



CFA Institute

CFA Institute Research Challenge
hosted by
The Boston Security Analysts Society
Brandeis University



The TJX Companies, Inc.
 Ticker: TJX (NYSE)



TJX is undervalued because the market underestimates its bargain hunt appeal, the potential for off-price (OP) stores in Europe, an experienced, hands-on management team coupled with a formidable inventory buying corps, and the salutary impact of its stock buy-backs.

TJX, unlike most retailers, has a fast-changing, appealing, and attractively priced inventory, more and more representative of the latest fashions. This is fertile ground for the bargain hunt. TJX's opportunistic buying allows it to stock items that the public does not expect but that are so appealing and well-priced that they must have them. We measured this factor empirically through our survey of customers exiting TJX stores. We found that on average, customers came out having spent 1.27x over what they originally envisaged. This phenomenon, the "Anton Multiplier", named after the team member that discovered it, is independent of season or household income.

T.K.Maxx (EUR), present in the U.K., Ireland, Germany, Poland, and Austria, and now the Netherlands, will expand rapidly in a continent ripe for OP store expansion. We expect financial uncertainty and attractive inventories to drive more and more consumers to European OP retailers. Working off statistical analyses of the key factors driving TJX's top-line, we expect EUR's revenues to rise by CAGR of 8.3% over the next 5 years, with operating margins of 8.2%.

TJX's management team is experienced, and knows that the secret sauce is no secret: it is the quality of its inventory buying corps. In an era where retailers are grasping to maintain revenue, TJX continues to grow thanks to its well-trained inventory buying corps, who buy products from some 17,000 suppliers. These products feed TJX stores with the kind of merchandise that turns over quickly.

TJX' profitable growth drives strong cash flows which, even after new store investments, leave enough for significant stock buy-backs. Looking back, we estimate that TJX shares would be trading at \$65.75, \$4.81 below current levels, were it not for these buy-backs. With TJX's cash flows improving over time, even after significant new store investments in the U.S. and EUR, we forecast continued stock buy-backs will push stock prices to \$5-6 per share above what they otherwise would be. We also do not exclude the probability of a leveraged recapitalization which, though unlikely, must be included in our analysis. We estimate that TJX's shares could rise to \$91 if the company initiated a leveraged recap that took the company from 0.4x debt/EBITDA to 1.4x, a prudent figure given TJX's projected capital expenditures and an industry average debt/EBITDA of 1.8x.

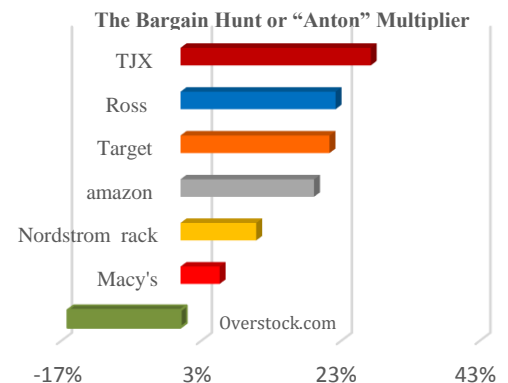
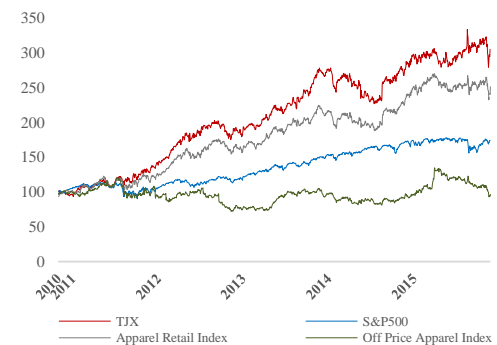
Recommendation	BUY
Stock Price (12/11/2015)	\$70.56
Target Price	\$83.40
Premium	18.1%

TRADING	
Current Price	\$70.56
52 Week Price Range	\$63.53 - \$76.93
Base Case Target	\$83.80
Bull Case Target	\$86.90
Bear Case Target	\$79.10
Market Capitalization	\$47.3 bn

PERFORMANCE METRICS				
	Revenue Growth	No of Stores	Total Sq.ft. (k)	Revenue per Sq.ft. (K\$)
2015A	6.0%	3,395	76,415	380.5
2016E	5.6%	3,569	80,714	380.5
2017E	7.6%*	3,729	84,264	392.4
2018E	5.3%	3,889	87,858	396.4
2019E	5.5%	4,049	91,500	401.3
2020E	5.6%	4,209	95,190	407.3

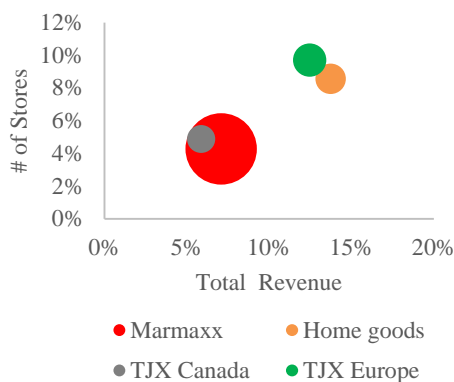
* Heavy investments in Europe and acquisitions in new markets are assumed to start materializing from FYE17 onwards

KEY RATIOS & PROJECTIONS				
	EBITDA Margin	EBIT Margin	FCF Margin	Diluted EPS (\$)
2015A	16.2%	13.9%	8.0%	3.15
2016E	16.3%	13.9%	7.3%	3.29
2017E	17.7%	15.2%	7.7%	3.72
2018E	18.9%	16.3%	8.2%	4.09
2019E	20.2%	17.4%	8.8%	4.52
2020E	21.5%	18.7%	9.4%	5.00



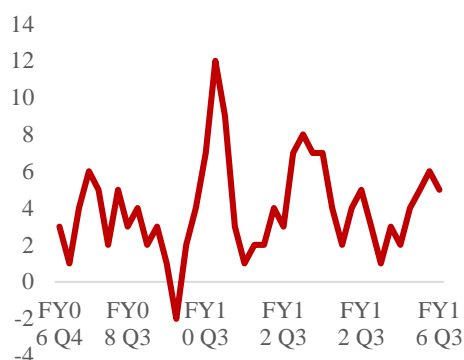
Source: Bloomberg, Capital IQ, Yahoo Finance, Company Filings, Team Estimates

Ex. 1 - Revenue and Store Growth (FY10 - FY15)



Source: Bloomberg

Ex. 2 - Same-Store Growth (% , 4Q06 - 3Q16)



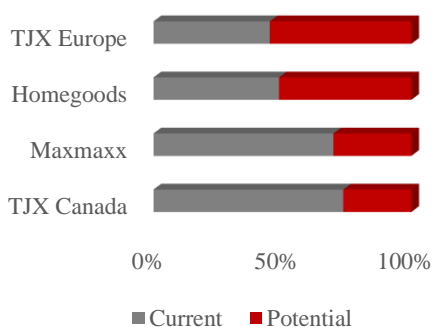
Source: Bloomberg

Ex. 3 - FY15 Revenue Growth (Total Revenue Growth = 6%)



Source: Bloomberg

Ex. 4 - Store Growth Potential



Source: TJX 2014 Annual report

INVESTMENT SUMMARY

With an ambitious expansion plan, especially for EUR and HomeGoods (HG), TJX will boost top-line revenue. As Exhibit 1 indicates, revenue growth for TJX’s four segments – Marmaxx, EUR, HG, and TJX Canada (CAN) - is a function of new store creation and same-store store growth (Ex. 2). HG and EUR have led the way in both metrics, showing CAGRs of 14% and 13.7% respectively the last five years. Looking ahead, we expect HG and EUR to continue leading the way by growing at 10.6% and 10.5% each year to 2020.

EUR, with its large, established consumer market, will contribute most to growth in dollar terms. Although EUR is TJX’s youngest segment, in FY15 it contributed over one quarter of revenue growth, and with a presence in just six countries, EUR is still evolving. We expect this evolution to capture more market share as OP retailers in Europe, while solid, are not as formidable as TJX in a region that is responding well to OP retailers’ value propositions.

For above-average growth to happen, new stores must be added to provide a compounding effect to existing stores. As Exhibit 3 shows, existing stores provided 24% of total revenue growth in FY15. In 3Q16, TJX showed a 5% same-store sales growth, as opposed to the -4% of Macy’s and Dillard’s, and CAN broke past its past poor performance by registering 11 % growth. In an industry where financial results are as variable as each season’s fashions, TJX’s consistency is remarkable: 40 out of 41 quarters of positive same-store growth (the one exception being 3Q10).

The expansion of bargain hunt-heavy, higher-margin departments (home fashions, jewelry, beauty, and accessories) in stores will improve margins. While Apparel’s contribution to total revenue has fallen from 65% to 57% over the last five years, the higher margin home fashions and jewelry/accessories departments have grown from 24% to 29% and 11% to 14% respectively. Also, TJX is attracting new, more affluent customers via its Runway department, which offers higher-end fashions.

While it has an online presence, TJX is clearly in the camp of brick-and-mortar stores, thus forsaking the fratricidal combat of online retailers. While the “Shopping Online” banner may be seen in most TJX stores, we believe that TJX is best off treating online sales as another channel to supplement its in-store sales. This is because bargain hunting online is much more difficult to pull off. TJX puts its toe in the online water, as it were, when it acquired Sierra Trading Post (STP) in 2012. It then used STP’s model across its network, including creating tkmaxx.com for the U.K. Going forward, we expect online sales to account for 1% of total revenues.

Price and impulse still dominate buying decisions. According to our survey (see Appendix 1 for details), 14% of customers never compare prices between online and brick-and mortar retailers, 24% always compare, and 62% do so sometimes. TJX, with its weak online presence, keys in on the 76% that sometimes or never compare prices. Those customers fall in TJX’s sweet spot of being persuaded by the TJX value proposition to visit its stores, where they will then impulse-buy to the tune of the 1.27x multiplier we mentioned earlier. We refined our analysis further to produce an estimate of where TJX has yet to reach its full potential (Ex. 4). We found through statistical analyses of our survey data what we said at the top of the page: the strongest growth will come from EUR and HG, with EUR by virtue of being the larger market driving the top-line revenue and HG, being smaller, driving percentage growth.

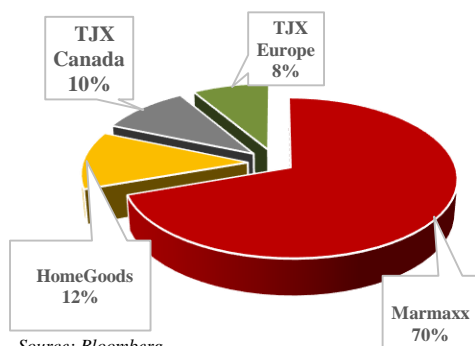
TJX offers store-brand credit cards with a 5% discount, adding another boost to customer loyalty. Unlike Ross Stores (ROST), the second largest OP retailer, TJX provides its customers with its branded credit card. This card allows new users to get 10% off the first purchase, 5% off future purchases, and accumulate rewards. While this may not be a clincher in getting customers to return to TJX stores, it does add to the overall welcome that the company wishes to provide its customers.

BUSINESS DESCRIPTION

Location	THE marmaxx GROUP				HomeGoods	TJX EUROPE		TJX CANADA			TRADE SECRET
	TJ-maxx	Marshall's	SIERRA	tjmax.com		TKmaxx	HOMESENSE	WINNERS	Marshall's	HOMESENSE	
	USA			Online (US)	USA	United Kingdom, Ireland, Germany, Poland, Austria and Netherlands		Canada			Australia
No of Locations (as of 3Q16)	1,149	1,001	7		522	454	39	245	101	41	35
Total Sq.ft. (K)	32,800	30,300	200		12,900	13,800	800	6,900	2,400	1,200	800
Sq.ft./location	28,547	30,270	28,571		24,713	30,396	20,513	28,163	23,762	29,268	22,857
Product Mix	Urban Brands	Higher End Brands	Outdoor Gear	Urban Brands	Home Décor	Urban Brands	Home Décor	Urban Brands	Higher End Brands	Home Décor	Urban Brands
Same store Sales (3Q16)	3%				6%	7%		10%			
Revenue (in \$M as of FYE15)	19,513.3				3,768.5	2,861.0		4,144.0			
Revenue per Sq.ft.	308,267				292,132	195,960		394,666			

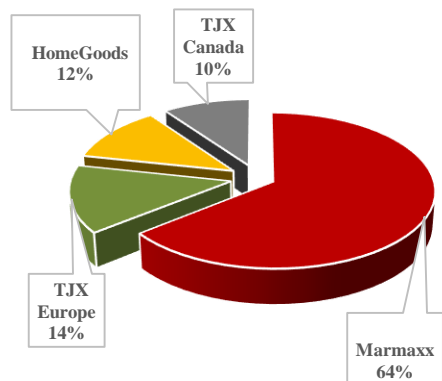
Source: Company Filings and Company website

Ex. 5 - FY15 Operating Income



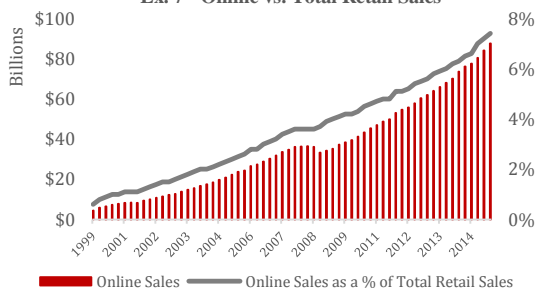
Source: Bloomberg

Ex. 6 - FY15 Revenues



Source: Bloomberg

Ex. 7 - Online vs. Total Retail Sales



Source: Bloomberg

Headquartered in Framingham, Massachusetts, TJX has been operating as an OP retailer since its inception in 1956. Although it obtains most of its operating income and revenues from its U.S. stores (Ex. 5, 6), TJX has expanded rapidly overseas and now operates over 3,300 stores through:

Marmaxx: comprising T.J. Maxx, Marshall's and STP, this segment offers mostly apparel, home fashions, footwear, jewelry, and accessories

HomeGoods: operating as stand-alone store or co-located with Marmaxx, HG offers furniture, home décor, and giftware

TJX Canada: doing business as Winner Apparel, HomeSense and Marshall's, CAN is the country's largest OP retailer for apparel, footwear and home fashions

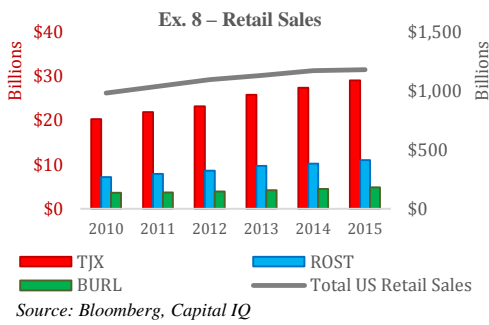
TJX Europe: working in the U.K. and Ireland as T.K. Maxx and HomeSense, EUR has entered Germany (2007), Poland (2009), Austria (2015), and the Netherlands (2015)

Other: Aside from the above segments, TJX operates online via tjmaxx.com (in North America), and tkmaxx.com (in EUR). In October, it entered Australia when it acquired Trade Secret, an OP retailer. For more detail on the above segments, see Appendix 17.

TJX's large, inventory buying corps is formidable and opportunistic. This has led to high inventory turnover ratios, low acquisition costs, and just-in-time additions of the latest fashions. These, in turn, drive the bargain hunt experience provided by the varied inventory. With a strong data analytics system looking at sales across its network, TJX uses its position as an opportunistic buyer to add to what sells, limit what does not, and pounce on the latest fashion trends and customer sentiment. This allows TJX to buy inventory on short notice without having to build it in advance. These buyers' importance to the overall health of the company is analogous to the importance of airline pilots and the airlines they work for. As with pilots, TJX has a robust training and development program that gets the personal attention and support of upper management. (For more detail, see Appendix 13.)

