MIZUHO Mizuho Securities USA Inc.

Healthcare Research
Specialty Pharmaceuticals
Industry Commentary

U.S. Equity Research December 22, 2016

No Rosy Outlook for Early 2017; Landscape May Improve Later

Summary

We see no urgency to get involved in front of 2017 guidance and additional visibility into Trump's planned changes to the ACA. However, more bullish investors could argue that most of the uncertainty is already priced in, and risk/reward is getting more attractive. The remnant of pricing concerns may continue to pressure the stocks while an anticipated M&A boost may not transpire in our sector (but in biotech instead). In our universe we like IRWD, ADMS, and PCRX as momentum-driven stories, as well as more established players with reasonable balance sheets and pipelines like AGN, JAZZ and MNK.

Key Points

- **More muted drug pricing is already anticipated in 2017 but we think that investor uncertainty about even bigger changes and company-specific 2017 guidance could keep the stocks range-bound over the next three months.** We think the investment case for specialty pharma stocks is growing more attractive. Based on our channel checks we are not expecting meaningful shifts in the manufacturer pricing landscape. Along the way we have seen a couple of positive indicators that the industry may be winning the pricing war (like the defeat of Prop 61 and the recent abandonment of Medicare Part B pricing pilots introduced by CMS). As we see it, the biggest risks are still company-specific rather than government-driven, and we don't expect investors to miss entry points by waiting for additional clarity on both.

- **M&A is hoped to provide a boost, but may only benefit select names in our group:** In our view, the biggest near-term tailwind to the sector is a change in the tax code allowing domestic companies to repatriate foreign cash, which could spur a wave of healthcare M&A. During the last tax holiday in 2004, ~$312 billion in qualifying funds were brought home, of which a third was repatriated by pharmaceutical companies. However this event did not spur a large increase in M&A nor a big uptick in R&D investment, but instead drove a significant increase in share buybacks and executive compensation. Today PWC estimates that Pharma and Life Sciences account for over $400B of unrepatriated foreign earnings, but it's less clear whether spec pharma companies would meaningfully benefit from new business development activity, or if larger companies with overseas cash would pursue more innovative pipeline assets in biotech. Within our group, we see IRWD, ADMS, and PCRX as likely takeout targets if cash repatriation becomes more tangible. Furthermore, if companies with NOLs become more interesting, we note that IRWD and PCRX also check that box. We estimate ~$800M in NOLs for IRWD and ~$300M for PCRX.

Company	Symbol	Price (12/21)	Rating Prior	Rating Curr	PT
Adamas Pharmaceuticals, Inc.	ADMS	$16.35	–	Buy	$26.00
Allergan PLC	AGN	$193.99	–	Buy	$273.00
Depomed, Inc.	DEPO	$17.99	–	Buy	$24.00
Eagle Pharmaceuticals, Inc.	EGRX	$75.61	–	Neutral	$78.00
Endo International PLC	ENDP	$15.69	–	Buy	$25.00
Horizon Pharma Plc	HZNP	$16.00	–	Buy	$25.00
Ironwood Pharmaceuticals, Inc.	IRWD	$16.01	–	Buy	$20.00
Jazz Pharmaceuticals, Inc	JAZZ	$108.03	–	Buy	$127.00
Mallinckrodt PLC	MNK	$52.43	–	Buy	$85.00
Mylan NV	MYL	$37.52	–	Buy	$47.00
Pacira Pharmaceuticals, Inc.	PCRX	$30.80	–	Buy	$41.00
Sucampo Pharmaceuticals, Inc.	SCMP	$12.85	–	Buy	$16.00
Teva Pharmaceutical Industries Ltd.	TEVA	$36.37	–	Neutral	$40.00
Valeant Pharmaceuticals International, Inc.	VRX	$14.20	–	U-P	$11.00

Source: Bloomberg and Mizuho Securities USA

Irina R. Koffler
Managing Director, Americas Research
(212) 205-7929
irina.koffler@us.mizuho-sc.com

Andrew Galler
Research Associate, Americas Research
(212) 205-7934
Andrew.Galler@us.mizuho-sc.com

Sector Overview: It Can’t Hurt to Wait

While bullish investors may worry about missing a buying opportunity, we see no reason to rush into spec pharma ahead of 2017 guidance and additional clarity on Trump’s planned changes to the ACA and corporate tax rates. We believe that uncertainty around the drug pricing landscape may keep spec pharma stocks range-bound for now.

That said, our channel checks reveal more industry optimism and behavior suggesting gradual change but not radical change. Our read of recent payer comments is that there is still some opportunity for price increases built into contracts with manufacturers, and companies with unique offerings can continue to command premium pricing. However drug manufacturers are already subject to a number of restrictive measures implemented by the payers, which has been incorporated into the stock multiples already, in our view. Therefore, movement into stocks with unique/differentiated products and healthy balance sheets appears safer to us (but accumulating actual positions may not be critical over the next couple of months).

