

A Deeper Look Into The Culpability For The “Retail Apocalypse.”



Conclusion

During 2016 and 2017 announced US retail store closings are running over 9500 stores, resulting in the elimination of around 250k jobs; the 2017 announcements are 230% greater than 2016's level. Additionally, despite robust consumer spending, overall US retail net profits fell more than 20% from 2014 to 2016, and return on assets have fallen a like amount. As a result, US retail has been an underperforming sector in the stock market. This presentation shows that the sector's profit and performance pressures are the result of a confluence of adverse factors and not solely due to the popular allegation of unfair competition by Amazon. That popular view is anchored by a false belief that Amazon doesn't make profits and that Wall Street doesn't hold Amazon accountable for profits, as it does for conventional retailers.

The confluence of adverse factors affecting the industry include: 1) the industry went through the 2000s aggressively building new stores—over-building into the teeth of unfavorable shifts in demographics and income bifurcation. (The Global Financial Crises also did not help.) 2) Those shifts were exacerbated by a move in consumer demand to e-commerce. 3) e-commerce moved retailers into competition with more efficient competitors (such as Amazon) which were also **not beholden** to historic higher retail prices and margins. 4) Retailer websites and pricing-bots moved competition from a local-market level to a national level where prices were set by the lowest price in the marketplace—even if that price came from a seller with limited one-time inventory. And 5) moving into these headwinds were a material number of retailers that had been bought-out by private equity in more benign times. Many of these PE-owned retailers did not have the capacity to invest, the capability to evolve, and the stamina to withstand the headwinds.

These buy-outs took place during an unprecedented period of private equity fund raising that was coincident with substantial shifts in institutional investor asset allocations from public equity to private equity. These allocation changes were made with the expectation of higher returns from private equity over public equity. While the expectation for higher returns was justified based upon historic returns, there has been little academic or independent research on the systemic risks and potential externalities of such large allocation changes. As such, institutional consideration for the risks and externalities appears to be limited.

Summary

- 1) Traditional retail growth and profitability has declined over the past few years due to a confluence of factors:
 - ✓ Broad consumer demand has been undermined since 2005 due to demographics, income bifurcation, and student loan debt payments.
 - ✓ The demand flattening happened just at the tail-end of aggressive retailer expansion—expansion that was based upon the expectation for continued robust consumption.
 - ✓ Additionally, consumer demand fragmented between e-commerce sites and traditional brick & mortar retail. Traditional retail demand growth of 3% has been about 100 bps slower than the aggregate.
 - ✓ Prior to retailers launching their own websites (and smart-phone price-matching), retailers over-earned as they priced for a less competitive local trade area vs. the very competitive national marketplace. For many retailers, matching the national marketplace cost them profitability.
 - ✓ Amazon did enter many product categories at substantially lower prices and gross margins. These were afforded by greater retail efficiencies, i.e. fulfilling consumer demand via direct shipping from fulfillment centers cost less than doing so from a traditional retail store; additionally, Amazon **wasn't beholden to prior profit expectations** set by its owners. Shareholders expected Amazon to take market share.
 - ✓ Over the past few years, added store service and higher wage costs have further undermined retailer profits and returns.
- 2) Unacknowledged by the press and the retail industry, Amazon's North American profit margins and profits have risen sharply during the past six years. Amazon's developed-markets retail business makes substantial profits and its margins are now higher than most traditional retailers.
- 3) Flying into the above headwinds was a large number of private-equity owned retailers. Many of these retailers have been limited in their ability to invest due to the interest cost burden that was placed upon them. Satisfying fast-changing consumer expectations were beyond many, resulting in material market-share losses. As market-share losses mounted, more expense and investment had to be taken out of the businesses to service the interest burden. Eventually many stores closed, jobs were lost, and businesses ceased.
- 4) During 2016 and 2017 announced US retail store closings are running over 9500 stores, resulting in the elimination of around 250k jobs; the 2017 announcements are 230% greater than 2016's level. 33% of the estimated job lost were at private-equity owned retailers.

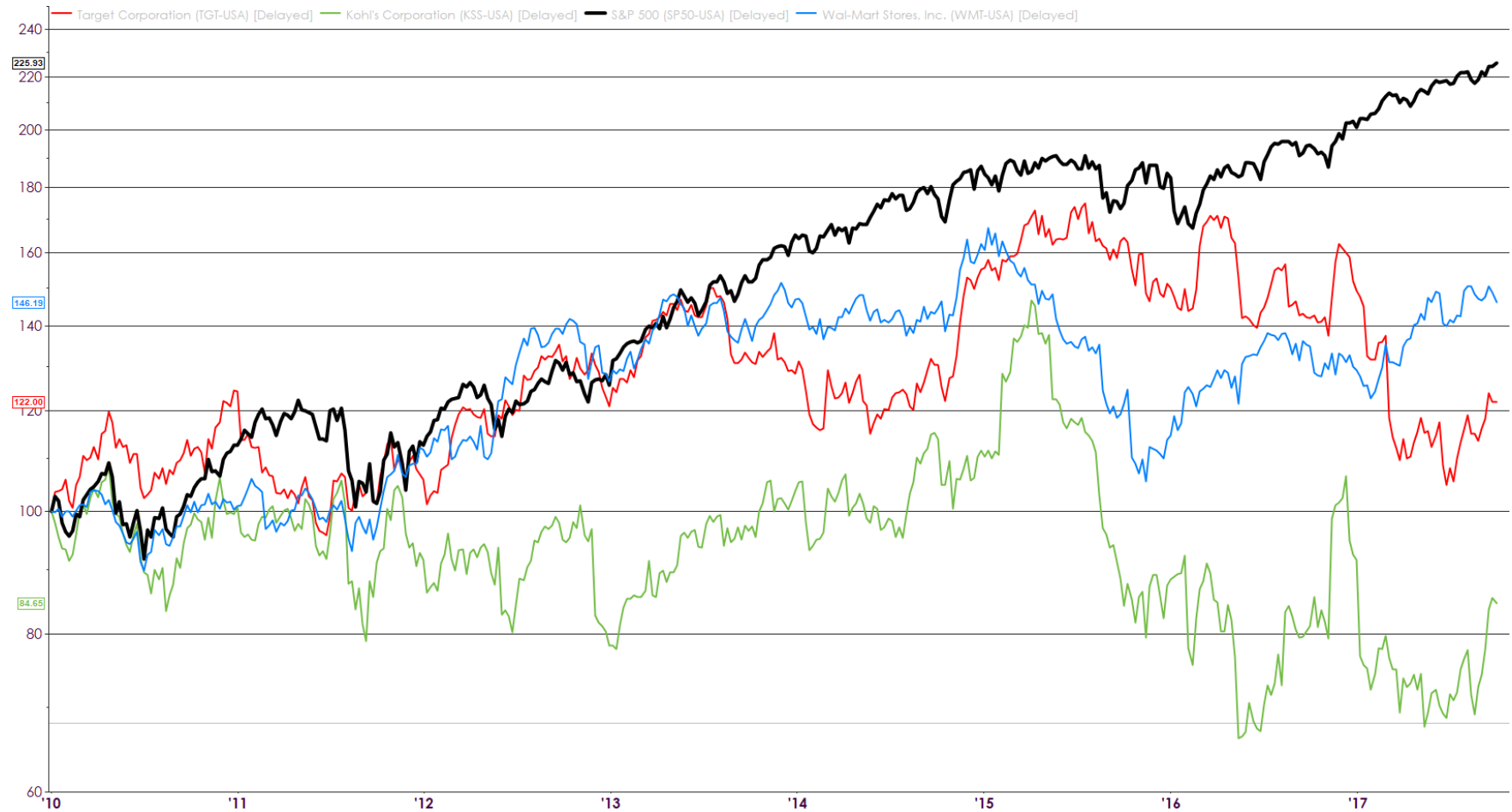
Summary Cont.

- 5) Private equity doesn't invest to fail. They take a portfolio approach. Some investments will pay off spectacularly. Some will pay off respectably. Some will fail. The more investments that private equity has to make due to raised capital, the riskier deals they will do.
- 6) Private equity buyout funds have experienced substantial growth over the past decade—fueled by an insatiable appetite by institutional investors. That demand has arisen due to a shift in investment allocations from public to private equity.
- 7) Pension funds and other institutional investors have been shifting their allocations to private equity from public equity because their return expectations are nearly 40% greater for private than for public. Said differently, to meet their pensioner retirement liabilities, institutions have wanted more private equity returns than public returns. During this time, the private returns were also enhanced because interest rates were abnormally low and the ubiquitous availability of debt capital.
- 8) This large change in asset allocation may also be leading to a less agile economy where companies are less able to invest and less able to change when conditions change, like what we have seen in the retail sector.
- 9) Another potential externality that may come from private vs. public equity ownership is that there is an undermining of economic growth. This could happen because the economic multipliers attached to private-equity returns to institutional investors (primarily pension funds) are likely lower than the economic multipliers associated with the publicly-owned companies prior to the buy-out.
- 10) The authors of this presentation can find little to no academic or independent economic research and analysis of these issues relative to recent times. The discovered research generally uses data from the 1990s when the rate and nature of economic growth was significantly different than in the 2010s.
- 11) It is generally accepted that the rate of social and economic change and the need for industries to adapt are now all moving at a faster rate. Adding unprecedented leverage onto industries and the economy at this time suggests added risk. Understanding this risk becomes of more importance. Given that there has been little research on these topics means that the magnitude of the risks taken are somewhat unknown.
- 12) It is quite disconcerting that we as a society are taking added risk of unknown magnitude considering that we are just coming off the largest financial crises of all time.

What's Wrong With US Retail

- 1) Despite the US economy having been led since the Global Financial Crises by the US consumer, retail stocks have significantly lagged the market since Q3 2013.
- 2) Profit margins and returns for the retail sector have materially contracted since 2010 due to retail price deflation, higher costs per sale, and more invested capital.
- 3) Two macro factors are important to this: 1) demographics and 2) income bifurcation.
- 4) Three marketplace factors have caused this: 1) price transparency, 2) more "retail capacity" due to the rise of e-commerce, and 3) the new entrants enjoyed greater efficiencies and were not beholden to legacy levels of profitability and margin rate.