INDUSTRY OVERVIEW & STRATEGY

Like all retailers, TJX is now contending with how its bargain hunt DNA will evolve in the age of the omni-channel. With online sales growing at a rapid rate and seemingly commoditizing everything, even OP powerhouses like TJX must look over their shoulders (Appendix 11, 12). As Exhibit 7 shows, online retail sales in the U.S. as a percent of total retail sales rose from 2.5% (2006) to 7.4% (YTD2015). This reflects a likely irreversible shift in consumer shopping preferences. While TJX has performed well despite just 1% of its FY14 sales coming online, the company has to reconcile the bargain hunt experience, mostly found in brick-and-mortar stores, with the potential of the online market. TJX's recent acquisition of STP and of Australian online retailer *Trade Secret* indicates to us that TJX will play the omni-channel but still favor the brick-and-mortar end of the spectrum as it plays to its bargain hunt strength.



OP retailers, dominated by TJX, ROST, and Burlington Stores (BURL), have shown remarkable top-line growth over the last decade: TJX - 56%, ROST - 85%, and BURL – 42% (Ex. 8). Looking ahead, we forecast top-line growth for these three at 6-8% p.a., with non-OP retailers trailing at 4% p.a. Further, OP retailers will maintain an operating margin advantage over non-OP retailers due to lower cost of goods sold (COGS) and more efficient inventory turn-over. In effect, we forecast FY15 operating margins of 12.4% (TJX) and 13.5% (ROST) while Macy’s (M) and Nordstrom (NRD) obtain 9.8-9.9% margins.

The retail industry is nothing if not dynamic, and the traditional retailers are moving quickly to the OP space to boost revenues: e.g. NRD with Nordstrom rack, Macy’s with Macy’s backstage, and Saks with OFF5TH (Ex. 9). If one adds amazon.com (AMZN), overstock.com (OSTK) and the myriad online retailers, the OP market, as measured by the number of players, their stores and the number of outlet centers (Ex. 10), continues to grow. This growth, though, will only end well for the visionary, the clever, and the nimble. We believe that TJX has all these qualities and, more importantly, that its bargain hunt strategy will continue to flourish as customers want not just to feel the fabric and stitching and to wonder at the vibrancy of the colors but also to find the unexpected treasure.

Our analysis indicates that TJX’s top-line growth is a function of:

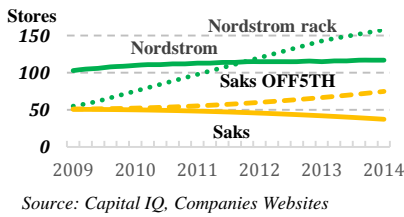
$$(Incremental \# \text{ of Customers}) \times (Incremental Expenditures \text{ per Capita}) \times \frac{(Actual - Planned \text{ Purchases})}{Max. (Actual; Planned)}$$

Incremental # of Customers – as economic uncertainty increases, more consumers, even affluent middle class ones, seek value by purchasing at OP retailers. Based on our survey (N=411), 82% of respondents would still patronize OP stores even if their incomes increased significantly (Ex. 11). During these survey encounters, it was clear that these feelings emanated from a mix of planned, value-driven purchases and the bargain hunt factor. These customers feel good sporting a Kate Spade handbag, but they feel even better when they point out that they got it for \$185 and not the original \$398. This phenomenon is not new: as household incomes rise, customers make aspirational purchases in one channel and value-conscious purchases in the OP channel. This means that the OP business model will be less cyclical as even affluent customers seek value. That said, while it adds some intelligence to our analysis of future channel sales, it does not fully answer the question of what will be the dynamic of the omni-channel.

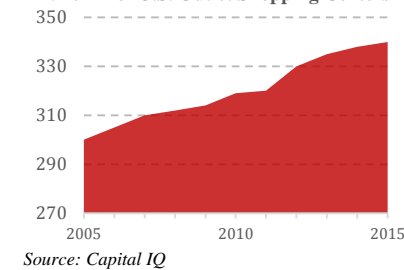
Incremental Expenditures per Capita – we calculated this factor based on our survey of likely OP customers (Ex. 12). In it, we asked these customers what their predicted expenses in 2016 would be relative to 2015. We used these data to get empirical evidence of a segment of the Consumer Confidence Index (CCI), which is widely publicized but not granular enough to allow us to forecast OP-specific growth rates. Based on our survey results, we estimate that 54% of consumers will increase their expenditures at OP retailers in 2016.

(Actual – Planned Purchases) / Max(Actual; Planned) – The bargain hunt experience can be quantified by surveying TJX customers as they leave stores. We did that and found that on average, they wound up spending 1.27x of what they originally planned. These data are crucial to our argument that TJX represents more than just an OP outlet. It is a sort of the Christmas-morning trip to the Yule tree, but for adults. Yes, you do buy it for yourself and no, it’s not gift-wrapped but nonetheless, it is what the buyer did not know but now wants and not what someone else thinks he/she wants. AMZN (1.17x) strives to mirror this by using artificial intelligence algorithms to suggest other products that might be appealing. This spread between TJX’s 1.27x and AMZN’s 1.17x is not inconsequential, especially when we are talking about billions of dollars in reference revenues. To us, this provides empirical evidence that for TJX, the omni-channel is still the brick-and-mortar channel as the online space might result in a 10% reduction in bargain hunt purchases.

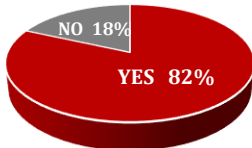
Ex. 9 – Nordstrom and Saks: OP and Traditional



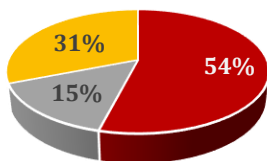
Ex. 10 – # of U.S. Outlet Shopping Centers



Ex. 11 – If Your Income Increased Significantly, Would You Still Shop at OP Stores?

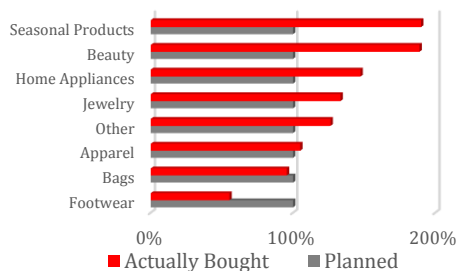


Ex. 12 – Will your OP expenditures change in 2016?



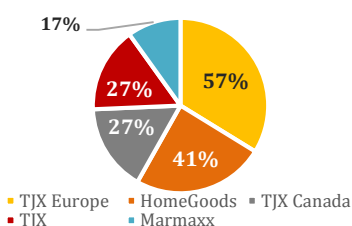
■ Increase ■ Decrease ■ Stay the same
Source: Team Survey

Ex. 13 – What do you usually plan to buy and actually buy when you shop at TJX?



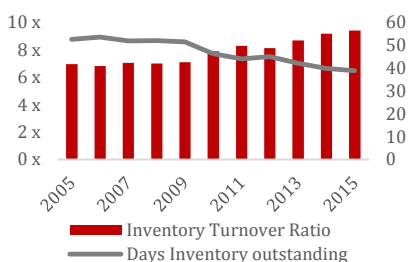
Source: Team Survey

Ex. 14 – Forecast Store Growth FY15-FY20



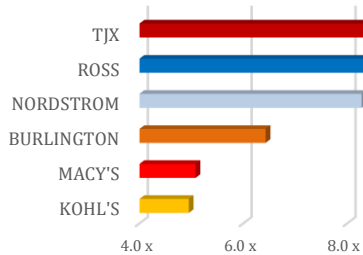
Source: Team Survey

Ex. 15 - Inventory Turnover



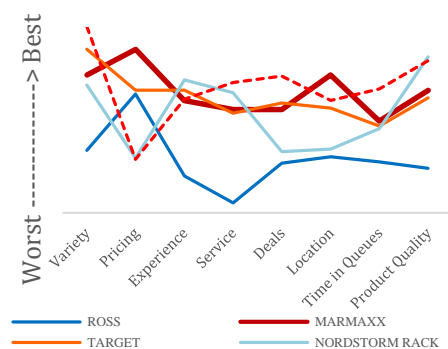
Source: Bloomberg, Company Filings

Ex. 16 - Industry Inventory Turnover



Source: Bloomberg, Company Filings

Ex. 17 – Strategy Canvas



Source: Team Survey

TJX succeeds in that it uses its buyers' intuition plus its hard data analytics to purchase inventory that will reach stores quickly and resonate with its customers.

While our survey focused on customers coming out of TJX stores, we also found multipliers for Ross (1.2x), Target (1.19x), Nordstrom rack (1.09x), and Macy's (1.04x). Just as importantly, we broke down the Anton Multiplier by department (Ex. 13). We found that customers buy significantly more beauty and seasonal products, which are ideal for opportunists, than planned. This was not the case with footwear, where some 50% of potential customers were left wanting. We attribute this to the TJX not stocking all footwear sizes in their stores.

The spring from which the "bargain hunt" emanates is the talent of TJX's inventory buying corps, which the company entrusts to make even very large purchases on the spot world-wide.

This differentiates TJX from the rest. Given the company's large number of stores now and in the future (Ex. 14), TJX buyers can purchase a vendor's total inventory outright or, if necessary, have it made to suit. TJX has the purchasing power to demand that products be sent its way from the start and not when other retailers return or cancel orders or when product quality does not meet standards. The brightest example of this is Ralph Lauren which, despite its seemingly upscale image, directs significant volumes of its products directly to TJX

Volume without savvy is an inventory bulge; volume with savvy is quick sales.

The success of the buyer corps can be measured empirically by looking at inventory turns (Ex. 15, 16.) Fast inventory turnover benefits the income statement by increasing revenues and the balance sheet by lowering funding costs via efficient asset utilization. This combination leads to better margins, ceteris paribus, than its peer group.

With 1% of its sales done online, one can argue that TJX is either too late for the show or looking at significant revenue upside. We think neither is correct.

The bargain hunt experience is extremely difficult to replicate online. While the company can leverage the savvy of its inventory buying corps into products that can be sold online, thus driving revenues higher, we do not put great stock in TJX buying into the online market in the same way as Macy's, the most digitally savvy retailer according to Digital IQ Index. Instead, we think TJX will open new stores to capture markets where it can make significant revenues per square foot. While we expect these stores to be smaller, we forecast them to pack a large number of SKUs per square foot - SKUs that can be turned over rapidly. We base this position on our knowledge that TJX leads its peer group in convenient store locations (Ex. 17). This savvy, which was widely reported by our survey respondents, will continue to be used to determine store size and location. In effect, we forecast TJX's new stores will, on average, be smaller than existing stores but still exceed the company's revenues per square foot historical levels.

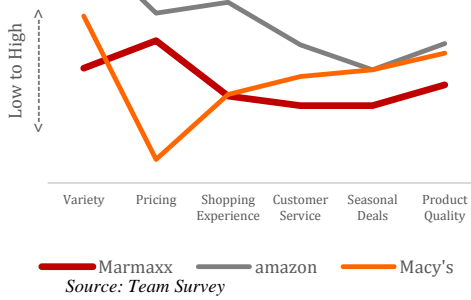
Despite the addition of more and smaller stores, we expect TJX to rationalize some of its stores into single super stores that combine HG and Marmaxx.

We think that this is a solid strategy in that it does not have TJX tied down to any specific store architecture and, instead, can treat its stores much like it treats its inventory, namely as something that can be turned over periodically based on shifting demand and demographics. We think that TJX's policy of leasing most of its store space gives it the flexibility to walk away from areas that are not performing and morph into larger stores where they can just expand their square footage without having to make significant capital expenditures.

Exhibits 17 and 18 illustrate relative competences of TJX and its key rivals using eight metrics: product variety, pricing, shopping experience, customer service, seasonal deals, locational convenience, time spent in queues, and product quality.

We found that despite its current troubles, Macy's does well in customer service, seasonal deals, time spent in queues, and product quality. TJX, as expected, outperforms everyone on price (where Macy's falls down) and holds its own on product quality – in other words, value. Ross, a direct competitor, performs poorly across the board except, of course, for pricing. This observation is one reason why we do not see Ross as a serious threat to TJX. Instead, we see the serious threat coming

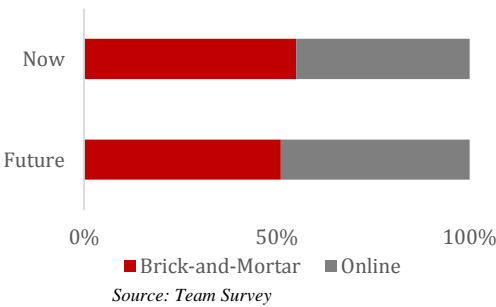
Ex. 18 – The Amazonian comparison



from online competitors, and thus created a separate strategy canvas using only Amazon, Macy's, and TJX.

No doubt, Amazon is a formidable competitor. It wins in all six categories we measured and half of our respondents said it was the most convenient retailer they used, especially now with Amazon Prime. Still, TJX can handle Amazon provided customers continue visiting its stores and spending more than originally planned as a result of the bargain hunt factor. Based on our survey and our overall industry analysis, we believe that TJX's bargain hunt value proposition will continue to prosper even in the Darwinian retail industry.

Ex. 19 – Go Online, young shopper!



All the above said, what do all these strategies and tactics augur for TJX in the age of the omni-channel? The one thing that one can be certain is that being present in all channels will likely be a case of jack-of-all-trades-and-master-of-none. We believe that TJX is best off sticking to its sweet spot of brick-and-mortar stores supplemented by a narrow online presence. Our survey results are clear: customers want a shopping experience at TJX that is reminiscent of the Christmas trip to the Yule tree with its unexpected treasures. Thus, we forecast a 4% yearly growth for brick-and-mortar store revenues despite a continuing shift to online shopping (Ex. 19). This is borne out by our respondents (54%, Ex. 13), who stated that they plan to increase their OP expenditures in the near future. This will benefit TJX and ROST and explains why Macy's, Nordstrom, and Saks, among others, are moving to the OP space.

Ex. 20 – OP Management Summary

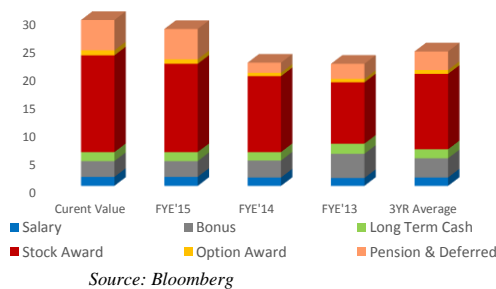
	TJX	Peers
Executives		
# of Executives	9	8
Average Reported Comp.	11.9	3.2
Average Tenure (Years)	17.7	12
Board Members		
# of Board Members	11	8
Non-employee Directors	9	6
Members Owning Shares	11	8
Shares Held %	0.1	4.4
On Board of Other Companies	8	5
Average Tenure (Years)	8.5	10.9

Source: Bloomberg, Company's Website

MANAGEMENT

TJX's management averages 18 years of experience, which compares favorably with the 12 year average of its peers (Ex. 20). Further, TJX has a higher number and proportion of outside directors than its peers. This is welcome as outside directors are less willing to let management lead the company astray. Also, more of these directors are on other boards, which in general makes them more professional and dispassionate. Lastly, the average term of TJX directors is shorter, so there is less entrenchment and the potential for new blood to come in.

Ex. 21 – Carol Meyrowitz Compensation (M\$)



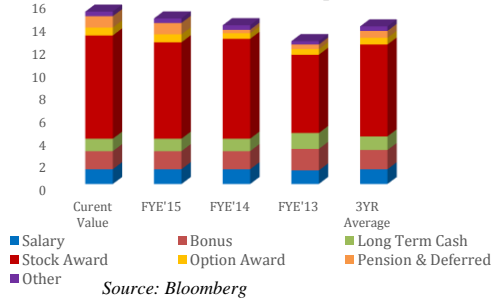
Carol Meyrowitz – Chairman and CEO

Carol Meyrowitz will step down as Board Chairman and CEO on January 31, 2016, after five years in the position. Previously, she was Senior Vice President for Merchandising, a key post she held since 1999, when she joined TJX from Chadwick's of Boston. Despite TJX's long running success, she is ranked only 111th among executives of public U.S. firms with an FY15 compensation package of \$29.1M (Ex. 21). While we note that this package may seem relatively low, we welcome that the vast majority of it is tied to share prices, thus aligning management's incentives with those of shareholders.

