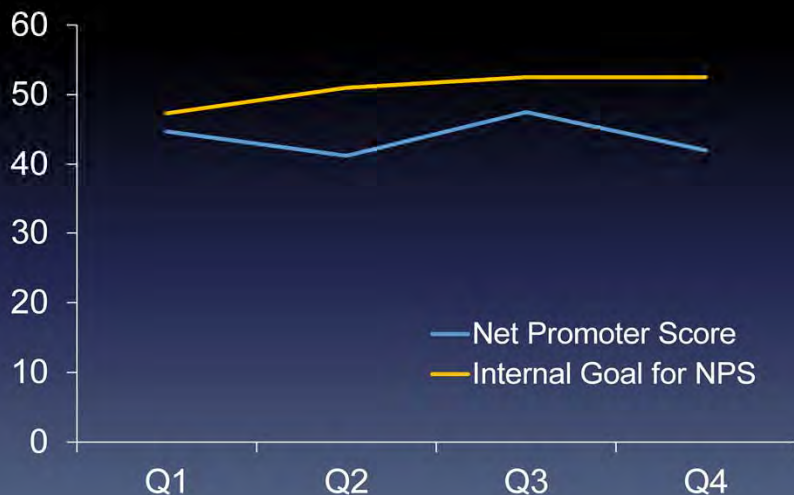
Last May, we identified these six customers that we believed athena may lose in the coming years.

West Penn Allegheny did the first major de-installation this quarter. Obviously, athena needs to win new business just to replace lost customers.

It seems likely that athena will continue to lose enterprise customers.

Source: Greenlight opinion based upon public statements, news articles, announcements for open employment positions, and discussions with industry participants.

KLAS-sick



82

The enterprise booking loss has followed deterioration in its brand image.

athena missed its client satisfaction targets for every quarter in 2014, after generally beating them in prior years.

In healthcare vendor reviewer KLAS's ratings, athena's scores dropped for every product and every size customer, and its rankings versus other providers either declined or stayed flat. It also lost the title of best overall software vendor to Epic. It's possible that athena's diminished reputation has impacted its ability to win new business.

Source: KLAS

<http://www.epic.com/>

<http://hitconsultant.net/2015/02/02/in-depth-2014-best-in-klas-awards-for-software-and-professional-services/>

<http://investor.athenahealth.com/phoenix.zhtml?c=213592&p=irol-calendarpast>

Bush responds

On Epic: “Best darn dinosaur of our age”

“So this is the key. We’re not going to develop a system to take them on. We are building a network.”



83

After Sohn, Jonathan Bush went on CNBC and explained that we had misunderstood the company. When asked explicitly about Epic, he called them the best darn dinosaur of our age and said the future is the cloud.

When the host followed up noting that athena would have to spend billions to build a system to compete with Epic, Jonathan said,

“So this is the key. We’re not going to develop a system to take them on. We are building a network.”

Source: <http://video.cnn.com/gallery/?video=3000273642>

Acquisitions



84

Less than eight months later athena spent \$80 million to do two acquisitions to accelerate the building of a competitive system.

webOMR is Beth Israel's EHR platform that athena will integrate into its own in-patient offering.

RazorInsights is a cloud-based EHR for rural and community hospitals with under 50 beds. Even though RazorInsights has 25 customers, athena left its revenue guidance substantially unchanged.

Source: Greenlight calculations for new athena collector enterprise customers based on athenahealth press releases at <http://newsroom.athenahealth.com/phoenix.zhtml?c=253091&p=irol-overview>.

Very forgiving



85

Here's Jonathan Bush describing the value of acquisitions.

We suspect that athena is doing just that – using these acquisitions to implicitly lower guidance without actually lowering guidance.

Source: <http://video.mit.edu/watch/are-you-ready-for-ipo-strategies-and-steps-for-how-and-when-to-take-your-company-public-9327/>

Epic fail?

“As I see it, patients increasingly are going to be producing, consuming and demanding access to their own medical data. They’re going to want to call it up on their smart phones and tablets.”

– Jonathan Bush, criticizing Epic

86

As for Epic, Jonathan Bush dedicated a whole chapter in his book to criticizing the company for being a closed system.

Source: Where Does It Hurt? An Entrepreneur’s Guide To Fixing Health Care. Jonathan Bush and Stephen Baker, chapter 9, page 135.

Epic win

“It’s simple for hospitals to connect Apple’s HealthKit to their Epic electronic health-record systems”

– Dr. Shafiq Rab, chief information officer at Hackensack University Medical System



87

When Apple announced HealthKit last summer, its key partner in giving patients access to their records on their mobile device turned out to be Epic – the dinosaur is now in the cloud.

Source: <http://www.modernhealthcare.com/article/20150205/NEWS/302059938>

Insiders out

	Share Equivalents in April 2014	Sold since	% of total
Jonathan Bush	826.3	21.5	2.6%
David Robinson	102.1	80.0	78.4%
Rob Cosinuke	98.9	63.0	63.7%
Jack Kane	54.8	10.0	18.2%
James Mann	43.6	39.5	90.6%
Steve Kahane	34.0	25.0	73.5%

88

While Epic moves into the cloud, athena's board seems somewhat more grounded, and – excluding Bush – have sold 58% of their shares in the last year.

Source: Greenlight calculations based on regulatory filings.

Consulting the orifice



89

At the Ira Sohn conference last year, we allowed relatively generous assumptions in the base case DCF, which valued athena at \$50 per share.

Back then, we weren't forecasting a big slowdown in enterprise bookings, massive increases in capitalized research and development propping up the income statement, or Epic entering the cloud.

Here, Jonathan Bush suggests that it's up to me and other investors to decide what athena is worth.

Well, at least he didn't get his price target from the same place he got his growth rate. As it stands now, we think athena's business performance is tracking closer to our bear case valuation of \$14 per share.

We continue to expect the athena stock bubble to pop.

Source: <http://www.bloomberg.com/news/videos/b/daa965b8-068c-48fa-b49f-109565a96743>