Despite A Strong Economy Retailers Have Lagged The S&P 500



Source: Factset

Compositional Changes To “The Consumer”

Projections of the Population by Selected Age Groups						
	(Resident population as of July 1. Numbers in thousands)					
	1995	2005	2010	2020		
					1995-2005	2010-2020
15 to 24 years	36,486	41,070	42,240	43,107	4,584	867
25 to 34 years	40,872	39,310	41,085	46,890	-1,562	5,805
35 to 54 years	73,547	85,312	84,834	83,470	11,765	-1,364
55 to 64 years	21,131	29,536	35,395	43,019	8,405	7,624
65 years and over	33,158	35,209	38,613	56,441	2,051	17,828

Citation:

Source: U.S. Census Bureau, Population Division

Release Date: December 2014

The above chart shows how the composition of population growth has changed within two periods. The period of 1995-2005 was a period of aggressive retail store growth by national players where many local operators folded, such as regional department stores. The period of 2010-2020 is the environment that retailer now face. One can observe the following:

- 1) The teen retailer sector was growing stores for a rapidly growing youth population. That population stopped growing after 2010 leaving the sector vastly over-stored. This is partially to blame for its downfall.
- 2) The population for the 25-34 has seen good population growth in the second period; however, this generation contends with a vastly higher student debt burden than prior generations.
- 3) The prime “family age” of 35-54 and the period of large household spending slowed materially in the second period. This is the population Target, Walmart, and most large retailers cater to.
- 4) The population group of 55 -64 has seen similar growth within the two windows.
- 5) The population group over 64 has had massive growth in the second window. Not only is this population a more moderate consumer. They also spend more on services and experiences v.s. buying goods.

Compositional Changes To “The Consumer”

Over the past 10 years, the change in income distribution has had an effect on retail as most households have only enjoyed modest income growth.

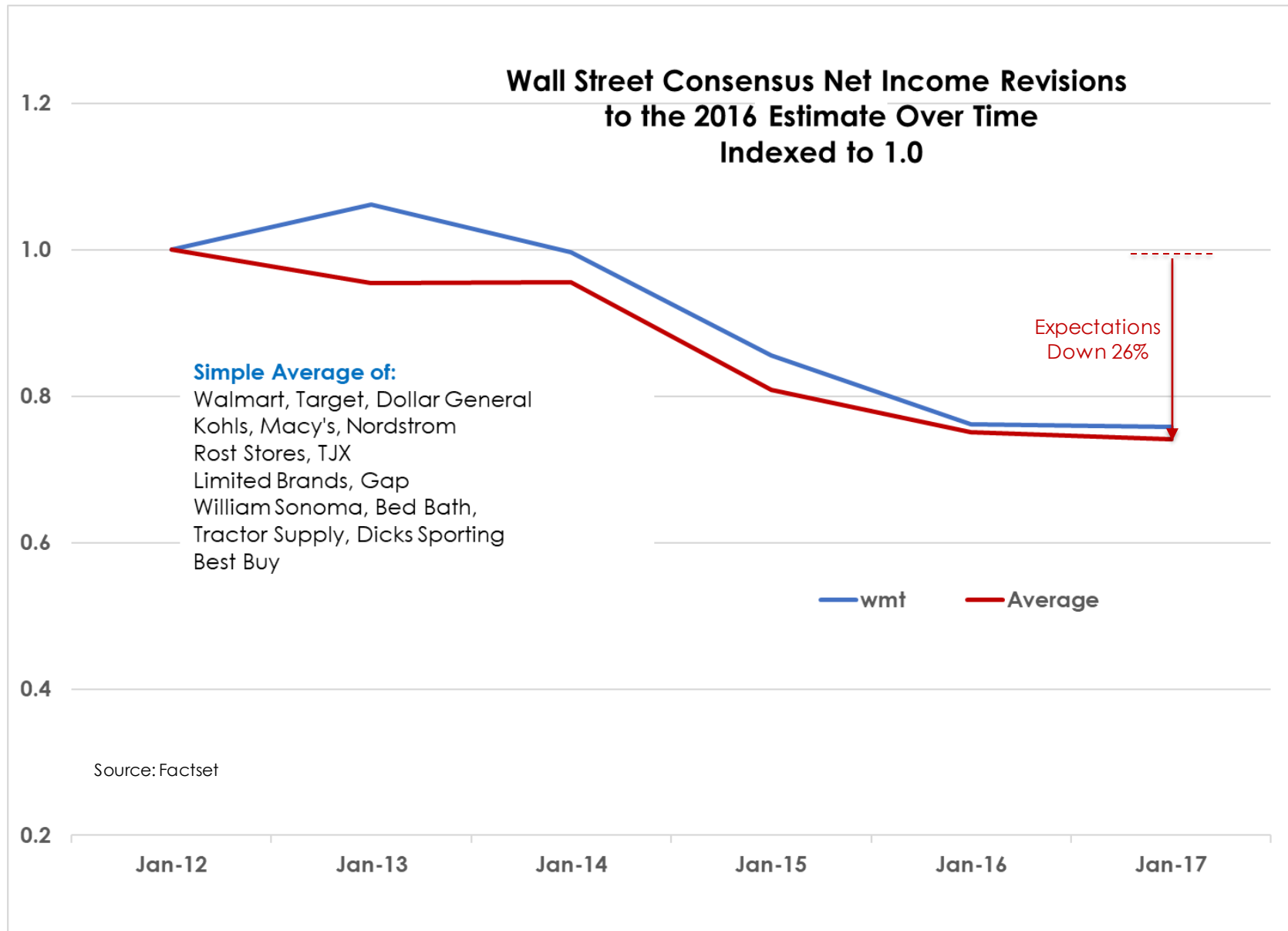
- ✓ Total household income is down for those under \$35K in annual income.
- ✓ Total household income has risen at a very moderate rate for the middle. In contrast,
- ✓ Income for households above \$150k/yr has gained at an 8% rate.

	2005	2016	
Total HHs	114,384	126,224	
Under \$35K	31%	32%	
\$35K-\$150K	58%	56%	
Over \$150k	11%	13%	
			Change
Under \$35K	43,902	38,079	-5,823
\$35K-\$150K	62,901	71,017	8,116
Over \$150k	7,583	17,127	9,544
Mean Income/HH			
Under \$35K	\$18,317	\$18,409	
\$35K-\$150K	\$72,199	\$77,183	
Over \$150k	\$250,560	\$251,769	
			Annualized Growth
Total Income (\$m)			
Under \$35K	\$804,170	\$701,010	-1.2%
\$35K-\$150K	\$4,541,396	\$5,481,284	1.7%
Over \$150k	\$1,899,999	\$4,312,052	7.7%

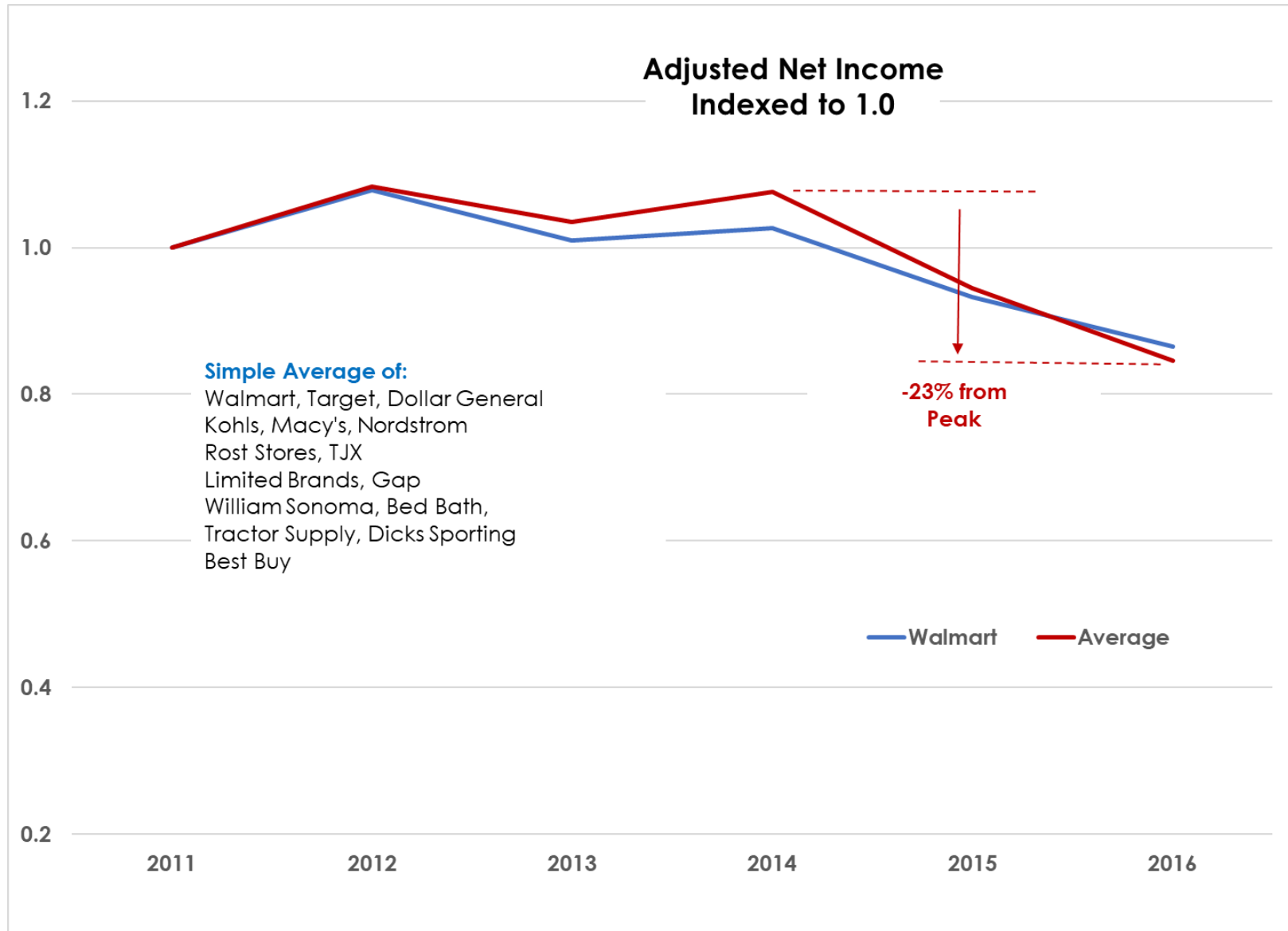
Source:

US Census Bureau, Current Pop Survey, 2006 & 2017
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Expectations for Retail Earnings Have Significantly Fallen