Ernie Herrman – President

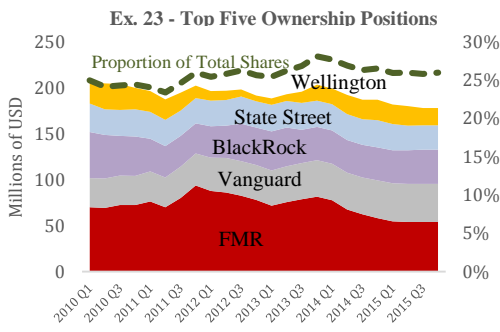
Mr. Herrman, who joined TJX in 1989 and has been its president since 2011, will replace Carol Meyrowitz as CEO. We expect Mr. Herrman to continue the same strategy followed by his predecessor and receive a compensation package that continues to be tied to share price performance. The promotion of Mr. Herrman to CEO but not to Board Chairman represents a salutary move as we believe that the position of Board Chairman should be occupied by an outside director.

Ex. 22 – Ernie Herrman Compensation (M\$)

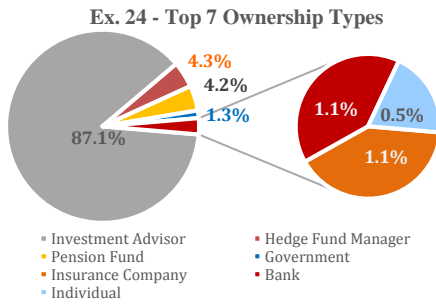


The above separation in the leadership is consonant with TJX's corporate governance structure. This structure, composed of a code of conduct for staff and a code of ethics specifically for executives and directors, is reflected in its rules on board size, term length (1 year renewable), and yearly management performance reviews. For more detail, please see Appendix 10.

OWNERSHIP & INVESTORS

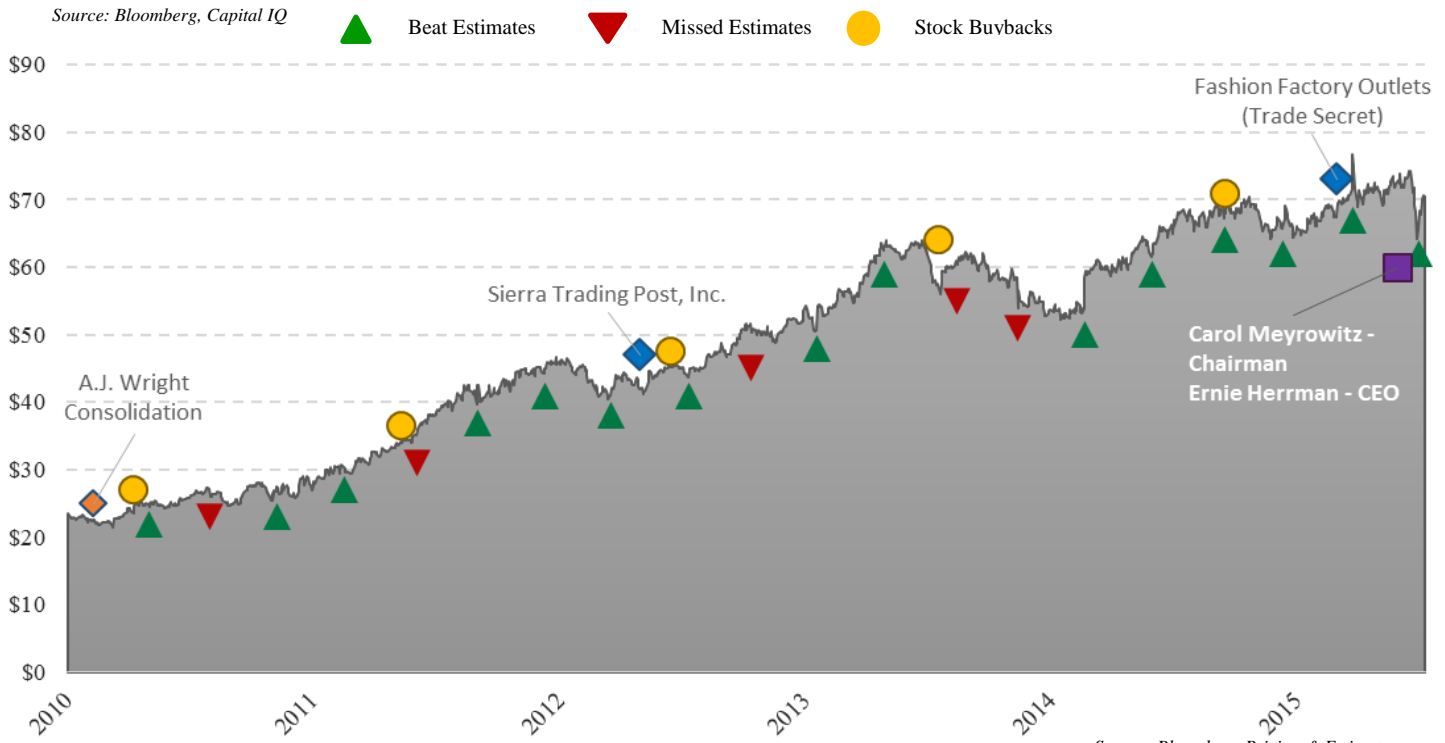


Institutional investors hold some 27% of shares with the five largest single shareholders being Fidelity (FMR) holding \$3.6B, Vanguard holding \$2.9B, BlackRock holding \$2.6B, State Street holding \$1.9B, and Wellington Management holding \$1.3B. We note that Vanguard and BlackRock are increasing their holdings while FMR are reducing theirs (Ex. 23 and Appendix 15.) Investment Advisors hold the largest portion of shares (87.1%) while hedge funds hold 4.3% and pension funds 4.2%. Insurance company, banks, and individuals take the hold the smallest portion of 2.7% overall (Ex. 24).

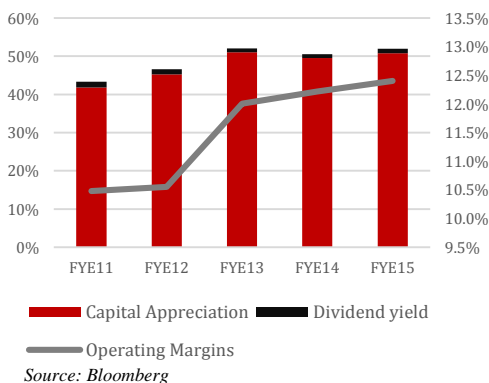


Although we forecast TJX's share buy-back program to continue unabated at \$1.2B per year, we do not expect institutional ownership to change appreciably. What will change are earnings per share (EPS) and the company's leverage. While we favor increases in EPS, we think the company is not leveraging its balance sheet enough and that it can be optimized to return maximum returns to shareholders via a leveraged recapitalization. We offer this because we find TJX to be much less levered than its peers and throwing significant and stable cash flows year on year thanks to its top-line revenue growth and solid margins. We identify the timing of these buy-backs in the graph below and discuss them in detail in the Valuation section ahead.

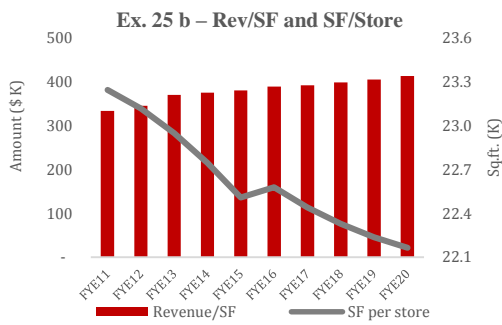
FINANCIAL ANALYSIS



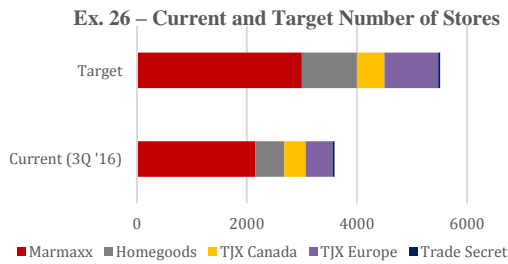
Ex. 25a - TJX Historic ROE and Payout Ratio



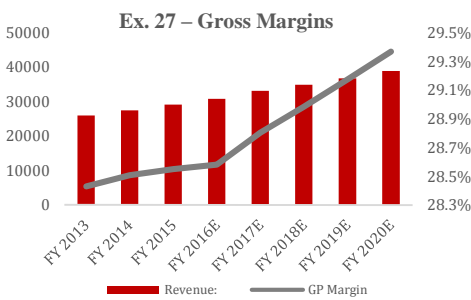
TJX's ROE has increased 8.6% from 43.3% (FY11) to 51.9% (FY15). This increase is mainly due to increased dividend pay-outs (4%, Ex. 25a), share buy-backs (2.7%, Appendix 16) and increases in operating margins (1.9%, Ex. 25a), which are the result of higher revenues per square foot (Ex. 25b). The share buy-backs drove leverage (as measured in avg. assets/avg. equity) from 2.58 (FY11) to 2.51 (FY15). These share buy-backs, by virtue of increasing leverage, will drive shareholders to require higher ROEs. TJX has been able to exceed these higher expectations due to much higher than average performance. We attribute TJX's delivery of higher ROEs over time to its ability to controls costs – viz. as a percent of sales, COGS fell from 73.1% (FY11) to 71.5% (FY15) and SG&A from 16.4% (FY11) to 16.1% (FY11) – and asset utilization, as inventory turns increased from 6.1x (FY11) to 6.7x (FY15).



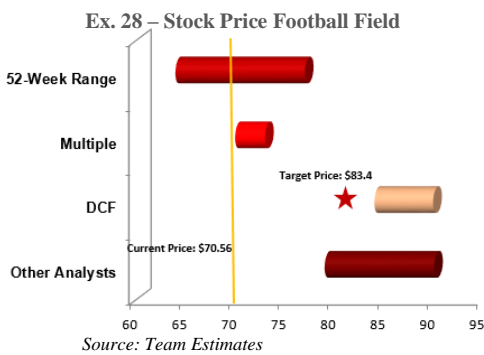
Source: Company filings and team estimates



Source: Company filings and team estimates



Source: Company filings and team estimates



Source: Team Estimates

Ex. 29 – Scenario Summary

	DCF	Comparables	Leveraged Recap	Bootstrap Technique	Average
Base	\$89.9	\$73.3	\$91.0	\$98.7	\$83.8
Bull	\$92.7	\$76.9	\$93.2	\$102.5	\$86.9
Bear	\$84.0	\$69.6	\$88.8	\$95.3	\$79.1
Weight	50%	40%	5%	5%	
	Target Price				\$83.4
	Current Price				\$70.6
	Upside				18.1%

Source: Team Estimates

Ex. 31 – Comparables Summary

	PE	EV/EBITDA	EV/Sales	Price/FCF	Weights
OP Retailers	21.5	11.1	1.0	24.6	55%
FP Retailers	13.2	6.9	0.8	11.6	40%
Online Retailers	530.2	25.1	1.6	29.0	5%
Target Price	144.8	64.1	42.6	61.4	
Weights	20%	30%	30%	20%	
				Base Price	73.26
				Bull Price	76.92
				Bear Price	69.60

Source: Team Estimates

Stable existing store sales and robust new store growth drive organic topline revenues. We expect existing store revenues to grow at a 6% CAGR during the next 5 years. This assumes a continuation of the constant increases in revenues for same-stores of the past 27 quarters. Adding to these will be new, smaller stores, which we assume will be growing at a rate of 180 per year over the next 5 years. Revenues from these new stores will grow at a 3.9% CAGR until FY2020. Margins will improve as TJX opens more, smaller stores near urban areas, where it should sell higher-margin products (seasonal, beauty, and jewelry) at higher volumes per square foot (Ex. 25b, 26). Overall, we project a 5.9% annual revenue growth rate that will allow TJX to reach \$40B in top-line revenues by FY21 (for more detail, see Appendices 2 through 5.)

As a primarily brick-and-mortar retailer, TJX relies on leased space rather than owned stores which allow them to optimize store size to changes in demographics and consumer preferences. We estimate that revenues per square foot (RSF) will increase at a 1.7% CAGR from \$380.5K (FY15) to \$414.6K (FY20) while the average footprint of new stores will fall from 22,500 square feet to 22,000.

TJX will improve margins from 28.5% to 30% as it uses its increasing purchasing power and an atomized supplier base to drive COGS lower. As a result, we project EBITDA to grow at a 5-5.1% per year for the next 5 years (Ex. 27).

The metrics discussed above – revenue growth, efficient use of store space, and improved margins- explain, in part, the relentless climb in TJX share prices, as illustrated in the previous page’s chart. Over the past five years, TJX have beat estimates fourteen times and missed estimates 5 times. Five times is also the amount of times that TJX has gone to the markets to buy back shares. While the chart clearly shows that the share buy-backs do not have an immediate impact on share price, they do have a long term impact, which we estimate to be \$5-6 per share. With a dividend yield of 1.3%, TJX is out-performing all indices (see bottom of page 1), and according to our analysis will continue to do so for the foreseeable future. We explain how in the next section.

VALUATION

We used a weighted average of discounted cash flows (DCF), comparables, and leveraged recapitalization values to arrive at a target price of \$83.40 – a 18.1% upside over the current stock price of \$70.56 (Ex. 29) We assigned a higher weight to the DCF because we believe that TJX, a mature company in mature industry, will continue growing by taking market share from its full price competitors and holding its own against the online competition. We explain our assumptions in detail below.

DCF (55% weight) We used a 5-year DCF model to reflect TJX’s position as a mature OP retailer. The Base Case, which has a 50% probability, assumes a 4.4% yearly same-store growth while the Bull Case (25% probability) and Bear Case (25% probability) assume 5.5% and 2.7% growth rates respectively (Ex. 30):

Core Revenue Assumptions	Ex. 30 – Revenue Assumptions			
	Base	Bull	Bear	
	FY15 and FY16-FY20			
Same Store Sales Assumptions				
Marmaxx	3%	3%	3%	1%
Homegoods	5%	4%	5%	7%
TJX Europe	5%	5%	7%	3%
TJX Canada	7%	7%	9%	3%
Revenue from new stores CAGR (2015 - 2020)	4.4%	5.5%		2.70%
Total Revenue CAGR (2015 - 2020)	5.7%	6.7%		4.20%

Source: Team Estimates

Our discount rate of 7.8% reflects a beta of 0.8, which we did not modify it despite TJX’s share buy-backs. We applied a 9.4% risk premium based on the equity market premium observed during the past 10 years. For more detail, please see Appendix 6.

Ex. 32 – Peer Debt/EBITDA Multiples

	Debt / EBITDA
TJX	0.4 x
Ross	0.2 x
Burlington	2.9 x
CITI Trends	0.0 x
Stage stores	1.3 x
Stein Mart	2.3 x
Off Price Median	0.9 x
Kohl's	2.0 x
Target	1.8 x
Macy's	2.3 x
Full Price Median	2.0 x
Median	1.8 x

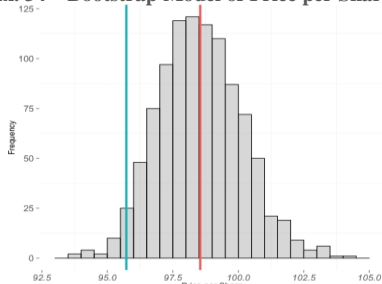
Source: Team Estimates

Ex. 33 – Leveraged Recapitalization

	Debt / EBITDA	Total Debt	Price
TJX Current	0.4 x	1,624	
Industry median	1.8 x		
TJX Projected:			
Base	1.4 x	5,874	90.97
Aggressive	1.8 x	7,552	93.19
Cautious	1.0 x	4,196	88.76

Source: Team Estimates

Ex. 34 – Bootstrap Model of Price per Share



Source: Team Estimates

Comparables (40% weight, Ex. 31) We weighed comparables as follows: OP retailers - 55%, traditional retailers (Macy's, Nordstrom, etc.) - 40%, and online retailers (amazon, overstock, etc.) - 5%. The metrics used are EV/Revenue (30%), EV/EBITDA (30%), Price/FCF (20%), and P/E (20%). For more detail, please see Appendices 7 and 14.

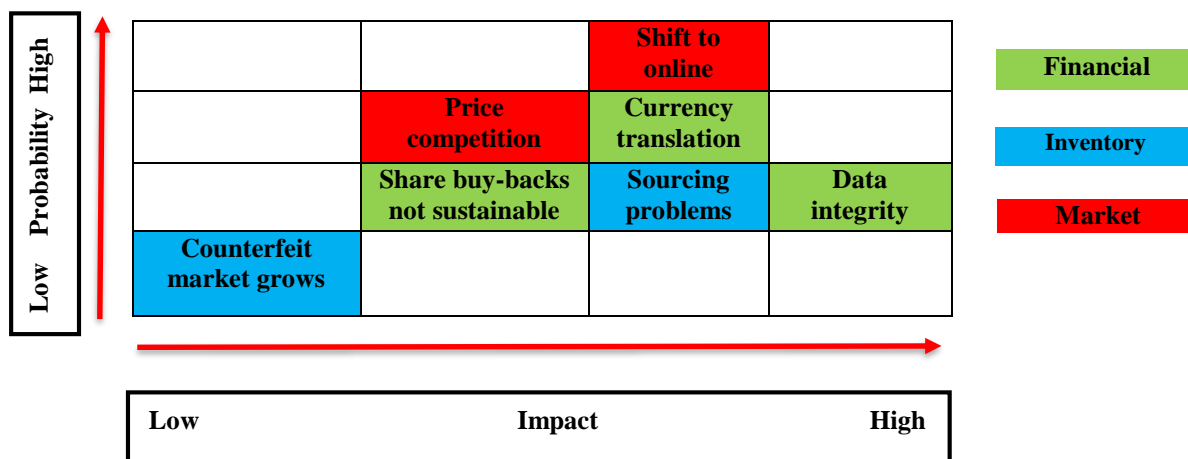
Leveraged Recapitalization (5% weight, Ex. 32, 33) TJX's current capital structure has a 0.4x Debt to EBITDA is equivalent to a 3.4% of debt to market capitalization. This figure is among the lowest in the industry where the median is 1.8x Debt to EBITDA. Assuming that TJX may in the future look out for alternative methods to stock buy-backs in order to increase shareholder wealth, we foresee the company increasing its debt levels to 1.4x Debt to EBITDA. This would take its debt to about \$5.9B from the current \$1.6B. In this case, we want to consider this potential eventuality yet recognize that it is not a likely scenario, so we have assigned it a weight of 5%. For more detail, please see Appendix 8.

Bootstrap Statistical Price Simulation (5% weight)

We used regressions to forecast revenues and their probability-based distributions. To accomplish this, we related a future quarter's revenue to a reference quarter (3Q10) using a predictor function. As with all forecasts, there will be deviations, which are quantified and assigned probabilities as they are normally distributed. We bounded our confidence intervals at ± 2.5% to get a more granular view of TJX's future performance. After doing this exercise, we obtained a lower-bound share price of \$95.20 (blue line, Ex. 34), which is ~30% above the current share price of \$70.56. We also calculated a mean price of \$98.70 (orange line), which is 34% above the current share price. Thus, our model predicts that TJX share prices should rise by one third over the next 5 years. We gave this scenario a 5% weight to arrive at our \$83.40 target price. We gave it this weight because, while we are confident of our methodology, we believe that QoQ volatility may have been overstated in the past 5 years due to the gains made by new online retailers during that period. For more detail on simulations, please see Appendix 9 (Bootstrap) and 19 (Monte Carlo, which was not used).

INVESTMENT RISKS

Below, we present a table summarizing the risks that apply to TJX Inc. From the table, it becomes clear that the company faces the most risk from online retailers.



Shift to online (Probability = High; Impact = Medium/High)

Bear Case: Online retailers afford greater variety, convenience, and low prices to customers. That is why online sales are increasing rapidly and irreversibly. Only 1% of TJX's revenue comes from online sales and a continued lag in expanding its online offerings could cost TJX market share unless it further cuts prices or invests in a more robust online platform, thus reducing margins.

Our View: Because of its buyers' expertise and its large supplier network, TJX should compete with online retailers on price despite the lower overheads for online retailers. These online retailers, no matter how clever their consumer preference algorithms, cannot match TJX's ability to offer a meaningful bargain hunt experiences to their customers.

Price competition (Probability = Medium/High; Impact = Medium/Low)

Bear Case: In the face of competition from retailers, TJX, with 64.3% of its revenue coming from Marmaxx, which is dominated by apparel, banks on customers looking for instant gratification and/or the bargain hunt. If one argues that customers like to feel and sometimes try on the product, this trend is fast reversing as customers look for convenience and price. At a time when people's lives are more not less complicated, customers will choose convenience to browsing in TJX stores.

Our View: While people's lives are becoming more complicated, many people relax by shopping and, in some cases, binge shopping – something we heard time and again during our surveys. This plays to TJX's strengths, with its ubiquitous stores, great values, and friendly staff. Also, at a time of economic uncertainty, OP stores like TJX's will attract customers looking to stretch their money. We forecast this last factor to be important in the company's growth in EUR and HG.

Currency translation (Probability = Medium/High; Impact = Medium/High)

Bear Case: As its overseas presence grows, TJX will be more exposed to fluctuating currency values especially for the USD, the Canadian Dollar, the euro, pound sterling, and the Australian Dollar. In past years, TJX has reported declines in revenues due to FX translation losses.

Our View: All companies working trans-nationally are exposed to FX translation losses. These can be mitigated by sourcing inventory in countries where currencies are pegged to the USD (e.g. China, Vietnam). Also, TJX can mitigate these by selling futures contracts on FX.

Share buy-backs not sustainable (Probability = Medium/Low; Impact = Medium/Low)

Bear Case: TJX Inc. has bought back \$14B of stock since 1997, considerably more than its peers. In terms of number of shares, 125.83M shares were repurchased between 2004 and 2012 before a stock-split. After that split, 57M shares were repurchased between 2013 and 2015. This has increased EPS, especially when same-store sales growth have slowed. This strategy requires surplus cash, cash that TJX needs to expand in Europe and Canada, which will make such buy-backs difficult in the coming years.

Our Case: The consistent success of CAN and EUR (3Q15 same-store sales growth: 6%) underlines the potential of the OP model overseas. This success yields increased cash (FY15 current ratio: 1.71 vs. 1.52 in FY13), which will allow the company to continue the share buy-back program. Further, increased revenues and stronger margins will deliver significant operating cash inflows to the company (\$300M per year on average during the next five years).

Data Integrity (Probability = Medium/Low; Impact = High)

Bear Case: In a 2007 data breach, the financial information of 94M TJX customers were compromised. A \$9.8M settlement with 41 states was eventually reached, over and above lawsuits filed by a consortium of banks amounting to nearly \$107M. Hacking is becoming more sophisticated and a similar data breach today could ruin not only TJX's brand but also put its financial position due to potential lawsuit payouts.

Our View: The threat to data-integrity is not idiosyncratic to TJX. Even after the 2007 breach became public, top line revenues remained strong reflecting sticky consumer choices. Since then, TJX has taken decisive steps designed to strengthen the security of its systems and protocols and has an on-going program with protect customer data. For more detail, see Appendix 18.

Sourcing problems (Probability = Medium Low; Impact = Medium/High)

Bear Case: While TJX enjoys an excellent brand name, recent events in Bangladesh and Uzbekistan, two countries where TJX sources some of its products, highlight low labor rights standards. To maintain the brand, TJX may have to stop sourcing from cheap but questionable countries. This would squeeze margins.

Our View: TJX has a vendor network of more than 17,000 suppliers from over one hundred countries. As a result of this diversification, any changes or eliminations of some of its suppliers will have a minimal impact on inventory and COGS. Further, we have full faith in the savvy of the inventory buying corps to foresee any potential threats to their supply and start diversifying their supplier base.

Growing Counterfeit Goods Market (Probability = Low; Impact = Low)

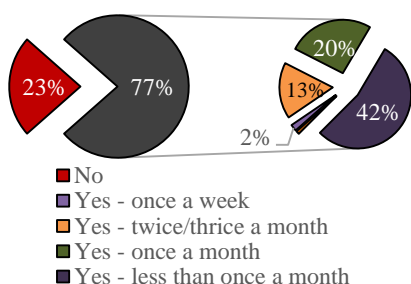
Bear Case: As customers buy counterfeit products, the low quality of these counterfeits affects consumer confidence. According to the Counterfeiting Intelligence Bureau (CIB), counterfeit goods make up 5-7% of world trade. In the specific case of apparel and footwear, these industries lose approximately US\$12 billion in revenue each year from counterfeiting.

Our View: The principal reason why consumers buy counterfeits is that they want to pretend they own the brand without incurring the full cost. TJX gives customers the brand, with its higher quality, at a very competitive price. Thus, rather than buying a counterfeit, the aspirational customer will likely go to TJX and spend a similar amount purchasing the *real* item.

APPENDIX 1: ADDITIONAL SURVEY DETAIL

Background: To assess TJX’s market position, we surveyed 412 customers exiting TJX stores across five U.S. cities (Boston, New York City, Los Angeles, Washington DC, and San Francisco). We also surveyed non-TJX customers by querying them in common areas near such retailers as Target, Ross, and Macy’s. The purpose of this survey was manifold. We initially surveyed customers on their demographics to understand and accurately depict who the typical TJX customer is and what he/she comes to buy. At this juncture, it became clear that TJX attracted customers for all economic strata. As we said previously in this report, these customers wanted that Kate Spade handbag not just because of the brand but also because they could brag about what a deal they got. As we talked to these customers, we quickly realized that what differentiates TJX from other retailers is the bargain-hunt experience, where customers don’t quite know what ‘treasure’ they will find while shopping on that particular day. To map that and make sense of this unique trait, we surveyed shoppers and asked them about their impulses while shopping at TJX and how strong this impulse was at TJX vs. other retailers. We also asked customers whether or not they envisaged buying less, the same as, or more in 2016 as compared to 2015. We needed this information to inform our revenue forecasts. Lastly, we suspected that TJX’s biggest threat comes from online retailers. To quantify this, we asked customers about their online shopping habits and mapped these results to our forecast trends for the online retail industry. Please note that the source for all exhibits is our team survey

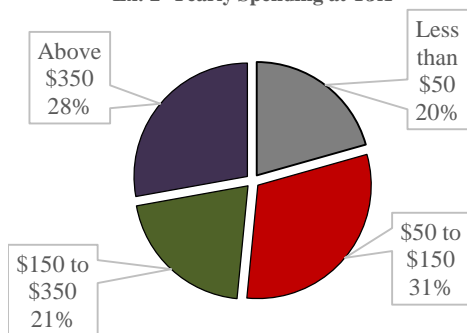
Ex. 1 – Do you shop at TJX?



Questions and Summary Results:

When asked whether and how often customers shop at TJX stores, we found that 77% of respondents shop at TJX (Ex. 1). Of all respondents, 42% went shopping at least once a week, while 13% went 2-3 times a month. These shoppers, we found, went to TJX not just to browse and bargain hunt but also to relieve stress and get out of the house. We noted that less frequent shoppers (those visiting less than once a month) were mainly gift givers, who would shop on birthdays, anniversaries, and special holidays, such as Thanksgiving, Christmas and Halloween.

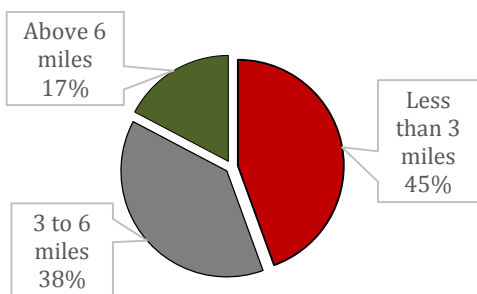
Ex: 2 Yearly Spending at TJX



Approximately 75% of the customers we surveyed were female. This makes sense because the product mix at Marmaxx, with its emphasis on apparel, shoes, beauty and jewelry, targets mostly female customers.

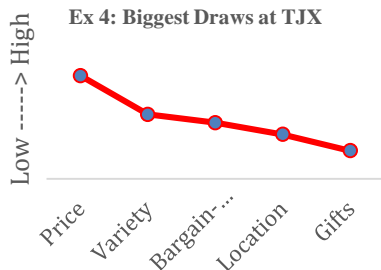
We also asked customers how much they spent per year at TJX so we could estimate revenues per ticket. As Exhibit 2 highlights, expenditures are almost evenly divided amongst the four segments shown. We were able to determine statistically that the expenditure level is closely correlated to household income. In effect, the higher the household income, the higher the dollar amount spent by that customer. Despite our surveys taking place in mostly working class shopping areas, a large number of customers surveyed had annual household incomes above \$70,000, indicating to us that TJX appeals to shoppers of all income strata. As stated elsewhere in this report, customers make aspirational purchases at brand name stores but balance those with value-driven and unexpected treasures from TJX.

Ex: 3 Distance to the closest TJX store



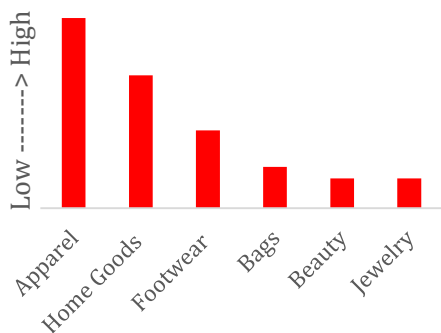
It was also through these surveys that we learned that one of TJX’s largest advantages over its peer group is the convenient location of its stores. To check this, we asked the respondents how close they lived to the nearest TJX store. The results are shown in Exhibit 3. We were surprised that 45% of the respondents live less than 3 miles away from a TJX, a very short distance! This result points to the locational savvy of TJX’s real estate and data analytics groups as well as flexibility afforded the company by its leasing policy for stores, which allows it to move nimbly to capture demographic trends.

Ex 4: Biggest Draws at TJX



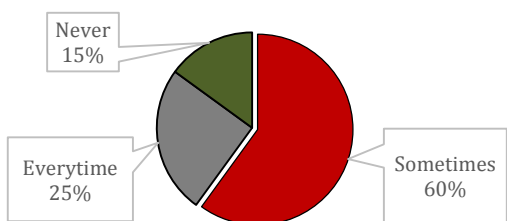
As can be seen in Exhibit 4, respondents liked TJX’s prices most, followed by the product variety, the bargain hunt, and the locational convenience. They pointed to these four factors as key to why they shopped at TJX so often. In particular, when we queried customers on the relative advantage of TJX’s locational convenience, they said that TJX easily beat Ross, Macy’s, Nordstorm rack, and Target. Lastly, while not leading the table, customers liked the ability to buy gifts at TJX. They reported that it allowed them to give seemingly extravagant gifts which were, in effect, bought at relatively inexpensive prices. They expressed great satisfaction with this and we expect this line item to grow at higher than average rates going forward.