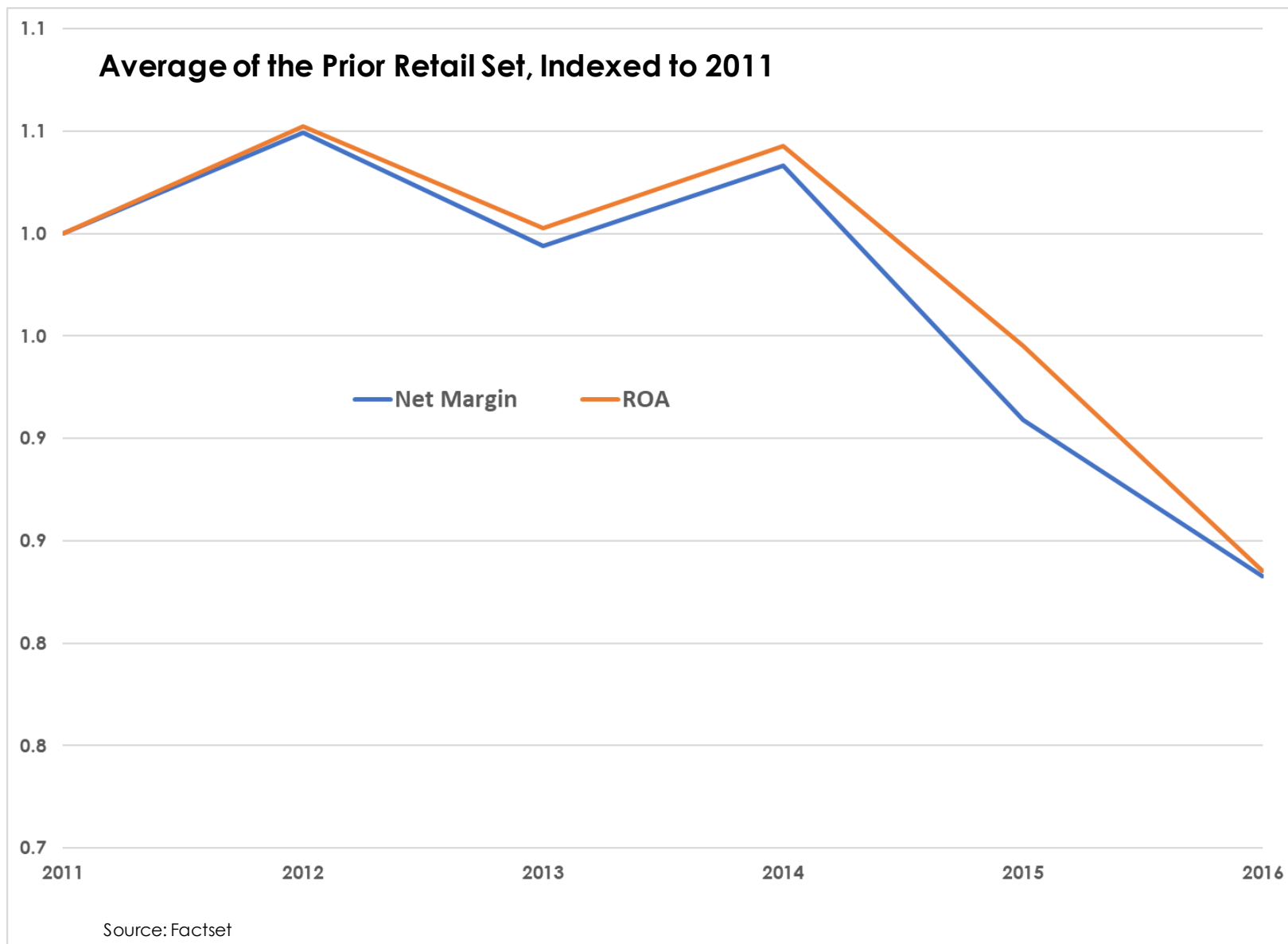


Falling Retailer Profits



Source: Factset

Falling Retailer Margins and Returns: -16% from 2011 to 2016



e-Commerce: Some Channel Shift Drag

e-Commerce has grown materially; however, there still has been growth in traditional discretionary brick & mortar retail. Said differently, "all of the growth in retail spending **did not go** to e-commerce and Amazon."

\$ Billions Unless Noted

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u> ▲	<u>2015</u> ▲	<u>2016</u>
Adjusted US Retail Sales non-SA ex. vehicles, parts dealers, gas stations, fuel dealers and eat & drink	\$2,591	\$2,717 4.9%	\$2,824 4.0%▲	\$2,912 3.1%▲	\$3,040 4.4%▲	\$3,158 3.9%	\$3,279 3.8%
Food & Beverage Stores	<u>\$581</u>	<u>\$609</u>	<u>\$628</u>	<u>\$644</u>	<u>\$663</u>	<u>\$681</u>	<u>\$690</u>
Retail -ex Food & Beverage	<u>\$2,010</u>	<u>\$2,108</u>	<u>\$2,196</u>	<u>\$2,268</u>	<u>\$2,377</u>	<u>\$2,478</u>	<u>\$2,589</u>
US Online Sales (US Census, non-SA) YoY Growth	\$170	\$200 18%	\$230 15%	\$261 13%	\$299 15%	\$340 14%▲	\$391 15%
Retail ex-Food, Bev Stores & eCommerce YoY Growth	<u>\$1,841</u>	<u>\$1,908</u> 3.7%	<u>\$1,966</u> 3.0%▲	<u>\$2,008</u> 2.1%▲	<u>\$2,079</u> 3.5%▲	<u>\$2,137</u> 2.8%	<u>\$2,198</u> 2.8%

Sales for vehicles, parts, gas, fuel, and eating & drinking places are stripped out because they are big numbers that distort the analysis of the size of e-Commerce as is relevant to traditional retail.

Similarly, we also strip-out grocery given its large size and low online penetration.

Source: US Census Bureau, November 2017 and ICM LLC

Price Transparency

Another significant headwind to traditional retail has been the price transparency afforded by retailer websites and smart phones.

Instead of prices being set by the competitive set within a local trade area, a retailer's store prices now had to match its website price and **the website price had to match the lowest price in the market on a national basis**. A consumer could now compare prices at home, or in the store, and then demand the lowest price that could be discovered on the internet. Selling as a third party seller on a marketplace like Amazon has a much lower fixed cost than running a large brick & mortar store. Moreover, third party sellers **do not have a legacy gross profit expectation** that they need to maintain to satisfy their owners. The seller could have limited inventory of a particular item that they are just clearing through once. This seller had no loyalty to the brand and its equity.

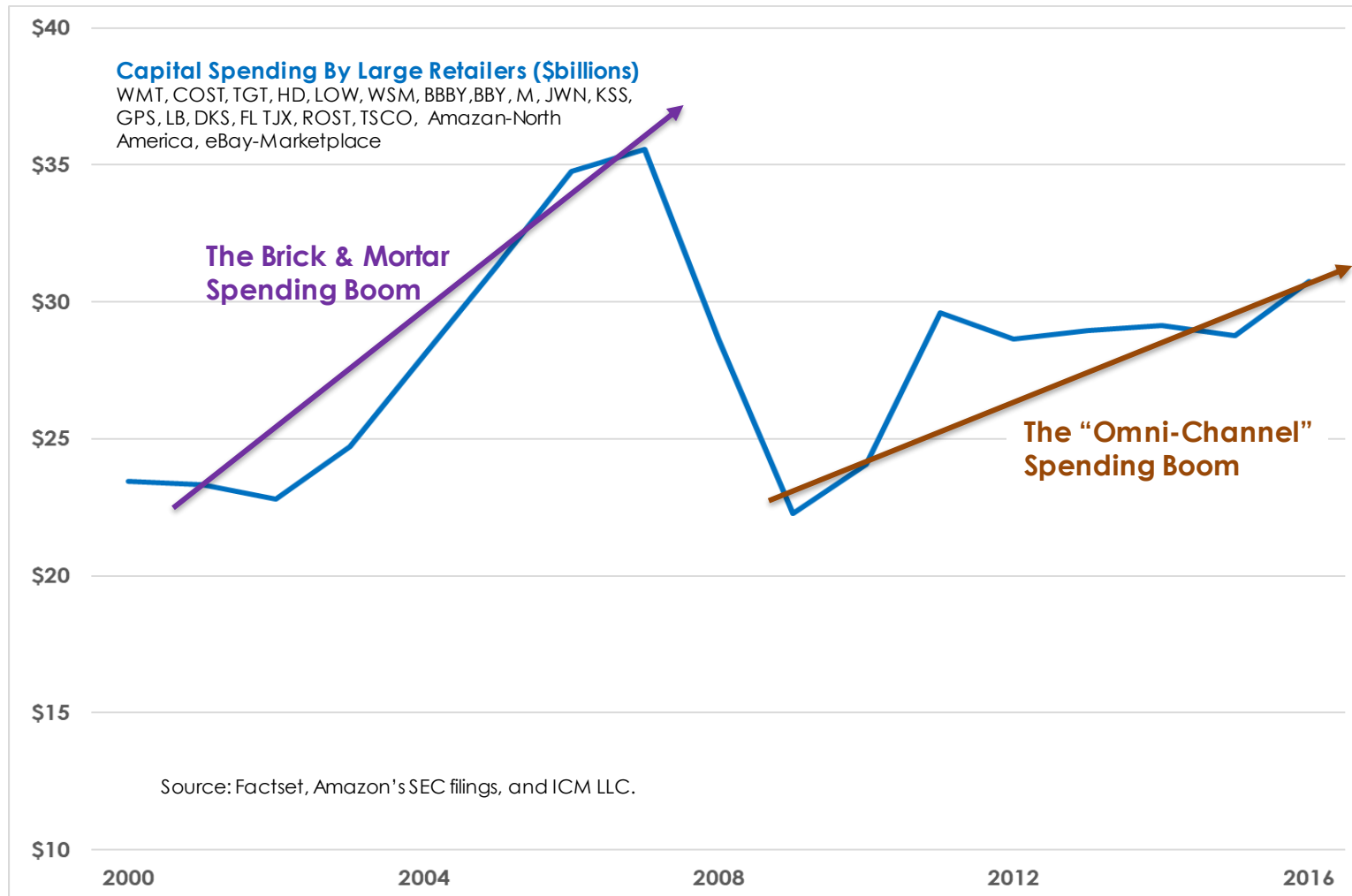
This dynamic is the clearest in the gross margin rates reported by Best Buy and Nordstrom. Each of these companies reset store prices to match their website prices. Each made a customer promise to match competitor prices. As each company had relatively stable to improving sales during this period, the gross margin rates are not distorted by volume deleverage due to fixed costs and other factors brought about by instability.

Domestic Gross Margin Rates

	2010	2011	2012	2013	2014	2015	2016	Change
Nordstrom	36.7%	37.2%	36.8%	36.4%	35.9%	35.0%	34.9%	-180 bps
Best Buy	25.0%	24.4%	23.9%	22.4%	23.1%	23.4%	23.4%	-160 bps

Larger Retailer Capital Spending

Going into the Financial Crises and the previously detailed demographic and income downcycle, traditional retailers aggressively spent capital to expand their store base. After the Financial Crises, spending again picked up to launch online stores which is another form of capacity expansion—but this time an expansion without geographic or competitive boundaries. Competitive encroachment became ubiquitous.