Ex 5: Most Popular Departments at TJX



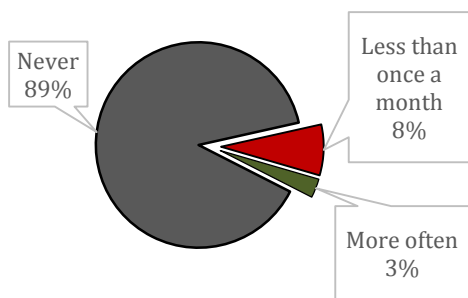
An overwhelming majority of respondents (83%, Ex. 5) had “Apparel” in mind when entering a TJX store with home goods coming in a strong second place. Footwear, although considerably behind these two departments, was third but provides for some instructive information for TJX management. Because footwear relies heavily not just on style but on fit, customers pointed out that even when they walked into a store thinking of buying footwear, they would many times not buy any even when they found a style that appealed to them. This has been mentioned previously in this report but merits repetition because TJX is foregoing significant sales in this department because of the lack of variety of sizes in footwear. In effect, we found that roughly half of all respondents looking to buy footwear came out empty-handed because they were not able to find the right size.

Ex 6: How often do you compare prices with online retailers?



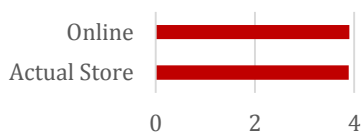
To assess the level of the online threat, we asked customers how often they compared prices in the store with online prices (Ex. 6). While we were expecting a reasonably vigilant attitude, the results proved to be more skewed than anticipated. Almost 75% of the respondents confessed to not comparing or sometimes comparing prices online. The remaining 25% of respondents told us that they compared prices every time but that they were open to visiting the brick-and-mortar retailer even if their price were higher because they could get the product immediately. Not just could they get the product immediately, they would also be able to touch the fabric to gauge the quality and comfort as well as try on the garment before purchasing. With an online retailer, they would have to make a guesstimate of the quality of the fabric and how it would feel and fit, which is something that many customers did not want to leave to chance no matter the price.

Ex 7: Online shopping from TJX



We also assessed TJX’s online presence. We asked customers how often they shopped online from TJX (Ex. 7). Not surprisingly, 89% of respondents replied that they did not shop for TJX products online and most of them admitted not to have visited the TJX website. This makes sense as TJX relies on the ‘bargain-hunt’ experience which is part adventure and part impulse (buy now or cry later). In view of this, we can certainly understand why TJX is moving cautiously with investments in the online space. In fact, we admit that TJX is moving optimally by using its excess cash to acquire online retailers rather than developing the expertise in this area in house.

Ex 8: Satisfaction online versus brick-and-mortar



Lastly, we asked customers to compare their online and in-store shopping experiences. Using a scale of 1 to 5 (with 1= worst to 5=best), we hypothesized that the in-store instant gratification factor would trump online shopping (Ex. 8). The results were sobering. On average, respondents ranked the two experiences favorably and, most surprisingly, at almost the same, exact level (for 3.89 actual stores vs. for 3.9 online stores). While this underscores our statement that the online threat is definitely real, it can be seen also from the TJX point of view: the brick-and-mortar stores are holding their own.

Source: Team Survey

APPENDIX 2: INCOME STATEMENT (GAAP)

Income Statement (GAAP)													
The TJX Companies, Inc.													
Income Statement <i>(in U.S. millions)</i>	Historical			Estimated					Projected				
	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Total Revenue	25,878	27,423	29,078	30,714	33,063	34,823	36,722	38,773	40,546	42,486	44,613	46,946	49,510
Cost of Goods Sold	18,521	19,605	20,777	21,936	23,540	24,730	26,009	27,387	28,566	29,855	31,263	32,806	34,496
Gross Profit	7,357	7,818	8,302	8,778	9,523	10,093	10,713	11,387	11,980	12,632	13,349	14,141	15,014
Advertising expenses	299	334	371	430	463	488	514	543	568	595	625	657	693
General Corporate expenses:	335	330	324	369	397	418	441	465	487	510	535	563	594
Stock-Based Compensation:	64	76	88	93	100	105	111	117	123	129	135	142	150
Other SG&A	3,552	3,728	3,912	4,300	4,629	4,875	5,141	5,428	5,676	5,948	6,246	6,572	6,931
Total Operating Expenses:	4,250	4,467	4,695	5,192	5,589	5,886	6,207	6,554	6,853	7,181	7,541	7,935	8,369
Operating Income	3,107	3,351	3,607	3,587	3,934	4,207	4,506	4,833	5,126	5,450	5,809	6,206	6,645
Interest Income	12	15	16	15	17	18	20	22	24	27	30	33	37
Interest Expense	41	46	55	58	58	58	58	58	58	58	58	58	58
Other Non-Operating expenses	0	0	17	0	0	0	0	0	0	0	0	0	0
Pre-Tax Income	3,077	3,319	3,550	3,544	3,893	4,168	4,468	4,797	5,093	5,419	5,781	6,181	6,624
Income Tax Provision	1,171	1,182	1,335	1,347	1,480	1,584	1,698	1,823	1,935	2,059	2,197	2,349	2,517
Net Income	1,907	2,137	2,215	2,197	2,414	2,584	2,770	2,974	3,157	3,360	3,584	3,832	4,107
Earnings Per Share (EPS)	2.6	2.9	3.1	3.3	3.7	4.1	4.5	5.0	5.5	6.0	6.6	7.3	8.1
Diluted Shares Outstanding	747.6	726.4	703.5	667.3	649.3	631.3	613.3	593.3	577.3	559.3	541.3	523.3	505.3

APPENDIX 3: INCOME STATEMENT (COMMON SIZE)

Income Statement (Common Size)													
The IJX Companies, Inc.													
Income Statement <i>(in U.S. millions)</i>	Historical			Estimated					Projected				
	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Total Revenue	100%	100%	100%	100%	100%	100%	100%	100.0%	100%	100%	100%	100%	100%
Cost of Goods Sold	71.6%	71.5%	71.5%	71.4%	71.2%	71.0%	70.8%	70.6%	70.5%	70.3%	70.1%	69.9%	69.7%
Gross Profit Margin	28.4%	28.5%	28.5%	28.6%	28.8%	29.0%	29.2%	29.4%	29.5%	29.7%	29.9%	30.1%	30.3%
Advertising expenses	1.2%	1.2%	1.3%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%
General Corporate expenses	1.3%	1.2%	1.1%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%
Stock-Based Compensation	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Other SG&A	13.7%	13.6%	13.5%	14.0%	14.0%	14.0%	14.0%	14.0%	14.0%	14.0%	14.0%	14.0%	14.0%
Total Operating Expenses	16.4%	16.3%	16.1%	16.9%	16.9%	16.9%	16.9%	16.9%	16.9%	16.9%	16.9%	16.9%	16.9%
Operating Margin	12.0%	12.2%	12.4%	11.7%	11.9%	12.1%	12.3%	12.5%	12.6%	12.8%	13.0%	13.2%	13.4%
Interest Income	0.0%	0.1%	0.1%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Interest Expense	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Other Non-Operating expenses	-	-	0.1%	-	-	-	-	-	-	-	-	-	-
Pre-Tax Income Margin	11.9%	12.1%	12.2%	11.5%	11.8%	12.0%	12.2%	12.4%	12.6%	12.8%	13.0%	13.2%	13.4%
Income Tax Provision	4.5%	4.3%	4.6%	4.4%	4.5%	4.5%	4.6%	4.7%	4.8%	4.8%	4.9%	5.0%	5.1%
Net Income Margin	7.4%	7.8%	7.6%	7.2%	7.3%	7.4%	7.5%	7.7%	7.8%	7.9%	8.0%	8.2%	8.3%

APPENDIX 4: BALANCE SHEET (GAAP)

Balance Sheet (GAAP)													
The TJX Companies, Inc.													
Balance Sheet <i>(in U.S. millions)</i>	Historical			Estimated					Projected				
	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
ASSETS													
Cash & Cash-Equivalents:	1,812	2,150	2,494	2,879	2,984	3,128	3,346	3,644	3,989	4,402	4,890	5,455	6,104
Marketable Securities:	236	295	283	424	565	706	847	988	1,129	1,270	1,411	1,553	1,694
Accounts Receivable:	223	210	214	226	243	256	270	285	298	312	328	345	364
Other Receivables	-	-	12	-	-	-	-	-	-	-	-	-	-
Inventories	3,014	2,966	3,218	3,428	3,681	3,868	4,070	4,287	4,473	4,676	4,898	5,142	5,410
Prepaid Expenses	321	326	317	374	402	424	447	472	493	517	543	571	602
Other Current Assets:	9	20	39	15	17	17	18	19	20	21	22	23	25
Total Current Assets:	5,615	5,966	6,577	7,346	7,892	8,399	8,998	9,695	10,402	11,198	12,092	13,090	14,199
Property & Equipment, net:	3,223	3,595	3,868	4,353	4,872	5,431	6,034	6,689	7,389	8,143	8,958	9,843	10,808
Goodwill:	170	169	169	169	169	169	169	169	169	169	169	169	169
Other Intangible Assets:	146	143	141	138	135	132	129	126	123	120	117	114	111
Deferred Taxes:	96	133	162	162	162	162	162	162	162	162	162	162	162
Other Assets:	261	194	211	211	211	211	211	211	211	211	211	211	211
Total Assets:	9,512	10,201	11,128	12,379	13,441	14,503	15,702	17,052	18,456	20,003	21,709	23,588	25,660
LIABILITIES & SHAREHOLDER'S EQUITY													
Accounts Payable	1,931	1,771	2,008	2,192	2,354	2,474	2,603	2,742	2,860	2,990	3,132	3,288	3,460
Accrued Expenses	833	796	834	922	993	1,046	1,103	1,164	1,217	1,276	1,339	1,410	1,487
Deferred Revenue	218	246	275	290	312	329	347	366	383	401	421	443	467
Other Current Liabilities	615	640	688	737	794	836	881	931	973	1,020	1,071	1,127	1,188
Income Taxes Payable	164	65	126	121	133	143	153	164	174	185	198	211	227
Total Current Liabilities	3,761	3,518	3,930	4,263	4,586	4,826	5,086	5,366	5,608	5,872	6,161	6,479	6,829
Long-Term Debt	775	1,274	1,624	1,624	1,624	1,624	1,625	1,625	1,625	1,625	1,625	1,625	1,625
Capital Leases	-	-	61	-	-	-	-	-	-	-	-	-	-
Def. Tax Liability, Non-Curr	349	446	423	430	463	488	514	543	568	595	625	657	693
Other Long-Term Liabilities	961	733	827	921	992	1,045	1,102	1,163	1,216	1,275	1,338	1,408	1,485
Total Liabilities	5,846	5,971	6,864	7,238	7,665	7,983	8,326	8,697	9,017	9,366	9,749	10,170	10,632
Shareholders' Equity													
Common Stock	724	705	685	667	649	631	613	595	577	559	541	523	505
Retained Earnings	3,155	3,724	4,134	4,632	5,297	6,068	6,952	7,960	9,071	10,297	11,648	13,137	14,778
Accumulated Other Comprehensive Inc	(213)	(200)	(554)	(159)	(171)	(180)	(190)	(200)	(209)	(219)	(230)	(242)	(256)
Total Equity	3,666	4,230	4,264	5,141	5,776	6,519	7,376	8,355	9,439	10,637	11,959	13,418	15,028
Total Liabilities & Equity	9,512	10,201	11,128	12,379	13,441	14,503	15,702	17,052	18,456	20,003	21,709	23,588	25,660

APPENDIX 5: CASH FLOW STATEMENT (GAAP)

Cash Flow Statement (GAAP)													
The TJX Companies, Inc.													
Cash Flow Statement													
(in U.S. millions)													
	Historical			Estimated					Projected				
	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Operating Activities													
Net Income	1,907	2,137	2,215	2,197	2,414	2,584	2,770	2,974	3,157	3,360	3,584	3,832	4,107
Depreciation & Amortization of P&E	509	549	589	619	649	679	710	740	770	801	831	861	891
Stock-Based Compensation	64	76	88	93	100	105	111	117	123	129	135	142	150
Early extinguishment of debt	0	0	17	-	-	-	-	-	-	-	-	-	-
Interest income	(12)	(15)	(16)	(15)	(17)	(18)	(20)	(22)	(24)	(27)	(30)	(33)	(37)
Loss on Sale of Equipment/Impairments	12	8	4	-	-	-	-	-	-	-	-	-	-
Deferred Taxes	13	52	102	-	-	-	-	-	-	-	-	-	-
Tax Benefits from Stock-Based Comp	(62)	(83)	(95)	-	-	-	-	-	-	-	-	-	-
Changes in Operating Assets & Liabilities													
Accounts Receivable	(18)	12	(9)	(12)	(17)	(13)	(14)	(15)	(13)	(14)	(16)	(17)	(19)
Inventories	27	35	(332)	(210)	(254)	(187)	(201)	(217)	(186)	(203)	(223)	(244)	(268)
Prepaid Expenses & Other Current Assets	(54)	(3)	4	(32)	(30)	(22)	(24)	(26)	(22)	(25)	(27)	(30)	(32)
Taxes Receivables	0	0	(12)	12	-	-	-	-	-	-	-	-	-
Accounts Payable	212	(152)	285	184	162	120	129	139	119	130	142	156	171
Accrued Expenses	269	(30)	21	88	71	53	57	62	53	58	64	70	77
Income taxes payable	176	11	145	(5)	12	9	10	11	10	11	12	14	15
Deferred Revenue and Other Current Liabilities	1	(12)	(12)	65	79	59	63	69	59	65	71	78	86
Total Changes in Working Capital	613	(139)	89	91	23	18	20	22	20	22	25	27	30
Cash Flow from Operations	3,044	2,585	2,993	2,985	3,169	3,369	3,591	3,831	4,046	4,284	4,545	4,829	5,141
Investing Activities													
Purchase of investments	(372)	(497)	(431)	(643)	(643)	(643)	(643)	(643)	(643)	(643)	(643)	(643)	(643)
Sale of Investments	219	395	388	502	502	502	502	502	502	502	502	502	502
Property additions	(978)	(947)	(912)	(1,104)	(1,168)	(1,238)	(1,313)	(1,395)	(1,471)	(1,554)	(1,646)	(1,746)	(1,857)
Cash (paid)/received from acquisitions	(190)	3	-	(87)	-	-	-	(100)	-	-	-	(100)	-
Income from interest	12	15	16	15	17	18	20	22	24	27	30	33	37
Other	34	0	0	262	(159)	(186)	(188)	(88)	(203)	(204)	(202)	(102)	(200)
Cash Flow from Investing	(1,275)	(1,031)	(939)	(1,055)	(1,451)	(1,546)	(1,622)	(1,702)	(1,791)	(1,872)	(1,959)	(2,055)	(2,161)
Financing Activities													
Issuance of long-term debt	-	500	749	-	-	-	-	375	-	750	-	500	-
Extinguishment of debt	-	-	(416)	-	-	-	-	(375)	-	(750)	-	(500)	-
Cash payment for debt issuance expenses	(1)	(4)	(6)	-	-	-	-	-	-	-	-	-	-
Cash payment for rate lock agreement	-	(3)	(8)	-	-	-	-	-	-	-	-	-	-
Capital lease obligations	(1)	-	-	-	-	-	-	-	-	-	-	-	-
Proceeds from issuance of common stock	134	146	143	154	135	135	135	135	135	135	135	135	135
Dividends Paid	(324)	(394)	(466)	(483)	(555)	(620)	(693)	(773)	(852)	(941)	(1,039)	(1,150)	(1,273)
Common Stock Repurchased	(1,345)	(1,471)	(1,651)	(1,216)	(1,193)	(1,193)	(1,193)	(1,193)	(1,193)	(1,193)	(1,193)	(1,193)	(1,193)
Tax Benefits from Stock-Based Comp	62	83	95	-	-	-	-	-	-	-	-	-	-
Cash Flow from Financing	(1,476)	(1,144)	(1,560)	(1,545)	(1,614)	(1,679)	(1,751)	(1,832)	(1,911)	(1,999)	(2,098)	(2,208)	(2,332)
Net Changes in Cash	305	338	344	386	104	144	218	298	345	413	488	566	649