Amazon's Price Advantage

Retail gross margin measures the profit from a sale after accounting for the cost of the sale including the price paid to the supplier, the costs for the buying organization, and the store rent. For the selected set of retailers shown below, they collected \$26 for each \$100 dollars in sales in 2011. The roughly equivalent profit for Amazon was \$20. While not completely apples-apples as Amazon has a different product mix than combining Target, Best Buy, Barnes & Noble, and Dick's Sporting Goods, the price analysis shows that **Amazon had roughly a 9%** lower retail price compared to its competitors in 2011, thus allowing for market share gains.

Amazon was able to offer a lower price because its fulfillment and shipping expense are more efficient than the traditional retail model and because **it wasn't beholden to prior profit expectations** set by its owners. Amazon's shareholders **expected** Amazon to offer a lower price to gain market share. In contrast, Target's shareholders **hoped** that Target's customers would want to visit the stores to examine the goods before buying and that the customer would pay a premium for that capability and the gratification of getting the product immediately. As we know now, many consumers didn't need to examine the goods when shipping and returns were free (Amazon Prime) and they preferred the convenience of shopping from their couch and saving time. Immediate gratification versus a two-day wait (Prime) was of less importance.

Select Industry Gross Margins		2011
Target		27.8%
Best Buy		24.8%
Barnes & Noble		22.4%
Dick's Sporting Goods		30.6%
Average		26.4%
Amazon Product		
Gross Margin		21.4%

Amazon's Lower Prices			
2011 Base			
Traditional Retail Price	\$100	Amazon Retail Price	\$91
Assumed Merchandise Cost	\$71	Assumed Merchandise Cost	\$71
Merchant Costs	\$1	Merchant Costs	\$1
Store Costs	\$2	Store Costs	\$0
Gross Margin	\$26	Gross Margin	\$20
Rate	26.4%	Rate	21.4%

Clearing Up Misperceptions About Amazon

The press and the retail industry generally characterizes Amazon as a money-losing **Machiavellian competitor unconcerned about profits**. Moreover, they allege that Amazon destroys the retail industry's profit pool. That is a superficial understanding of Amazon. Amazon runs its business to maximize its profits in the long term. In the near term, it invests a significant portion of the profits from its more mature businesses into new businesses and opportunities. As such, to understand what's going on beneath, one needs to strip away layers of investments. What that exercise reveals is that Amazon's retail business has been experiencing both gross margin and operating margin expansion. **Our estimates show that its domestic retail margin is now higher than most retailers*.**

Amazon's Financials

	2010	2011	2012	2013	2014	2015	2016
Total Revenue	\$34,204	\$48,077	\$61,093	\$74,453	\$88,980	\$107,007	\$135,987
Product Sales	\$30,792	\$42,000	\$51,733	\$60,903	\$70,080	\$79,268	\$94,665
Cost of sales	\$26,561	\$37,288	\$45,971	\$54,181	\$62,752	\$71,651	\$88,265
Less Shipping Costs	\$2,579	\$3,989	\$5,134	\$6,635	\$8,709	\$11,539	\$16,167
Less Prime Content Costs (est.)	\$0	\$300	\$600	\$900	\$1,300	\$1,950	\$3,500
Net Merchandise Costs	\$23,982	\$32,999	\$40,237	\$46,646	\$52,743	\$58,162	\$68,598
Product Gross Profits	\$6,810	\$9,001	\$11,496	\$14,257	\$17,337	\$21,106	\$26,067
Product Gross Margin Rate	22.1%	21.4%	22.2%	23.4%	24.7%	26.6%	27.5%
Total Retail Gross Profits (1P & 3P)	\$8,076	\$11,940	\$16,053	\$20,773	\$26,154	\$33,425	\$44,631
Marketing Expense	\$1,029	\$1,630	\$2,408	\$3,133	\$4,332	\$5,254	\$7,233
Fulfillment Expense	\$2,898	\$4,576	\$6,419	\$8,585	\$10,766	\$13,410	\$17,619
Net Shipping Costs	\$1,386	\$2,437	\$2,854	\$3,538	\$4,223	\$5,019	\$7,191
Retail: Tech & Content & G&A Expense	\$585	\$865	\$1,163	\$1,505	\$1,894	\$2,421	\$3,232
Contribution Profits	\$2,178	\$2,432	\$3,209	\$4,012	\$4,939	\$7,321	\$9,356
Margin Rate on Merchandise, Fees, & Other	6.8%	5.4%	5.7%	6.0%	6.3%	8.0%	8.3%
Estimated International Investments	(\$800)	(\$1,880)	(\$3,053)	(\$3,479)	(\$4,331)	(\$4,363)	(\$5,821)
Developed Market Retail Profits	\$2,978	\$4,312	\$6,262	\$7,491	\$9,269	\$11,684	\$15,176
Developed Market Retail Margin Rate	9.3%	9.6%	11.1%	11.1%	11.7%	12.8%	13.4%*
AWS Revenue/Gross Profits	\$390	\$780	\$1,700	\$3,111	\$4,644	\$7,880	\$12,219
Advertising & Credit Rev/Gross Profits	\$563	\$806	\$823	\$826	\$953	\$1,020	\$1,563
Total Segment Profits	\$3,131	\$4,018	\$5,732	\$7,949	\$10,536	\$16,221	\$23,138
AWS: Tech & Content & G&A Expense	\$935	\$1,435	\$1,935	\$2,435	\$3,984	\$6,016	\$8,513
Central: Tech & Content & G&A Expense	\$684	\$1,267	\$2,362	\$3,754	\$4,949	\$5,850	\$6,772
Prime Content Costs	\$0	\$300	\$600	\$900	\$1,300	\$1,950	\$3,500
Other	\$106	\$154	\$159	\$114	\$133	\$171	\$167
Total Other Expense	\$1,725	\$3,156	\$5,056	\$7,203	\$10,366	\$13,987	\$18,952
Operating Profits after Investments	\$1,406	\$862	\$676	\$746	\$170	\$2,234	\$4,186

The difference between product sales and total revenue is 3rd party fees, advertising revenue, and AWS revenue.

Amazon's rising gross margin rate is due to rising prices, higher priced product categories entering the sales mix, and scale buying advantages over its suppliers.

Amazon has been aggressively spending to develop its China, India, and European businesses. Stripping those investments away from the total reveals that the developed market retail segment margin rate has also been improving.

Prime content costs are a long-term investment in customer lifetime value.

Walmart as a Proxy for Unencumbered Retail

Shown below are the financials of Wal-Mart Stores' US business which is a decent proxy for understanding the business model pressures for **well-resourced and well-capitalized** US retailers. Not only does Walmart-US capture 12% of US retail spending (excluding autos, gas & fuel sales, and restaurant and bar sales), but it also has the third largest online business behind Amazon and eBay. Winning this third place has cost Walmart-US significantly in profitability. Annualized losses for its online business were around **-\$2.3B in calendar-year 2016***. Wal-Mart's management has been investing significantly in e-commerce to **secure its consumer relevance for the coming decades**.

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
Walmart US Stores (\$millions)	\$260,261	\$264,186	\$274,490	\$279,406	\$288,049	\$298,378	\$307,833
Est Walmart US Store Sales	\$258,179	\$261,531	\$271,105	\$275,090	\$282,783	\$292,481	\$300,166
Est US eCommerce Sales	\$2,082	\$2,655	\$3,385	\$4,316	\$5,266	\$5,897	\$7,667
US Sq. Footage (millions)	617	627	640	659	680	690	699
Store Sales Per Sq. Foot	\$418	\$417	\$424	\$417	\$416	\$424	\$429
Est Walmart US Gross Profits	\$68,839	\$69,877	\$72,163	\$73,176	\$75,094	\$78,503	\$81,360
GM Estimate	26.45%	26.45%	26.29%	26.19%	26.07%	26.31%	26.43%
Est Walmart US SG&A ex. eCom	\$48,752	\$49,230	\$50,063	\$49,925	\$52,458	\$57,012	\$61,091
Per Sq Foot	\$79	\$79	\$78	\$76	\$77	\$83	\$87
Adjusted Store EBIT (est)	\$20,087	\$20,647	\$22,100	\$23,251	\$22,636	\$21,491	\$20,269
	7.8%	7.9%	8.2%	8.5%	8.0%	7.3%	6.8%
Est. Annual e-Commerce Losses	(\$150)	(\$300)	(\$600)	(\$900)	(\$1,300)	(\$1,675)	(\$2,275)*
Walmart US EBIT	\$19,937	\$20,347	\$21,500	\$22,351	\$21,336	\$19,816	\$17,994
Operating Margin	7.7%	7.7%	7.8%	8.0%	7.4%	6.6%	5.8%

Walmart has been able to slightly grow sales at its brick & mortar stores.

Walmart has been able to keep its GM rate stable because it started as the national EDLP price leader and through leverage over suppliers.

SG&A has risen recently due to higher wages and more in-store service.

Store margins are down more than 10% due to the above.

Profits down ~10% over the past 6 years due to the above.

2016 and 2017 Announced Retail Closings

<u>Retailer</u>	<u>Closures</u>	<u>Jobs (est)</u>	<u>Acquisition</u>	<u>Ownership</u>
<u>2017 Major Store Closure Announcements</u>				
Radio Shack	1,470	16,844		Public
Payless	800	25,000	2012	PE: Blum Capital and Golden Gate Capital
rue21	400	6,400	2013	PE: Apax Partners
ascena retail	400	2,000		Public
sears and kmart	358	38,000		public
Gymboree	375	6,000	2010	Bain Capital
The Limited	250	4,000	2010	PE: Sun Capital Partners
hgregg	220	5,000		PE: Valor, LLC.
gamestop	190	3,000		public
bebe stores inc	180	2,601		Public
WestSeal	171	3,700		PE: Versa Capital Management
crocs	160	332		Public
jc penny	138	1,000		Public
bcbg	120	492		PE: Marquee Brands and Global Brands Group
american apparel	110	2,400		Private
gordmans stores	101	5,100		PE: Sun Capital Partners
Charming Charlie	100	2,043		PE: TSG Consumer Partners & Hancock Park Ass.
michael kors	100	1,013		public
macys	100	9,600		Public
the children's place	100	500		Public
aerosoles	74	1,184		Palladin Partners
gap	70	6,000		Public
staples	70	3,300		PE: Sycamore Partners
cvs	70	600		Public
aaron	70	1,200		Public
mc sports	68	250		Private
perfumania	65	261		Public
alfred angelo	61	250		Private
guess	60	250		Public
vitamin world	50	225		PE: Center Lane Partners
chicos	50	250		Public
lucy activewear	44	400		Public
lululemon athletica	40	400		Public
eastern outfitters	36	1,000		PE: Versa Capital Management
<u>2016 Closure Announcements</u>				
Sports Authority	463	14,250	2006	Leonard Green & Partners
Hancock Fabrics	255	3,000		Private
Sears and Kmart	243	24,300		Public
Mens Warehouse	233	3,745		Public
Aeropostale	154	4,184		Private
Others	674	19,092		
<u>Summary</u>				
Bankrupt Private Equity Deals	3,000	71,569		
Sears and Kmart	601	62,300		
Other	5,092	85,296		
Total	8,693	219,165		

Source: Inflection Capital Management, LLC

33% of Lost Jobs With In Private Equity Owned Retail

	<u>Closures</u>	<u>Jobs</u>	<u>% of Jobs</u>
<u>Summary</u>			
Bankrupt Private Equity Deals	3,000	71,569	33%
Sears and Kmart	601	62,300	28%
Other	5,092	85,296	39%
Total	<u>8,693</u>	<u>219,165</u>	<u>100%</u>

When analyzing the private equity owned retailers, reasons for the failures include:

- 1) The retailers lacked the investment capacity to move with changes in consumer behavior, keep their stores' service and maintenance at competitive levels, and attract the best merchants and vendors to keep the consumer coming back.
- 2) Given near-term risks to profitability and a high interest expense burden, these retailers were adverse to making large changes that were needed to win in the long term. The store base was kept unsustainably large to maximize the near-term cash flow. They couldn't "re-base to grow again."
- 3) When a retailer fails, it typically isn't that they are cut off from near term funding. It's a slow process of building inventory, stale goods, increased clearance activity, tightening vendor terms, and then vendor restrictions of new shipments. When the vendor restrictions happen, the retailer has lost consumer relevance.

Sears/Kmart as a Proxy for Bad Private Equity Management

By their private-nature, one can not look at the financials for most failed private equity owned retailers. We can only know that they lost market share as they lost relevance with consumers and that lead to significant sales and profit declines.

Sears Holdings Corporation has been run like a retailer starved of investment, and milked of its assets and value while controlled by Eddy Lampert. Given that it is also publicly owned, its financials are disclosed. As such, one can see what happens to a retailer during the 2010s that hasn't made the necessary investments and hasn't adapted to remain relevant with the consumer.

Sears Holdings

\$ units are millions

Kmart	<u>CY 2010</u>	<u>CY 2016</u>	Sears Domestic	<u>CY 2010</u>	<u>CY 2016</u>	Significant store sales and closures
Stores	1,307	735	Stores	894	670	
Sales	\$15,593	\$8,650	Sales	\$22,937	\$13,488	
Gross Profits	\$3,836	\$1,557	Gross Profits	\$6,579	\$3,129	
SG&A	\$3,341	\$2,175	SG&A	\$6,086	\$3,934	
D&A	\$149	\$71	D&A	\$651	\$304	
Profits	\$353	-\$349	Profits	-\$112	-\$1,382	Kmart sales productivity roughly flat as less-productive stores closed. Sears sales productivity significantly down
Sales per Sq. Foot	\$126.00	\$123.72	Sales per Store (\$m)	\$25.66	\$20.13	
Cap Ex	\$153	\$43	Cap Ex	\$231	\$99	Cap-ex materially cut
EBITDA-Cap Ex	\$349	-\$321	EBITDA-Cap Ex	\$308	-\$1,177	Free cash flow now negative.

Source: Inflection Capital Management, LLC and Sears Holdings Corp. annual reports.

Sears/Kmart as a Proxy for Bad Private Equity Management

Sears Holdings

\$ units are millions

Kmart

	<u>CY 2010</u>	<u>CY 2016</u>
Stores	1,307	735
Sales	\$15,593	\$8,650
Cap Ex	\$153	\$43
Cap Ex/Sales	1.0%	0.5%

Target

Sales	\$67,390
Cap Ex	\$2,129
Cap Ex/Sales	3.2%

Kmart's cap-ex investment level is only 23% on relative terms to Target and immaterial in absolute terms.

Sears Domestic

	<u>CY 2010</u>	<u>CY 2016</u>
Stores	894	670
Sales	\$22,937	\$13,488
Cap Ex	\$231	\$99
Cap Ex/Sales	1.0%	0.7%

Kohls

Sales	\$18,391
Cap Ex	\$801
Cap Ex/Sales	4.4%

HD

Sales	\$67,667
Cap Ex	\$1,096
Cap Ex/Sales	1.6%

Sears cap-ex investment level is only 24% on relative terms to Kohl's and Home Depot and immaterial on competitive terms.

Sears/Kmart (SHLD) As A Proxy For Bad PE Management

SHLD Domestic Employees	280,000	140,000
Kohls	136,000	138,000
Target	355,000	323,000
Home Depot	321,000	406,000

Sales / Employee	\$137,607	\$158,129
Kohls	\$135,228	\$135,406
Target	\$189,831	\$215,155
Home Depot	\$210,801	\$232,993
Competitor Avg.	\$178,620	\$194,518
Underperformance	-23%	-19%

SHLD's sales productivity remains uncompetitive despite closing a material number of underperforming stores.

Gross Profit / Employee	\$3,720	\$3,347
Kohls	\$4,619	\$4,206
Target	\$5,274	\$5,673
Home Depot	\$6,756	\$7,527
Competitor Avg.	\$5,550	\$5,802
Underperformance	-33%	-42%

SHLD's relative profitability per employee has worsened.

A Look Into Toys-"R"-Us: Bain Capital & KKR 2005 Buyout

Toys-R-Us filed for Chapter 11 in September. They received DIP financing to keep them running for the process. This came on the heels of rumors that suppliers were taking measures to protect themselves. Slowing inventory turnover was the "tell."

Toys R Us, Inc. 7.375%

Oct '18 Bond Price

Declines reveal heightened liquidity concerns



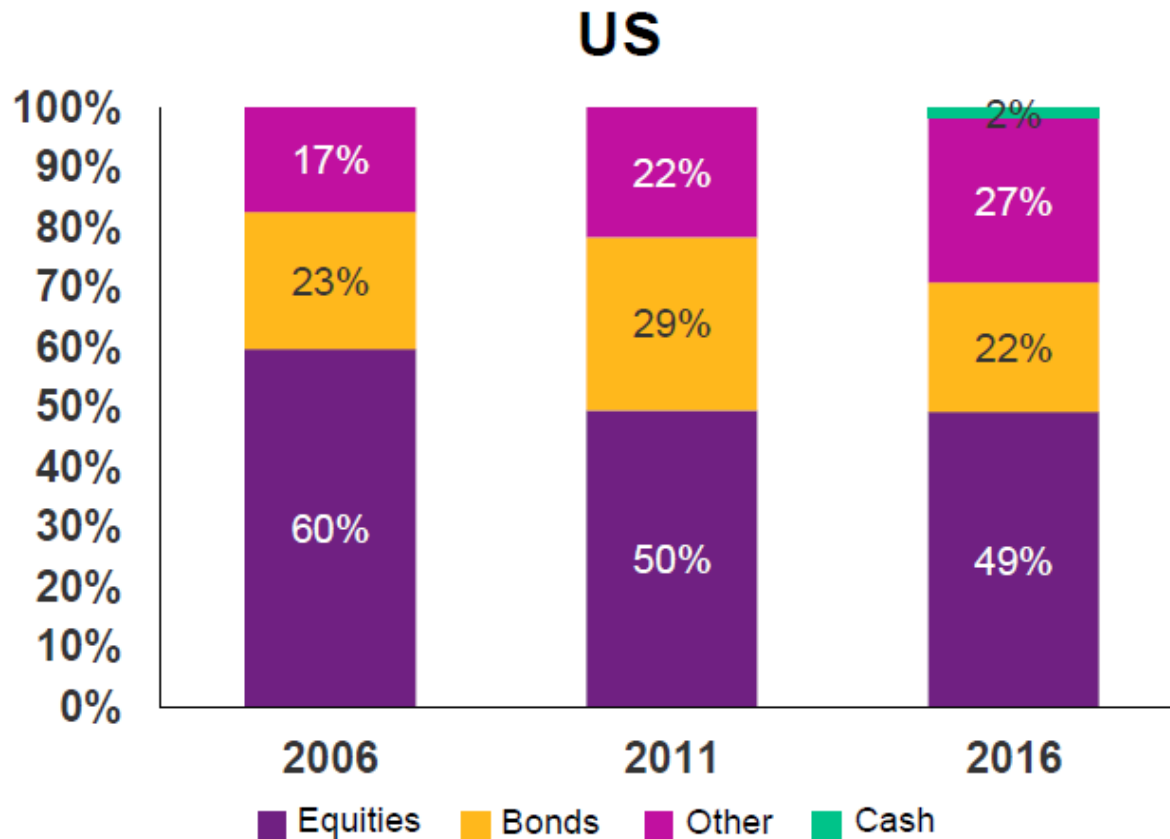
	2010	2016	
Domestic Employees	47000	36000	
Domestic Stores	868	879	
Domestic Employee/Store	54	41	Employee/store down w/ store sales
Domestic Sales	\$8,621	\$7,131	
Estimated online sales	\$486	\$924	
Estimated Domestic B&M Sales	\$8,135	\$6,207	Estimates store sales
Sales per domestic employee	\$173,079	\$172,422	
Sales per domestic store	\$9,372	\$7,062	leads to fixed cost deleverage
Domestic GM Rate	34.8%	33.6%	Despite rising shipping costs, gross margins held steady.
Advertising	\$445	\$330	down
Retail Profits	\$646	\$311	
Other Income	\$51	\$149	Profits coming from asset sales
Operating Profits	\$646	\$460	
GAAP EBITDA	\$1,034	\$777	
Interest Expense	\$521	\$457	
Cap Ex	\$325	\$252	Down despite more IT needs Target spends 10X more on IT.

Store sales declined as service levels fell and prices held. Consumers not compensated for their store loyalty.