APPENDIX 6: DCF SCENARIOS

DCF Scenarios

Base Case	Estimated				
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Revenue	30,714	33,063	34,823	36,722	38,773
EBITDA	4,206	4,583	4,887	5,216	5,573
EBIT	3,587	3,934	4,207	4,506	4,833
Less: Taxes	1,363	1,495	1,599	1,712	1,836
Plus: Depreciation	619	649	679	710	740
Plus: Stock-Based Compensation	93	100	105	111	117
Less: Increase in Working Capital	91	23	18	20	22
Less: Capital Expenditures	(1,104)	(1,168)	(1,238)	(1,313)	(1,395)
Unlevered Free Cash Flow	4,649	5,033	5,372	5,746	6,154

Bull Case	Estimated				
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Revenue	30,714	33,341	35,433	37,725	40,242
EBITDA	4,206	4,622	4,972	5,358	5,784
EBIT	3,587	3,970	4,286	4,638	5,031
Less: Taxes	1,363	1,508	1,629	1,763	1,912
Plus: Depreciation	619	652	686	720	753
Plus: Stock-Based Compensation	93	101	107	114	122
Less: Increase in Working Capital	91	25	21	23	26
Less: Capital Expenditures	(1,104)	(1,180)	(1,264)	(1,357)	(1,459)
Unlevered Free Cash Flow	4,649	5,076	5,465	5,901	6,384

Bear Case	Estimated				
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Revenue	30,714	32,396	33,424	34,517	35,681
EBITDA	4,206	4,491	4,690	4,902	5,128
EBIT	3,587	3,839	4,004	4,183	4,375
Less: Taxes	1,363	1,459	1,522	1,589	1,663
Plus: Depreciation	619	652	686	720	753
Plus: Stock-Based Compensation	93	98	101	104	108
Less: Increase in Working Capital	91	17	12	13	14
Less: Capital Expenditures	(1,104)	(1,144)	(1,188)	(1,234)	(1,283)
Unlevered Free Cash Flow	4,649	4,920	5,138	5,376	5,630

Price per Share Calculation	
Enterprise Value	62,461
Less: Debt	1,685
Add: Cash	2,494
Implied Equity Value	63,270
Shares Outstanding	704
Implied Price per share	89.9

Assumptions	
Beta	0.89
WACC	7.78%
Tax Rate	38%
EV/EBITDA Multiple for TV	10.1 x
Terminal Value	56,361

Price per Share Calculation	
Enterprise Value	64,384
Less: Debt	1,685
Add: Cash	2,494
Implied Equity Value	65,193
Shares Outstanding	704
Implied Price per share	92.7

Assumptions	
Beta	0.89
WACC	7.78%
Tax Rate	38%
EV/EBITDA Multiple for TV	10.1 x
Terminal Value	58,496

Price per Share Calculation	
Enterprise Value	58,299
Less: Debt	1,685
Add: Cash	2,494
Implied Equity Value	59,108
Shares Outstanding	704
Implied Price per share	84.0

Assumptions	
Beta	0.89
WACC	7.78%
Tax Rate	38%
EV/EBITDA Multiple for TV	10.1 x
Terminal Value	51,866

APPENDIX 7: COMPARABLES

Comparable Companies							
Ticker	Name	Mkt Cap (M)	P/E Ratio	EV/EBITDA	EV/Revenue	Price/FCF	
TJX		48,110	21.75	11.1 x	1.6 x	24.6 x	
Off Price Retailers							
TJX US Equity	TJX COMPANIES INC	48,110	21.7	11.1 x	1.6 x	24.6 x	
ROST US Equity	ROSS STORES INC	21,489	21.5	11.4 x	1.8 x	27.8 x	
BURL US Equity	BURLINGTON STORES INC	3,754	24.2	11.0 x	1.0 x	35.3 x	
ASNA US Equity	ASCENA RETAIL GROUP INC	2,314	18.7	NM	0.5 x	16.3 x	
CAL US Equity	CALERES INC	1,288	14.9	7.6 x	0.5 x	16.4 x	
CATO US Equity	CATO CORP-CLASS A	1,108	17.2	7.5 x	0.8 x	19.7 x	
LB US Equity	L BRANDS INC	28,074	25.9	13.0 x	2.7 x	29.3 x	
	Median		21.5	11.1 x	1.0 x	24.6 x	
	Average		20.6	10.3 x	1.3 x	24.2 x	
Full Price retailers							
URBN US Equity	URBAN OUTFITTERS INC	2,875	13.2	5.5 x	0.8 x	19.3 x	
M US Equity	MACY'S	12,573	9.5	5.7 x	0.7 x	10.5 x	
WMT US Equity	WALMART	192,004	12.7	6.9 x	0.5 x	12.1 x	
TGT US Equity	TARGET	45,243	15.8	8.1 x	0.8 x	9.7 x	
FL US Equity	FOOT LOCKER INC	9,234	16.1	8.9 x	1.2 x	20.0 x	
JWN US Equity	NORDSTROM	10,844	15.8	7.1 x	0.9 x	8.0 x	
	Median		14.5	7.0 x	0.8 x	11.3 x	
	Average		13.8	7.0 x	0.8 x	13.3 x	
Online Retailers							
AMZN US Equity	AMAZON	315,599	975.7	40.7 x	3.1 x	58.0 x	
OSTK US Equity	OVERSTOCK.COM	342	84.8	9.5 x	0.2 x	0.0 x	
	Median		530.2	25.1 x	1.6 x	29.0 x	
	Average		530.2	25.1 x	1.6 x	29.0 x	
Comparable Summary							
			P/E	EV/EBITDA	EV/Revenue	Price / FCF	Weights
	OP Retailers		21.5	11.1 x	1.0 x	24.6 x	55%
	FP Retailers		14.5	7.0 x	0.8 x	11.3 x	40%
	Online Retailers		530.2	25.1 x	1.6 x	29.0 x	5%
	TJX		21.7	11.1 x	1.6 x	24.6 x	
	Implied Share Price		147	64	43	61	
	Multiple Weights		20%	30%	30%	20%	
	Target Price						73.3
	Aggressive						76.9
	Cautious						69.6

APPENDIX 8: LEVERAGED RECAPITALIZATION

Leveraged Recapitalization Scenarios

Base Case	Estimated				
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
EBITDA	4,397	4,748	5,128	5,539	5,649
Net Income	2,131	2,278	2,545	2,815	2,865
Depreciation/Amortization	619	649	679	710	740
Capital Expenses	1,108	1,168	1,233	1,293	1,343
NWC	41	226	244	264	71
Equity Cash Flow	1,601	1,533	1,747	1,969	2,191
Interest Expense	341	425	344	288	288
Capital Cash Flow	1,942	1,958	2,091	2,257	2,479

Aggressive Case	Estimated				
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
EBITDA	4,397	4,748	5,128	5,539	5,649
Net Income	2,035	2,185	2,449	2,719	2,769
Depreciation/Amortization	619	649	679	710	740
Capital Expenses	1,108	1,168	1,233	1,293	1,343
NWC	41	226	244	264	71
Equity Cash Flow	1,505	1,440	1,651	1,872	2,095
Interest Expense	496	575	499	443	443
Capital Cash Flow	2,001	2,015	2,150	2,316	2,538

Cautious Case	Estimated				
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
EBITDA	4,397	4,748	5,128	5,539	5,649
Net Income	2,227	2,371	2,641	2,911	2,961
Depreciation/Amortization	619	649	679	710	740
Capital Expenses	1,108	1,168	1,233	1,293	1,343
NWC	41	226	244	264	71
Equity Cash Flow	1,698	1,627	1,843	2,065	2,287
Interest Expense	185	274	189	133	133
Capital Cash Flow	1,883	1,901	2,033	2,198	2,420

Price per Share Calculation	
Enterprise Value	61,935
Initial Debt	5,874
Equity value	56,062
No of shares o/s	681
Implied Price per share	90.97

Assumptions	
Debt / EBITDA	1.4 x
WACC	6.20%
Tax Rate	38%
Terminal Value	72,743

Price per Share Calculation	
Enterprise Value	63,442
Initial Debt	7,552
Equity value	55,890
No of shares o/s	681
Implied Price per share	93.19

Assumptions	
Debt / EBITDA	1.8 x
WACC	6.20%
Tax Rate	38%
Terminal Value	74,474

Price per Share Calculation	
Enterprise Value	60,429
Initial Debt	4,196
Equity value	56,233
No of shares o/s	681
Implied Price per share	88.76

Assumptions	
Debt / EBITDA	1.0 x
WACC	6.20%
Tax Rate	38%
Terminal Value	71,013

APPENDIX 9: BOOTSTRAP STATISTICAL MODEL

We used a bootstrap simulation to forecast revenues from FY15 to FY24. In a bootstrap model, forecast revenues are based on actual revenue growth rates between 1Q10 and 3Q15. To refine our calculations, we also used the total growth rate from our reference quarter (3Q10) to 3Q15. Variations in growth rates are the residuals of QoQ revenue regressions. As with revenues, we ran similar regressions on COGS and Sales and Marketing to determine variation residuals. We can say with 95% confidence that the price for TJX should increase to \$95.30 (up by 35%). Other assumptions used for our simulation are:

- 1) Future revenue fluctuations will be similar to those between 1Q10 to 3Q15 as consistent with the bootstrap method
- 2) All DCF assumptions are kept the same except, of course, for QoQ growth rates and their statistical fluctuations
- 3) The Weighted Average of Cost of Capital (WACC) is 7.8% and the Terminal Value growth rate is 2%.

Growth rate fluctuations are calculated using the function:

$$\log \frac{R_{y,q}}{R_{y-1,q}} = \theta + \varepsilon_{(y,q)}$$

where $y = 2010$ to 2014 and $q = 1,2,3,4$

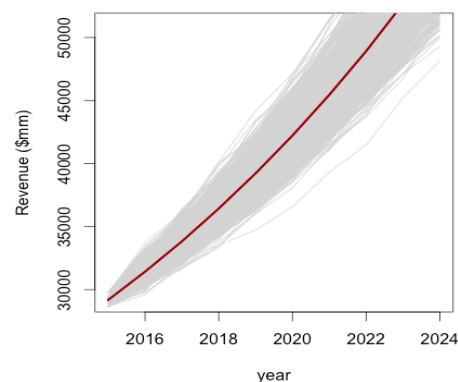
$\theta = \text{Revenue forecasts}$, $\varepsilon = \text{Fluctuation multipliers}$

The fluctuation multipliers are the expected value of the residuals ε . Thus, revenue is equal to the actual growth rate for that year times a multiplier, which is a variation from the mean. We ran 1,000 iterations to get a distribution of the dispersion from the mean. The results are outlined below as an implied stock price and present value of TJX.

Aggregate Forecast Revenue (M\$)

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Median	\$29,111	\$31,391	\$33,759	\$36,355	\$39,110	\$42,089	\$45,233	\$48,672	\$52,351	\$56,392
Mean	\$29,186	\$31,415	\$33,815	\$36,402	\$39,176	\$42,138	\$45,336	\$48,812	\$52,549	\$56,535
95th Percentile	\$29,771	\$32,859	\$35,822	\$39,241	\$42,587	\$46,612	\$50,226	\$54,428	\$59,061	\$63,561
5th Percentile	\$28,669	\$30,205	\$32,080	\$34,041	\$36,208	\$38,681	\$41,232	\$43,863	\$47,385	\$50,558

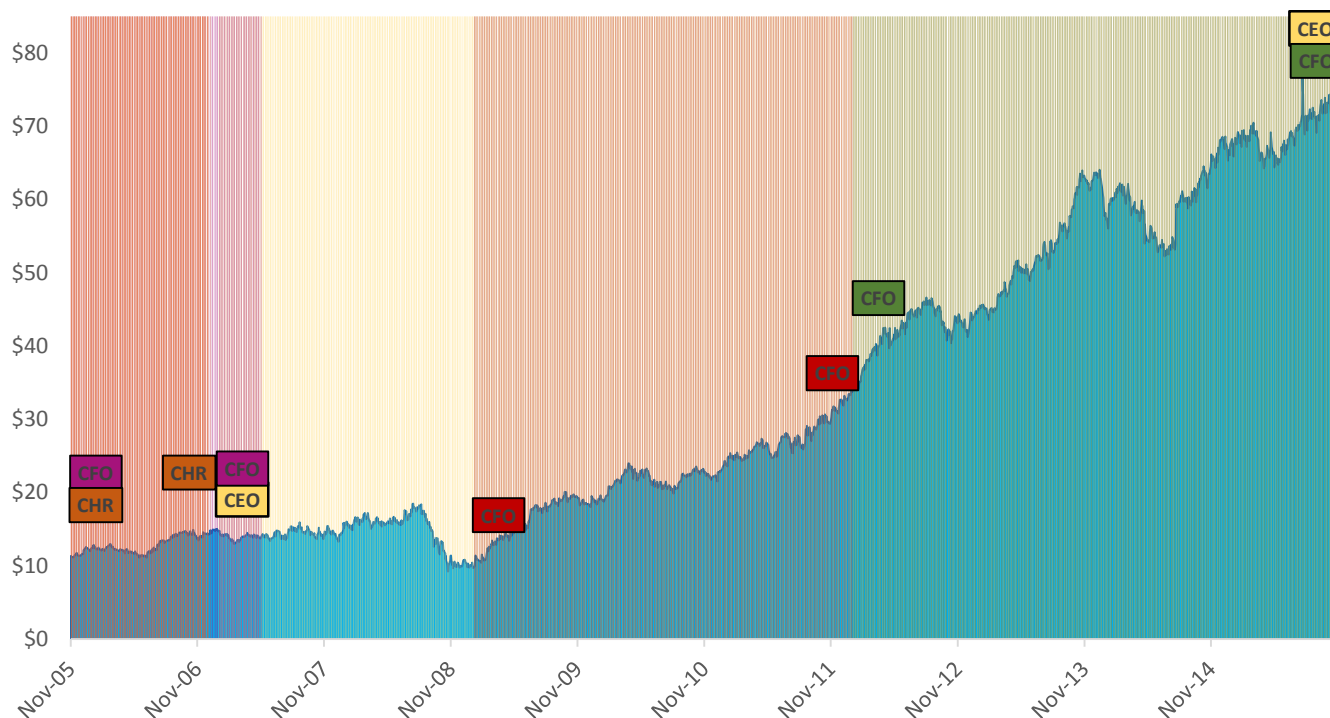
	Present Value (M\$)	Price per Share (US \$)
Median	71,820	98.50
Mean	71,870	98.60
95th Percentile	74,870	102.70
5th Percentile	69,492	95.30



Source: Team Estimates

APPENDIX 10: MANAGEMENT AND BOARD OF DIRECTORS

Stock Price Performance and C-Suite Changes



Source: Bloomberg, Company Filings, Capital IQ, Company Website

CHR	9/2005-1/2007	Bernard Cammarata
CFO	3/2004-6/2007	Jeffrey G Naylor
CEO	2/2007-2/2016	Carol Meyrowitz
CFO	2/2009-2/2012	Jeffrey G Naylor
CFO	2/2012-Present	Scott Goldenberg