Toys 'R' Us	2014	2015	2016	6 Mo. July '16	6 Mo. July '17
Sales	\$12,361	\$11,802	\$11,540	\$4,601	\$4,378
Brick & Mortar	\$11,132	\$10,471	\$10,045		
Online	\$1,229	\$1,331	\$1,495	\$1,708	\$1,560
Gross Profits	\$4,430	\$4,226	\$4,108	\$1,708	\$1,560
Gross Margin	35.8%	35.8%	35.6%	37.1%	35.6%
Interest Expense	451	429	457	\$ 225	\$ 229
GAAP EBITDA	568	731	777	\$ 175	\$ 138
Ch in Working Capital	\$275	-\$35	-\$273	-\$793	-\$580
Free Cash Flow	\$269	\$20	-\$253	-\$888	-\$651
Inventory	\$2,171	\$2,270	\$2,476	\$2,513	\$2,597
Inventory Turns	3.7	3.3	3.0	2.3	2.2

Despite an improvement in 2016 profits, building inventory and faster payment terms by vendors lead to a crunch on cash. The domestic business worsened due to inventory clearance measures.

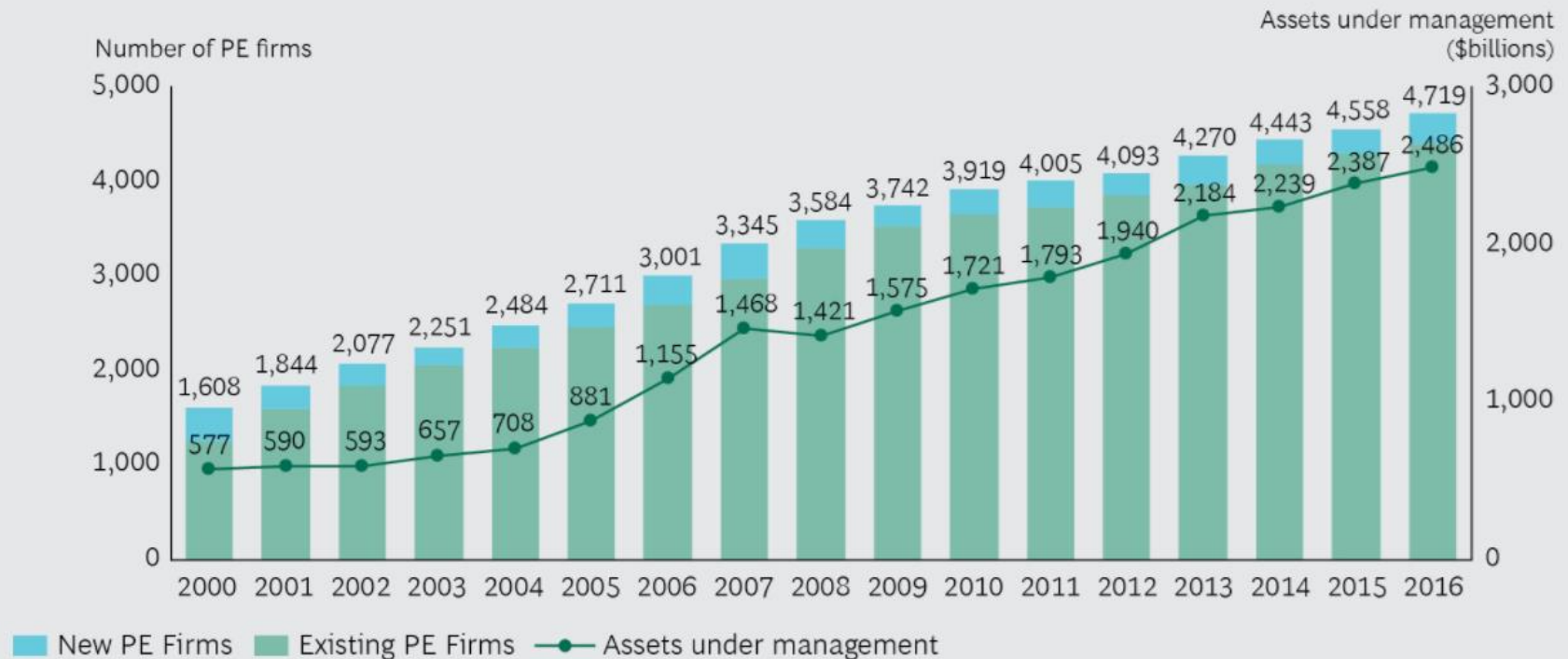
Institutional Allocations Have Moved to Alternatives



Source: Willis Towers Watson 2017 Global Pension Asset Study

The Rising Size of Private Equity

EXHIBIT 1 | Both the Number of Firms and Assets Under Management Are at Record Levels



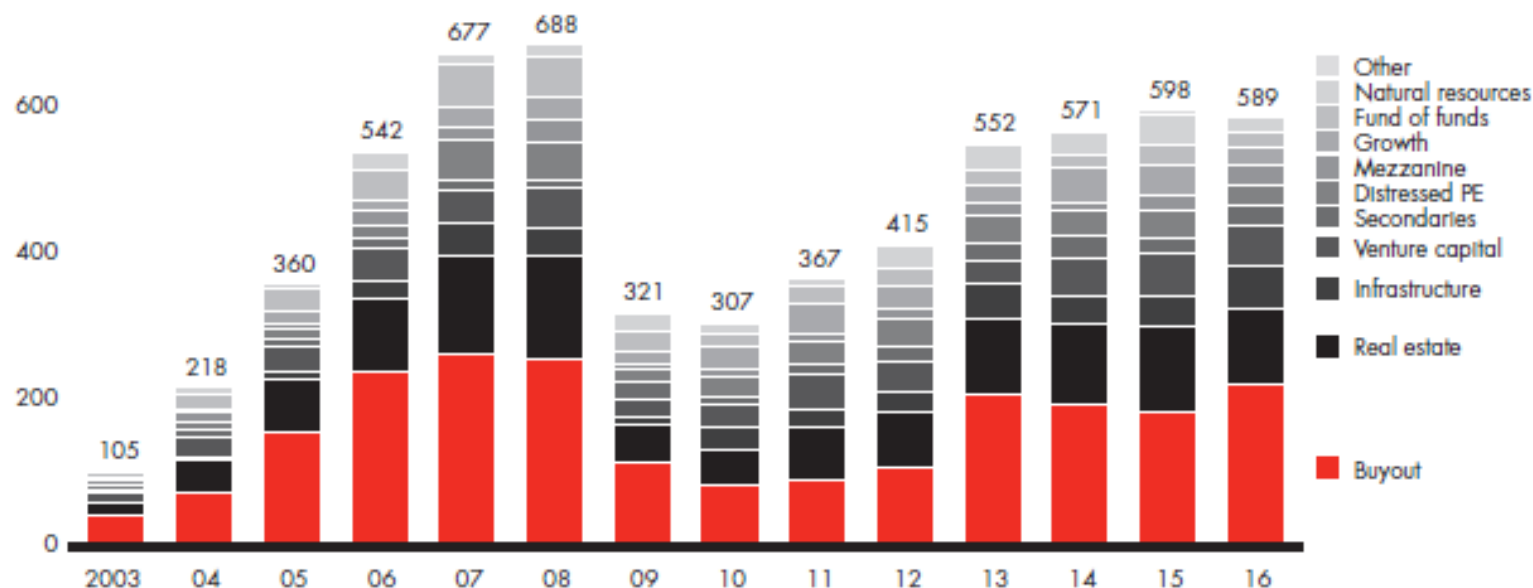
Source: Preqin.

Note: PE = private equity; the firms include those specializing in buyouts, the secondary market, funds of funds, and growth and venture capital.

Where the Capital is Deployed: ~33% in Buyout

Global PE capital raised (by fund type)

\$800B

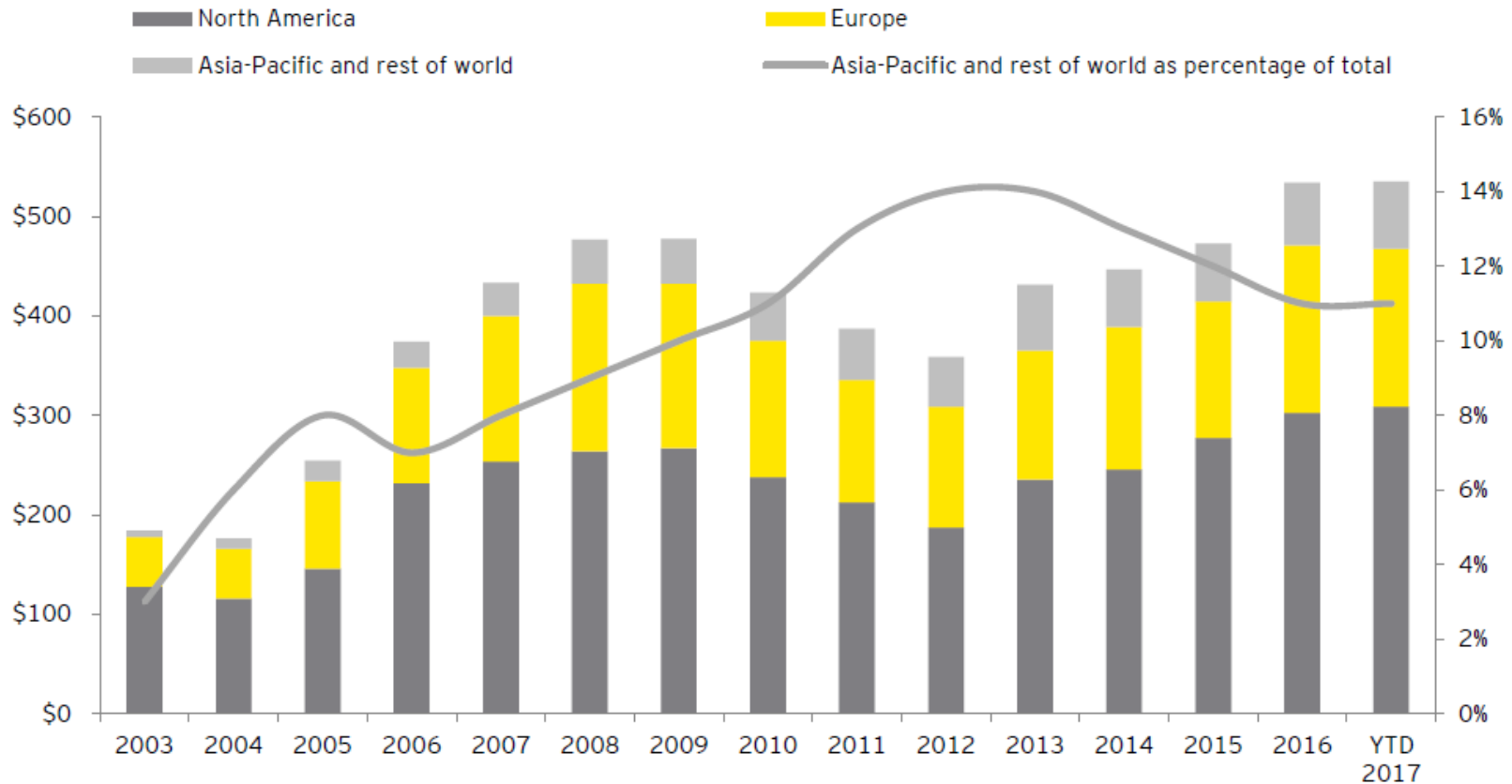


Notes: Includes funds with final close and represents the year in which funds held their final close; buyout includes buyout and balanced funds; distressed PE includes distressed debt, special situation and turnaround funds; other includes private investment in public equity and hybrid funds