Management

<u>Name</u>	<u>Title</u>	<u>Background</u>
Carol M. Meyrowitz	Chairman and CEO	<ul style="list-style-type: none"> • Steps down as Chairman and CEO of TJX on January 31, 2016 • Board Member at Staples Inc. since 2007 • CEO at the TJX Companies since January 28, 2007 • President of T.J. Maxx - 2005 to 2011 • Advisor to Berkshire Partners - 2005 • Senior Executive VP of TJX - 2004 to 2005 • President of Marmaxx - 2001 to 2005 • EVP of TJX - 2001 to 2004 • SVP for Merchandising – 1999 to 2000 • First joined TJX - 1983
Ernie L. Herrman	President and Director	<ul style="list-style-type: none"> • CEO for TJX starting January 31, 2016 • Director – 2015 • President – 2011 to 2015 • Senior Executive Vice President - 2007 to 2011 • Joined TJX as a buyer - 1989
Scott Goldenberg	Senior Executive VP and CFO	<ul style="list-style-type: none"> • Senior Executive VP and CFO - 2014 • Joined TJX as SVP/Comptroller - 1997
Richard Sherr	Senior Executive VP and Group President	<ul style="list-style-type: none"> • Promoted to Senior Executive VP - 2012 • President of HomeGoods – 2011 • Joined TJX as buyer - 1992
Michael MacMillan	Senior Executive VP and Group President	<ul style="list-style-type: none"> • Senior Executive VP and Group President – 2011 • President of Marmaxx - 2008 • President of Winner Merchants (part of CAN) – 2003

		<ul style="list-style-type: none"> • Joined TJX - 1985
Ken Canestrari	Senior Executive VP and Group President	<ul style="list-style-type: none"> • Senior Executive VP – 2014 • President of HomeGoods - 2012 • COO of HomeGoods - 2008 • Joined TJX - 1997
Nan Stutz	Senior Executive VP	<ul style="list-style-type: none"> • Senior Executive VP – 2011 • President of HomeGoods - 2007 • EVP of Merchandising - 2006 • Joined TJX - 1990

Board of Directors

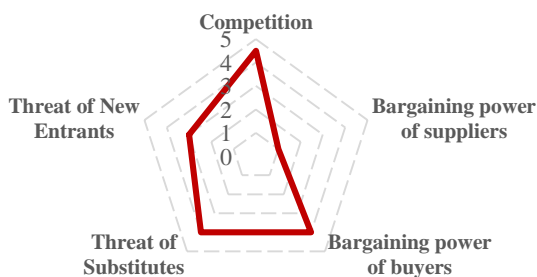
<u>Name</u>	<u>Title</u>	<u>Role</u>	<u>Years on Board</u>	<u>Background</u>
Carol M. Meyrowitz	Chairman and CEO	Internal	2006 – Present	<ul style="list-style-type: none"> • See above
Ernie L. Herrman	President and Director	Internal	2015 – Present	<ul style="list-style-type: none"> • See above
Alan M. Bennett	Independent Director, Chair - Executive Compensation Comm. Member - Finance Comm.	External	2007 – Present	<ul style="list-style-type: none"> • Independent Director at Fluor – 2011 • Independent Director at Halliburton - 2006 • Trustee at Susquehanna University - 2006 • Executive at H&R Block
Michael F. Hines	Independent Director, Chair - Audit Comm. Member - Finance Comm.	External	2007 - Present	<ul style="list-style-type: none"> • Chairman of the Board at GNC Holdings – 2009 to present • Chairman - Audit Comm. for Dunkin' Brands - 2011 • EVP and CFO at Dick's Sporting Goods – 1995 to 2007 • VP of Finance at Staples - 1990 to 1995
Amy B. Lane	Independent Director, Chair - Finance Comm. Member - Executive Comm. Member - Audit Comm.	External	2005 - Present	<ul style="list-style-type: none"> • Director of NexEra Energy – 2015 to present • Independent Director at GNC Holdings - 2011 • Special Advisor to KBL Corp. • MD at Merrill Lynch - 1997 to 2002 • MD at Salomon Brothers - 1989 to 1996 • Various positions at Morgan Stanley - 1997 to 1989
Willow B. Shire	Independent Director, Chair - Corporate Governance Comm. Member - Compensation Comm.	External	1995 - Present	<ul style="list-style-type: none"> • VP at Digital Equipment - 1978 – 1994 • Owner - Orchard Consulting
John F. O'Brien	Lead Director, Member - Executive Comm. Member - Compensation Comm.	External	1996 - Present	<ul style="list-style-type: none"> • CEO of Citizens Insurance – 1992 to 1996 • CEO of Allmerica Financial – 1996 to present • President at Allmerica Financial - 1989 to 1990 • Serves in several capacities at Fidelity Investments - 1972 to 1989 • Non-executive Chairman and director at Cabot Corporation
Zein Abdalla	Independent Director, Member - Corporate Governance Comm.	External	2012 - Present	<ul style="list-style-type: none"> • President of PepsiCo - 2012 to 2014 • CEO at PepsiCo - 2009 to 2012 • Independent Director of Cognizant Technology – 2015 to present
José B. Alvarez	Independent Director, Member - Audit Comm. Member - Compensation Comm.	External	2007 - Present	<ul style="list-style-type: none"> • CEO of Proinfra Sistemas e Ingenieria • EVP at Koninklijke Ahold – 2008 to present • CEO at Stop & Shop/Giant-Landover arena - 2006 to 2008 • Director at United Rentals – 2009 to present
David T. Ching	Independent Director, Member - Corporate Governance Comm. Member - Audit Comm.	External	2007 - Present	<ul style="list-style-type: none"> • CIO and SVP at Safeway - 1994 to present
William H. Swanson	Independent Director Member - Compensation Comm.	External	2015 - Present	<ul style="list-style-type: none"> • CEO of Raytheon - 2003 to 2014 • President of Raytheon - 2002 to 2004

Source: Bloomberg, Company Filings, Capital IQ, Company Website, Linked In

APPENDIX 11: PORTER'S FIVE FORCES

Threat of New Entrants	<p>MEDIUM</p> <p>This industry rewards economies of because of its high SG&A costs. New entrants may not be able to offer enough discounts to attract customers if they don't have sufficient bargaining power with suppliers.</p>
Competition	<p>HIGH</p> <p>No single player holds more than 5% of market share. Undifferentiated products are the norm.</p>
Bargaining Power of Suppliers	<p>LOW</p> <p>The supplier market is more fragmented than the retail industry. One retailer may have hundreds of the suppliers offering the same types of products. For TJX, products are usually purchased at very flexible volume with less-than-full assortment and with no special appetite for brand or fashion which drives down supplier bargaining power.</p>
Bargaining Power of Buyers	<p>HIGH</p> <p>Players in this industry face retailers directly. Many customers are price-sensitive and can shop around to find the best value.</p>
Threat of Substitutes	<p>HIGH</p> <p>Players in this industry compete on: 1) better customer service, 2) low prices, and 3) better selection. Customers have zero switching costs. For TJX, the threat comes from OP retailers, full-price retailers offering seasonal discounts, and online retailers.</p>

Porter Five Forces Model
(1- low to 5- high)



Source: Team estimates

APPENDIX 12: SWOT ANALYSIS

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none">• Lower advertising cost relative to peers• Superior inventory management• Robust same store growth• Rapid new store expansion	<ul style="list-style-type: none">• Low revenue contribution from online business
OPPORTUNITIES	THREATS
<ul style="list-style-type: none">• Potential market in EUR• Continuing growth in HomeGoods• New markets – e.g. acquisition of Trading Secrets	<ul style="list-style-type: none">• Online retailers• Seasonal discounts offered by other retailers

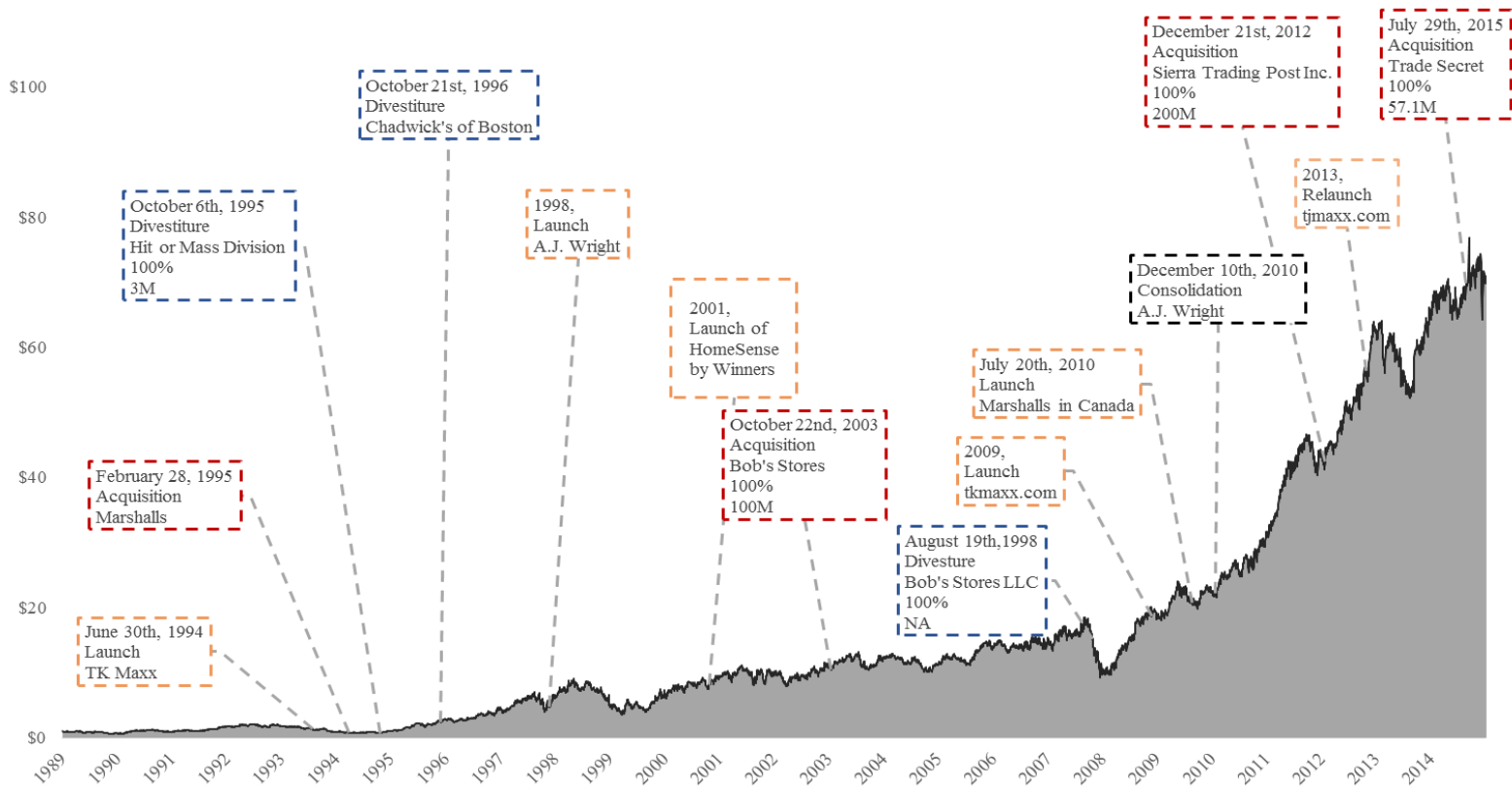
APPENDIX 13: INVENTORY BUYING CORPS

TJX currently has a very strong inventory buying corps of some 1,035 professionals. Over half of these worked in the U.S. with the U.K. and Germany having the largest cohorts outside the U.S. To keep a strong team that exhibit consistently high performance, TJX has developed a merchandising program that provides a structured career path for new professionals who are interested in merchandise planning and allocation, merchandise buying, and general management. As part of the program, new professionals at TJX undergo 8 weeks of training after joining and are then placed in planning, allocation analysis, and merchandising positions. As they gain experience, they are promoted to buyers that negotiate with vendors world-wide for the acquisition of inventory. Each buyer operates with significant freedom to make purchases, most of which are in the millions of dollars. Unlike buyers in other retailers, buyers at TJX are sensitive to the latest fashions as they often purchase products that will be on store shelves in one week.

Buyer Distribution (Total: 1,035)			
TJX USA	628	TJX Canada	145
BOSTON	360	Toronto	69
LA	86	USA	19
NYC	60	Other Areas	57
Canada	45		
Other Areas	77		
TJX Europe	189	HomeGoods	73
UK	123	Boston	33
Germany	43	NYC	9
USA	18	LA	5
Other Areas	5	Other Areas	26

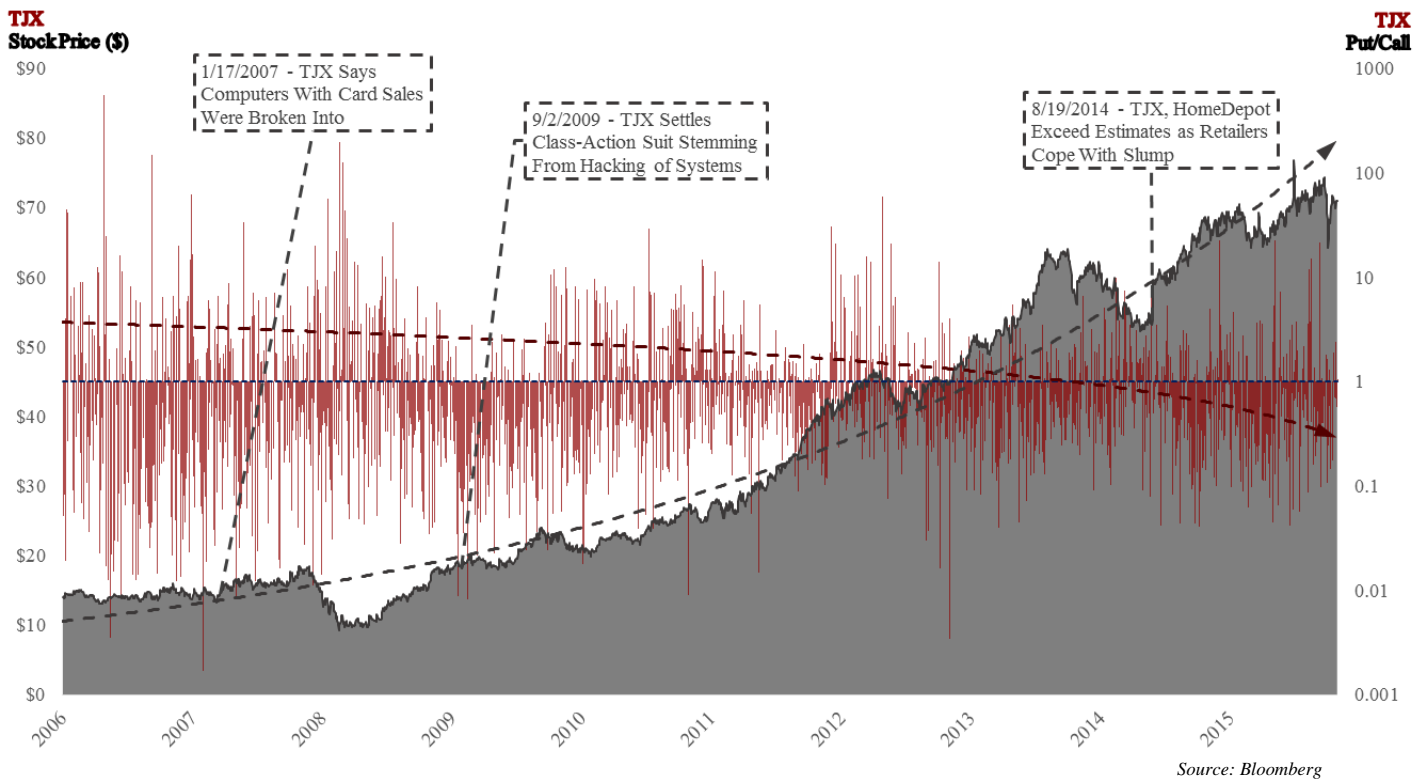
Source: TJX 2014 Annual Report, LinkedIn

APPENDIX 14: M&A ACTIVITY



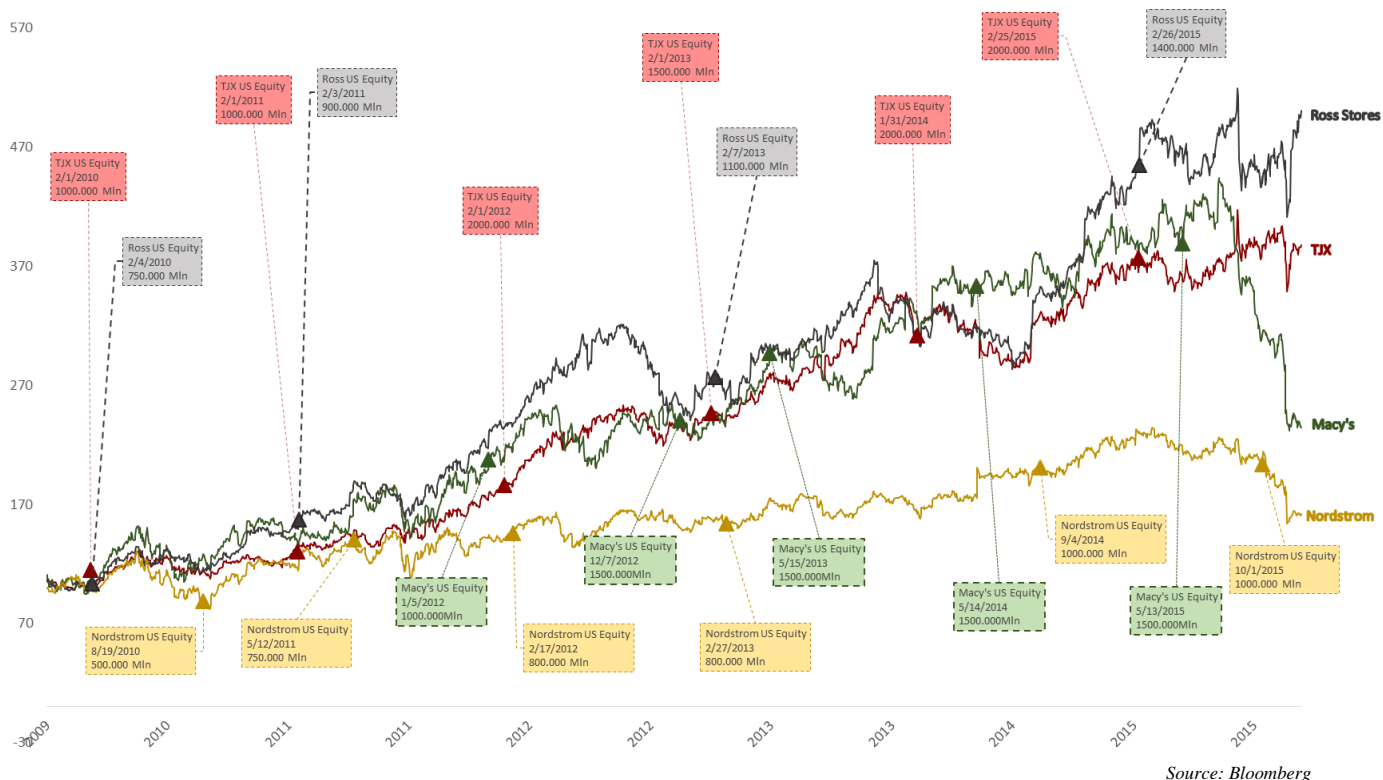
Source: Company Filings, Bloomberg, Capital IQ, Team Estimates

APPENDIX 15: PUT CALL RATIO



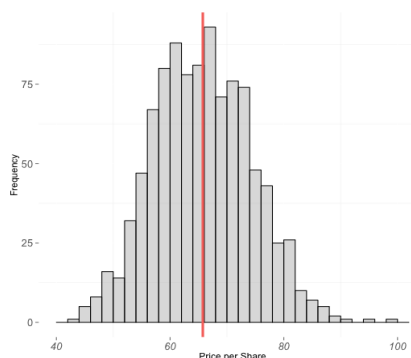
The Put/Call Ratio relates put and call volumes. Puts are used to hedge against market weakness or bet on declines. Calls are used to hedge against market strength or bet on advances. The chart above indicates a downward trend for negative market views for TJX. Starting in 2007, the market took a mostly bearish position on TJX as a result of the data breach that year. In 2009, TJX settled a class action lawsuit on this data breach and in doing so started a more bullish sentiment that continues to the present.

APPENDIX 16: STOCK BUY-BACKS



Background: The most commonly used argument in favor of buy-backs is that the stock is undervalued and the firm should buy it back, thus increasing shareholder value and boosting EPS and ROE. The most common counter-argument to these programs is that firms purchasing their own stock are just inflating their value without necessarily improving operations internally. Two examples of this are Macy's and Nordstrom, which did not meet earnings expectations, and thus saw their share prices drop. To counter this, they purchased their stock, boosting their prices in the process. In contrast to them, TJX and Ross beat their last four quarterly estimates by producing tangible operating gains. Small wonder, then, their share prices increased and remained above the level where they might be without any buy-backs. Another counter-argument is that these programs reduce liquidity in those cases when the firm uses its cash reserves to buy back stock. This reduction in liquidity is made worse by the increase in leverage, as balance sheet equity is reduced. Finally, but less likely, float can become an issue for a stock if the share buy-backs lead to few shares being available for trading. In the final analysis, by increasing leverage, firms are implicit leading their shareholders to raise their expectations for ROE as increased leverage means more risk. In view of this, one would argue that share repurchases are a net negative. Perhaps they are but not in the case of TJX, in our view. TJX continues to invest its cash in expanding its business, whether it be stores, supply chain, systems and data analytics, or inventory SKUs. Bottom line, for that is what we really are talking about, TJX is doing the right thing for its shareholders by continuing to invest on both sides of the balance sheet.

Bootstrap Price per Share – No Buy-backs



TJX has a significant stock buy-back program, which we expect to continue at \$1.2B per year. While these purchases increased leverage, TJX is very unlevered, much less than its peer group (see discussion of this on page 1 of this report.) TJX throws off enough cash that they can keep this level of stock buy-backs as well as reinvest in new stores (180 per year, according to our estimates). Because TJX devotes so much cash to its share buy-back program, we tried to quantify the share price impact of these buy-backs. Our statistical analysis is explained below.

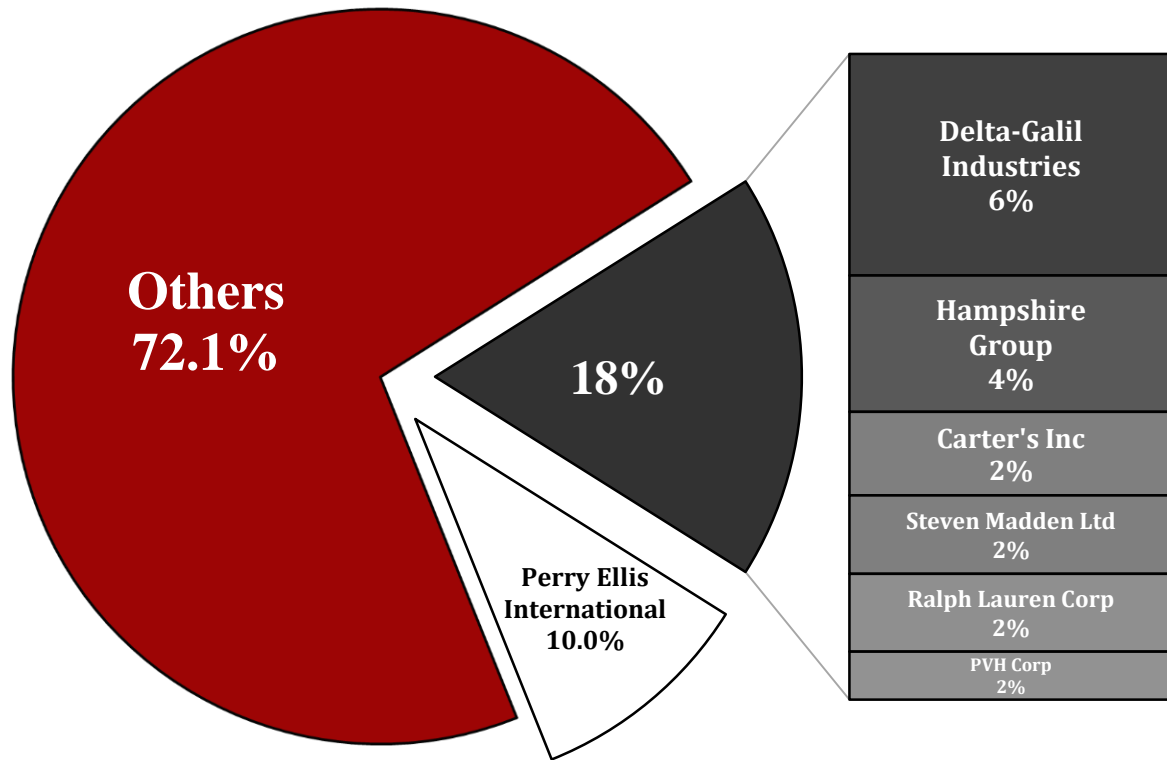
No Buybacks Scenario: We used a bootstrap statistical simulation to forecast future price per share considering that TJX did not do any buyback programs. We forecasted revenues from FY15 to FY24. In a bootstrap model, forecast is based on no repurchasing revenue growth rates between 1Q10 and 3Q15. To refine our calculations, we also used the total growth rate from our projected reference quarter (3Q10) to 3Q15. Variations in growth rates are the residuals of QoQ revenue regressions. As with revenues, we ran similar regressions on COGS and Sales and Marketing to determine variation residuals. We can say with 95% confidence that the price for TJX should increase be \$65.75

APPENDIX 17: SUBSIDIARIES & SUPPLIERS

Region	Subsidiaries
USA	Name
	Newton Buying Corp.
	Strathmex Corp.
	HomeGoods, Inc.
Delaware	HomeGoods Imports Corp
	NBC Apparel, Inc.
	NBC Holding, Inc.
	Marmaxx Operating Corp.
	Newton Buying Co. of CA, Inc.
	NBC Attire Inc.
Massachusetts	NBC Distributors Inc.
	Marshalls Woburn Merchants, Inc.
	Marshalls of MA, Inc.
Connecticut	H.G. Conn. Merchants, Inc.
New Jersey	Marshalls of Elizabeth, NJ, Inc.
Maryland	Marshalls of Glen Burnie, MD, Inc.
Pennsylvania	NBC Pittston Merchants, Inc.
	NBC Philadelphia Merchants, Inc.
	TJX Incentive Sales, Inc.
Virginia	Marshalls Bridgewater Merchants
	Marshalls of Beacon, VA, Inc.
North Carolina	NBC Charlotte Merchants, Inc.
Georgia	Marshalls Atlanta Merchants, Inc.
	Marshalls of Matteson, IL, Inc.
Illinois	Marshalls of Calumet City, IL, Inc.
	Marshalls of Chicago- Clark, IL, Inc.
	NBC Merchants, Inc.
Indiana	H.G. Indiana Distributors, Inc.
Minnesota	Marshalls of Richfield, MN, Inc.
Arizona	Arizona Merchants Inc.
California	NBC Manteca Merchants, Inc.
Nevada	NBC Nevada Merchants, Inc.
Texas	Marshalls of Laredo, TX, Inc.
	Sierra Trading Post, Inc.
	STP Retail, LLC
Wyoming	STP Technology Systems, LLC
	Derailed, LLC
Puerto Rico	New York Department Stores de Puerto Rico, Inc.

Region	Subsidiaries
Canada	Name
	WMI- 1 Holding Company
	WMI- 99 Holding Company
	Winners Merchants Int'l
Europe	Name
U.K.	TJX Europe Buying (Polska)
	TJX Europe Buying Ltd
Bermuda	NBC Atlantic Limited
Ireland	TJX Ireland
	T.K. Maxx Holding
	T.K. Maxx Management
Germany	TJX Distribution GmbH
	TJX Deutschland Co.
Italy	Jusy Meazza Buying Co.
Poland	TJX European Distribution
Other	Name
Australia	TJX Australia Pty. Ltd.
Hong Kong	NBC Hong Kong Merchants
India	NBC Fashion India

Revenue breakdown by supplier



Source: Bloomberg

APPENDIX 18: DATA INTEGRITY

Security breaches can and will lead to the loss of personal and credit card information. As such, data security is paramount to a retailer the size of TJX as it holds millions of customer records. With a significant data breach in 2007 that led to the loss of 45.6 million credit and debit card numbers, TJX knows full well the consequences of not having a state-of-the-art data management system that affords not just customer convenience and data integrity but also safety and compliance with regulations.

The key weak link in any IT system is the rogue employee. With members of IT departments having access to databases, systems, and networks that manage and transmit customer data, the firm must first look internally for potential weak points before looking externally. In addition to human-sourced weak points, a company the size of TJX will store data in clouds of servers that are redundant to mitigate environmentally-sourced weak points – e.g. power outages, meteorological events, earthquakes, and the like. The storage of data in cloud servers, however, aggregates it in such a way that attracts hackers looking for large amounts of information to steal. To prevent this, TJX will encrypt information to mitigate the risk of a data breach.

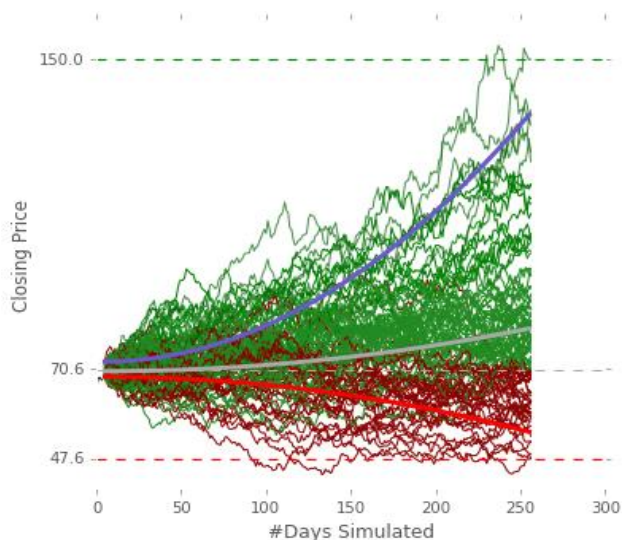
In a way, the 2007 data breach was a salutary wake-up call for TJX management. Since then, the company has not experienced any data breaches, and we expect that to continue. That said, as we remarked in our investment risk section, data breaches are not just the province of TJX. As the industry expands, it becomes a target for hackers and malware, but as the industry expands, it generates the cash necessary to invest in those defensive mechanisms that protect it from such attacks. While we cannot survey respondents on how TJX handles its IT infrastructure, we rely on management's statements that they are doing their best to avoid a repeat of the 2007 data breach.

APPENDIX 19: MONTE CARLO SIMULATION

We used a Monte Carlo simulation to forecast TJX stock prices for the next 12 months. To be specific, we simulated a Geometric Brownian Motion, which neatly replicates equity price behavior. In effect, we assumed that price fluctuations obey the stochastic differential equation shown below:

$$dS_t = uS_t dt + \sigma S_t dW_t$$

Where S_t = stock price, u = percentage drift, dt = trading day, σ = percentage volatility, and W_t = Wiener process



The graph on the left shows a Brownian motion trajectory that satisfies this differential equation. For the equation, the $uS_t dt$ term defines the trend of this trajectory while the $\sigma S_t dW_t$ term defines the random noise effect of this trajectory. Future states of the stock price $S(t+h)$ depend only on the future increment of the Brownian Motion $X(t+h) - X(t)$. In English, the mean price path for TJX share prices during the next 12 months follows the gray line. The blue and red lines show the 95% and 5% values respectively for this price path. On an aggregate basis, we predict that the TJX share prices should reach a \$83.4 value 12 months from now. We did not build this calculation into our weighed target price for TJX because we think that the dispersion we noticed using this methodology points to a too-high volatility for it to be mixed with methodologies such as DCF and comparables which are yielding much lower volatilities.

Source: Team Estimates

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