Source: Preqin

Private Equity Buyout Fund Capacity

Dry powder – buyout funds – by region



Source: EY: Private Equity Capital Briefing

Model for Understanding the Economic Impact of PE Buyouts

Economic Income Model For Hypothetical Company Simple Model

		Economic Multiplier	Created Income
Revenue	\$100		
COGS	\$40	3.5	\$140
SGA	\$30	3.5	\$105
D&A	\$10		
EBIT	<u>\$20</u>		
Interest	\$0	1.0	\$0
PBT	<u>\$20</u>		
Taxes (35%)	\$7	2.5	\$18
NI	<u>\$13</u>		\$13
Cash Flow	\$23		
Cap Ex	-\$10	3.5	\$35
Net Cash	\$13		
Dividend	-\$13	2.0	\$26
Cash Left	\$0		
Total Economic Income			\$337

\$337 in economic income per \$100
in hypothetical company revenue

Private Equity Buyout of Hypothetical Company

Modeled PE Buyout of Hypothetical Company

Company	
EBITDA	\$30

Buyout Multiple	10X
-----------------	-----

Total Price	<u>\$300</u>
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Funding

Equity	\$120
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Debit	\$180
-------	-------

Total	<u>\$300</u>
-------	---------------------

High-Yield Rate	7.0%
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Interest Expense	\$13
------------------	------

[See report end](#)

EBITDA	\$30
--------	------

Debt	\$180
------	-------

Debt/EBITDA	6.0 X
-------------	-------

Economic Model Post-Buyout, Ceteris Paribus

Simple Change in Economic Output Due to Ownership Structure
(Assumes Dividend Multiplier Reduced. Institutional Income vs. Shareholder Income)

		Economic Multiplier	Created Income
Revenue	\$100		
COGS	\$40	3.5	\$140
SGA	\$30	3.5	\$105
D&A	\$10		
EBIT	<u>\$20</u>		
Interest	-\$13	1.0	\$13
PBT	<u>\$7</u>		
Taxes (35%)	\$3	2.5	\$6
NI	<u>\$5</u>		\$5
Cash Flow	\$15		
Cap Ex	-\$10	3.5	\$35
Net Cash	\$5		
Dividend	-\$5	1.0	\$5
Cash Left	\$0		
Total Economic Impact			\$309

ROE For PE Investors

Income	\$5
Equity	<u>\$120</u>
Return	4.2%

Returns are too low

Scenario-1 Buyout: Efficiencies are Found To Boost Return

New Ownership Drives Efficiencies Into Company
Suppliers consolidated. Operational Efficiencies. Less Investment

			Economic Multiplier	Created Income
	Revenue	\$100		
Efficiencies Found	COGS	\$35	3.5	\$123
	SGA	\$25	3.5	\$88
	D&A	\$10		
	EBIT	\$30		
	Interest	-\$13	1.0	\$13
	PBT	\$17		
	Taxes (35%)	\$6	2.5	\$15
	NI	\$11		\$11
	Cash Flow	\$21		
Efficiencies Found	Cap Ex	-\$5	3.5	\$18
	Net Cash	\$16		
	Dividend	-\$16	1.0	\$16
	Cash Left	\$0		
	Total Economic Impact			\$283
	ROE For PE Investors			
	Income	\$16		
	Equity	\$120		
	Return	13.3%		

16% Below Pre- Buy-out
Economic Income

Expect able Return

Efficiencies Result In A Worse Customer Experience

Efficiencies Lead to Market Share Loss

		Economic Multiplier	Created Income
Revenue	\$90		
COGS	\$32	3.5	\$110
SGA	\$25	3.5	\$88
D&A	\$10		
EBIT	<u>\$24</u>		
Interest	-\$13	1.0	\$13
PBT	<u>\$11</u>		
Taxes (35%)	\$4	2.5	\$10
NI	<u>\$7</u>		\$7
Cash Flow	\$17		
Cap Ex	-\$5	3.5	\$18
Net Cash	\$12		
Dividend	-\$12	1.0	\$12
Cash Left	\$0		
Total Economic Impact			\$257

ROE For PE Investors

Income	\$12
Equity	\$120
Return	10.1%

Return Fall Again

Scenario-2: PE's Shared Expertise Results In Some Sales Recovery

		Economic Multiplier	Created Income
<i>Some Revenue Recovery</i>	Revenue		
	COGS	3.5	\$116
<i>More Efficiencies Found</i>	SGA	3.5	\$78
	D&A		
	EBIT		
	Interest	1.0	\$13
	PBT		
	Taxes (35%)	2.5	\$15
	NI		\$11
	Cash Flow		
	Cap Ex	3.5	\$18
	Net Cash		
	Dividend	1.0	\$16
	Cash Left		
	Total Economic Impact		\$266
	ROE For PE Investors		
	Income		\$16
	Equity		\$120
	Return		13.3%

21% Below Pre- Buy-out
Economic Income

Returns Recover

Scenario-3: More Efficiencies Are Required To Meet Return Goals

More Efficiencies Found to Boost Return

		Economic Multiplier	Created Income
Revenue	\$90		
COGS	\$30	3.5	\$105
SGA	\$22	3.5	\$77
D&A	\$10		
EBIT	\$28		
Interest	-\$13	1.0	\$13
PBT	\$15		
Taxes (35%)	\$5	2.5	\$13
NI	\$10		\$10
Cash Flow	\$20		
Cap Ex	-\$4	3.5	\$14
Net Cash	\$16		
Dividend	-\$16	1.0	\$16
Cash Left	\$0		

Total Economic Impact

\$248

ROE For PE Investors

Income \$16

Equity \$120

Return 13.3%

26% Below Pre- Buy-out
Economic Income

Return Recover

Hypothetical Economic Impact from One Year of PE Capital Raised Post-Deployment

Modeled Economic Impact

	(\$B)	
Equity Raised	\$200	a
Debt Raised	<u>\$300</u>	b
Total Deal Capacity	<u>\$500</u>	c=a+b
Revenue of Bought Firms (assuming 3X revenue)	\$167	d = c / 3
Economic Income per \$100 Pre-Deal Scenario	\$337	e
Total Economic Income	\$562	f = d x e / 100
PE Ownership Economic Income per \$100 (avg of scenarios-1, -2, & -3)	\$265	g
Alternative Total Economic Income	\$442	h = d x g / 100
Difference	-\$120	h - f
Total US GDP	\$18.570	
Ratio	-0.65%	

There Will Be Some Bad Deals

More Market Share Loss

		Economic Multiplier	Created Income
Revenue	\$67		
COGS	\$22	3.5	\$77
SGA	\$22	3.5	\$77
D&A	\$10		
EBIT	<u>\$13</u>		
Interest	-\$13	1.0	\$13
PBT	<u>\$0</u>		
Taxes (35%)	\$0	2.5	\$0
NI	<u>\$0</u>		\$0
Cash Flow	\$10		
Cap Ex	-\$4	3.5	\$14
Net Cash	\$6		
Dividend	-\$6	1.0	\$6
Cash Left	\$0		

Total Economic Impact

\$188

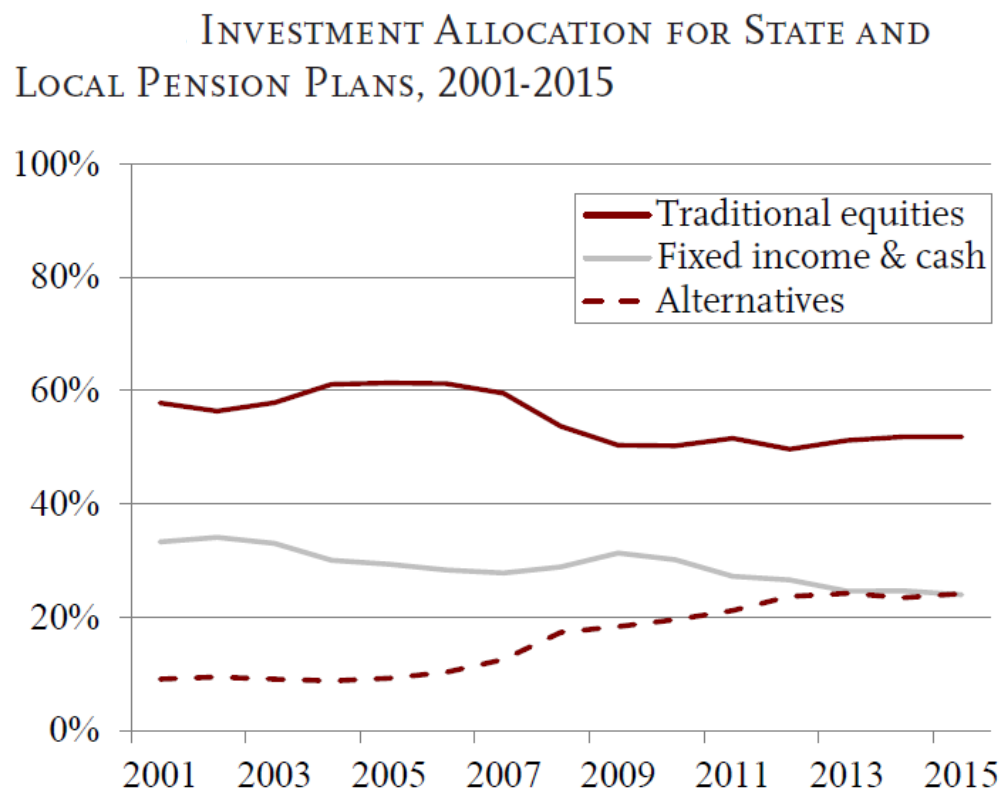
ROE For PE Investors

Income	\$6
Equity	\$120
Return	5.2%

44% Below Pre- Buy-out
Economic Income

Where is the Private Equity Funding Coming From:

Average State Asset Allocations 2005 to 2015



Public Pension Allocations		
	2005	2015
Public Equity	61%	50%
Private Equity	3%	8%

Public equity down and private equity up

Source: Center for Retirement Research at Boston College.

Allocation Model: Return Differences

Institutional Target Asset Allocation Model

Assets \$100m

Spending Rate 7.0% of Assets

Required Annual Income **\$7.0**

Allocation-1

	Target Allocation	Return Assumption	Weighted Return	Standard Dev. Of Returns	Portfolio Volatility	
Public Equity	49.0%	9.5%	4.66%	17.7%	0.070	
Fixed Income	25.0%	2.4%	0.59%	8.0%	0.005	
Real Estate	6.0%	7.0%	0.42%	15.0%	0.008	
Long/Short & Opportunistic	10.0%	6.0%	0.60%	5.4%	0.008	
Private Equity	10.0%	13.2%	1.32%	21.0%	0.019	
Total	100%		7.58%		11.01%	Sharpe Ratio 0.46
Expected Earnings	\$7.6					
Range (1 Std Dev)	-\$3.4 \$18.6	68% of observations				Sharpe Ratio Risk Free Rate 2.5%
Range (2 Std Dev)	-\$14.5 \$29.6	95% of observations				

Allocation-2

	Target Allocation	Return Assumption	Weighted Return	Standard Dev. Of Returns	Portfolio Volatility	
Public Equity	44.0%	9.5%	4.18%	17.7%	0.066	
Fixed Income	25.0%	2.4%	0.59%	8.0%	0.005	
Real Estate	6.0%	7.0%	0.42%	15.0%	0.008	
Long/Short & Opportunistic	10.0%	6.0%	0.60%	5.4%	0.007	
Private Equity	15.0%	13.2%	1.98%	21.0%	0.028	
Total	100%		7.76%		11.45%	Sharpe Ratio 0.46
Expected Earnings	\$7.8					
Range (1 Std Dev)	-\$3.7 \$19.2	68% of observations				Sharpe Ratio Risk Free Rate 2.5%
Range (2 Std Dev)	-\$15.1 \$30.7	95% of observations				

10-year Returns

Allocation 1	108%	\$215
Allocation 2	111%	\$222
Difference	4%	\$7

Source: 2010 Cliffwater Return Matrix

Income Benefit from Changed Allocation

Provides For Over One Year Of Spending After 10 Years

Institutional Target Asset Allocation Model

Assets \$100m

Spending Rate	7.0% of Assets
Required Annual Income	\$7.0

10-year Returns

Allocation 1	108%	\$215
Allocation 2	111%	\$222
Difference	4%	\$7

- ✓ Greater income from the assets is what institutional CIOs are expected to produce and for which they have a promised fiduciary duty.
- ✓ However as shown in the prior slides, allocation changes at its current scale are likely producing externalities upon industries, the economy, and society for which the investors should understand and **give consideration**.

Academic and Government Research on the Topic

- ✓ The authors of this presentation can find little to no academic or independent economic research and analysis of these issues relative to recent times. The discovered research generally uses data from the 1990s which was a high-growth period in the economy and when technology generally played through as a one-way positive benefit. The rate and nature of economic growth has been significantly different in the 2010s.
- ✓ Axelson, et al. found "In particular, the economy-wide cost of borrowing seems to drive leverage. Prices paid in buyouts are related to the prices observed ... [and] are also strongly affected by the economy-wide cost of borrowing. These results are consistent with a view in which the availability of financing impacts booms and busts in the private equity market.¹" Given that borrowing costs have been at historic lows the past seven years and the unprecedented institutional inflows into private equity, Axelson's conclusions raise concern about the risks of the significant transition from public to private ownership.
- ✓ Employment is not the focus of the economic multiplier model presented earlier, economic income is the focus. However, implicit in that model is a reduction in employment by private equity buyouts. In the World Economic Forum publication, *The Global Economic Impact of Private Equity Report 2008*, it's research² conclusions state, "Employment grows more slowly at [PE bought companies] than at the control group in the year of the private equity transaction and ... employment declines more rapidly ... in the wake of private equity transactions." This research does not focus on overall income, as such we can only know that employment as a result of private equity ownership is lower than if the companies had remained public. Their research has no findings on the overall impact on economy as a result of more private equity ownership.
- ✓ There is a more substantive body of work focused on answering the question, "does PE-ownership result in an improvement in productivity." However, these studies focus on companies and industries in isolation and ignore the economic multiplier affects. While PE-ownership may result in more economic output for the affected companies in aggregate, there may be larger offsets elsewhere. For example, in the World Economic Forum publication, *The Global Economic Impact of Private Equity Report 2009*, it's research³ found, "that target firms of private equity transactions experience an intensification of job creation and destruction activity... [and on] net, we find that this intensification of reallocation yields a substantial productivity growth differential (about 2%) within two years following the transaction... [one-third of that contribution]... **is dominated by our finding that target firms are much more likely to close underperforming establishments** than comparable firms." Closing underperforming establishments **reduces overall economic income**, ceteris paribus.

Conclusion

- 1) The economy and industries are always in a state of change and evolution. New models and disruptive forces come along and provide consumer and social benefits that were previously unimaginable. Capital allocations often provide the fuel for those changes and the benefits.
- 2) However as shown in the prior slides, allocation changes at the current scale likely produce externalities upon industries, the economy, and society for which the investors should understand and **give consideration**.
- 3) The authors of this presentation can find little to no academic or independent economic research of these issues relative to recent times. The discovered research generally uses data from the 1990s which was a high-growth period in the economy and when technology generally played through as a one-way positive benefit. The rate and nature of economic growth has been significantly different in the 2010s.
- 4) It is generally expected that the rate of social and economic change and the need for industries to adapt are now all moving at a faster rate. Corporate agility is held at a premium. Adding unprecedented leverage onto industries and the economy at this time suggests added risk. Thus, understanding this risk becomes of more importance. Given that there has been little research on these topics means that the magnitude of the risks taken are somewhat unknown.
- 5) It is quite disconcerting that we as a society are taking added risk of unknown magnitude considering that we are just coming off the largest financial crises of all time.

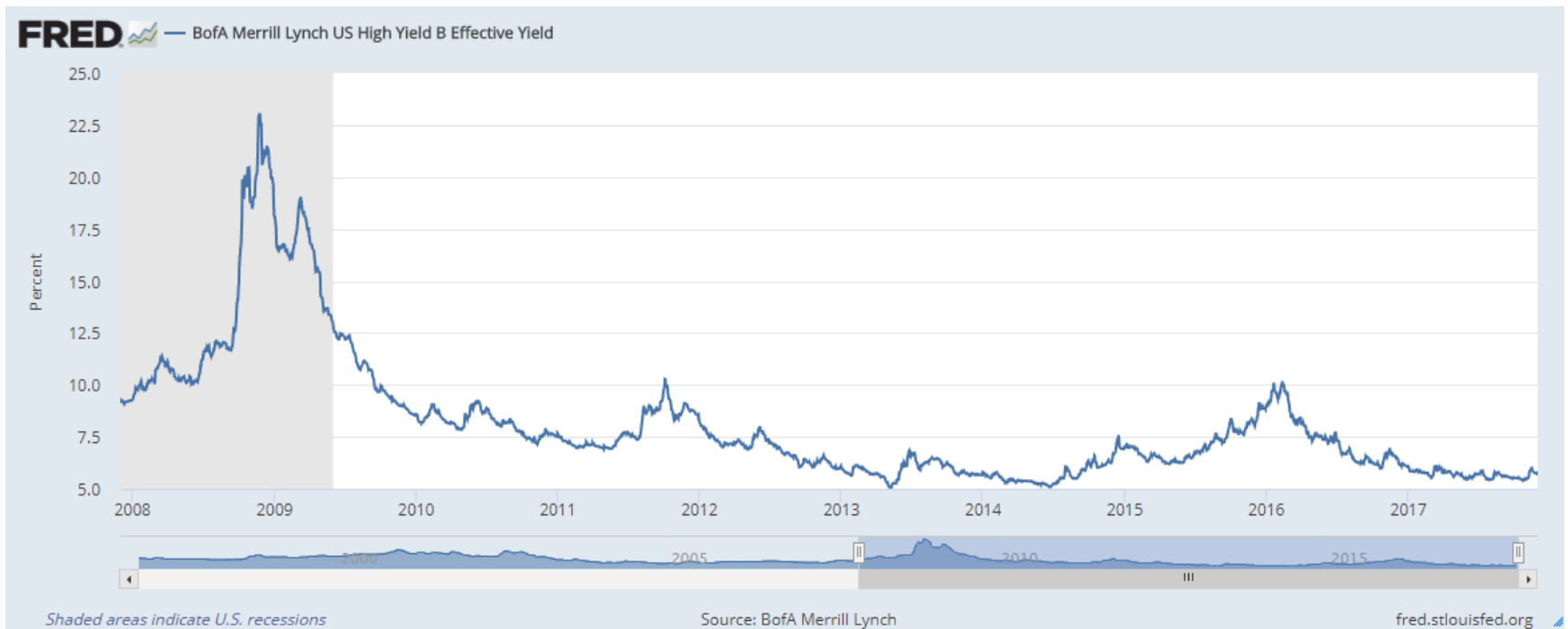
Stated Hypothesis:

- ✓ Increased pension fund allocations to private-equity buy-out funds through their transactions has undermined certain industries' agility, adaptability, and stamina to withstand change. That in turn has similarly affected the economy.
- ✓ The mechanism was too much debt leverage which limited the ability to invest and their ability to adapt. These resulted in market share losses. As the market share losses compounded, profitability and operating cash flow fell. Eventually, those fell to such a degree that interest payments could not be met and bankruptcy resulted.
- ✓ These bankruptcies have yielded a consolidation of demand, less competition, fewer jobs, less individual income, and more disruption and dislocations for the suppliers and communities associated with these bankruptcies. Those disruptions and dislocations have in turn produced additional negative externalities.
- ✓ These allocation decisions were made to enhance pension fund returns. The allocations to private-equity came at the expense of public equity due to an expectation for higher investment returns.
- ✓ While these allocations changes were mathematically correct and have resulted in higher fund returns, they also have had a social cost.

Sources:

1. Axelson, U., Stromberg, P., and M. Weisbach (2007), "Why Are Buyouts Levered? The Financial Structure of Private Equity Firms," working paper
2. *The Globalization of Alternative Investments, Working Papers Volume 1: the Global Economic Impact of Private Equity Report 2008*, World Economic Forum USA, 2008, pages 43-64.
3. *The Globalization of Alternative Investments, Working Papers Volume 2: the Global Economic Impact of Private Equity Report 2009*, World Economic Forum USA, 2009, pages 27-43.

The Trend of Interest Rates



Simple average from July '09 to Dec '11 is 7.0%