Channel Checks Suggest Business As Usual

We attempted to speak with some drug pricing consultants and also to survey commercial stage companies within our coverage universe. Our general takeaways are that: 1) while drug manufacturers remain extremely concerned about pricing, 2017 contracts have already been locked in and 2018 negotiation work has already started. 2) Pricing consultants believe that each business remains unique and presents unique pricing opportunities, especially for higher value, differentiated branded drugs, limited supply generics, and products pending loss-of-exclusivity. 3) There is a mixed outlook on drug pricing for next year, which supports the segmented view of the industry. Our takeaway is that pricing is already being heavily policed by the payers and current valuations reflect this situation, with some additional multiple contraction for uncertainty risk. We believe some of this could be resolved within 1H:17. We summarize our Comps Sheet in Exhibit 1 that highlights the attractive multiples within our sector.

Exhibit 1: Comps Sheet ($ in millions, except per share amounts)

Category	Company	Ticker	Market Cap (mil)	Closing Price	EPS 2017E	EPS 2018E	P/E 2017E	P/E 2018E	EV	FY:17 EBITDA	EV/EBITDA
LARGE CAP	ABBVIE INC	ABBV	101,016	$62.16	$5.49	$6.41	11.3	9.7	$131,302	12,713	10.3
	ALLERGAN PLC	AGN	71,764	$191.33	$16.05	$18.21	11.9	10.5	$85,447	8,003	10.7
	ASTRAZENECA	AZN-LON	54,796	$43.32	$3.10	$3.46	14.0	12.5	$66,768	6,201	10.8
	BRISTOL MYERS SQUIBB CO	BMY	98,803	$59.12	$2.98	$3.35	19.8	17.7	$100,696	6,382	15.8
	GLAXOSMITHKLINE PLC	GSK	93,225	$38.30	$2.75	$2.88	13.9	13.3	$116,933	11,688	10.0
	LILLY ELI & CO	LLY	81,008	$73.38	$4.05	$4.33	18.1	16.9	$82,990	6,734	12.3
	MERCK & CO INC	MRK	166,807	$60.50	$3.84	$4.19	15.7	14.4	$180,842	16,709	10.8
	NOVARTIS AG	NOVN-CH	194,275	$73.95	$5.01	$5.57	14.8	13.3	$195,840	14,791	13.2
	PFIZER INC	PFE	199,345	$32.85	$2.61	$2.86	12.6	11.5	$231,651	21,937	10.6
	SANOFI	SAN-PAR	97,679	$75.67	$5.51	$5.92	13.7	12.8	$109,342	11,842	9.2
	SHIRE	SHP-LON	41,313	$45.70	$4.13	$4.77	11.1	9.6	$59,096	5,358	11.0
	Average		**109,094**				**14.3**	**12.9**			**11.3**
MID CAP	ALKERMES PLC	ALKS	8,624	$56.75	$0.34	$1.07	168.6	53.0	$8,342	(147)	(56.8)
	ENDO INTL PLC	ENDP	3,575	$16.04	$4.67	$4.63	3.4	3.5	$11,031	1,645	6.7
	HORIZON PHARMA PLC	HZNP	2,564	$15.90	$2.46	$2.94	6.5	5.4	$3,153	591	5.3
	JAZZ PHARMACEUTICALS PLC	JAZZ	6,458	$107.83	$11.20	$13.57	9.6	7.9	$8,405	896	9.4
	MALLINCKRODT PUB LTD CO	MNK	5,627	$53.16	$7.70	$8.53	6.9	6.2	$11,692	1,466	8.0
	VALEANT PHARMACEUTICALS INTL	VRX	4,998	$14.65	$5.38	$6.06	2.7	2.4	$35,012	4,063	8.6
	Average		**5,308**				**5.8**	**5.1**			**7.6**
SMALL CAP	AMAG PHARMACEUTICALS INC	AMAG	1,214	$35.50	$6.99	$4.66	5.1	7.6	$1,869	326	5.7
	DEPOMED INC	DEPO	1,105	$17.94	$1.22	$1.59	14.7	11.3	$1,680	161	10.5
	EAGLE PHARMACEUTICALS INC	EGRX	1,191	$77.17	$5.58	$6.02	13.8	12.8	$1,210	147	8.2
	FLAMEL TECHNOLOGIES SA	FLML	421	$10.20	$0.31	$0.62	33.1	16.5	$452	179	2.5
	INSYS THERAPEUTICS INC NEW	INSY	662	$9.23	$0.49	$0.80	18.9	11.6	$516	54	9.6
	LIGAND PHARMACEUTICALS INC	LGND	2,254	$108.10	$5.10	$6.77	21.2	16.0	$2,604	102	25.6
	PACIRA PHARMACEUTICALS INC	PCRX	1,193	$31.90	$0.98	$2.20	32.6	14.5	$1,137	47	24.0
	SUCAMPO PHARMACEUTICALS INC	SCMP	608	$13.28	$1.66	$1.79	8.0	7.4	$642	147	4.4
	SUPERNUS PHARMACEUTICALS INC	SUPN	1,292	$26.10	$1.37	$1.85	19.0	14.1	$1,296	91	14.2
	Average		**983**				**14.4**	**12.4**			**10.1**
GENERICS	ANI PHARMACEUTICALS INC	ANIP	719	$62.41	$4.44	$5.93	14.1	10.5	$828	87	9.5
	IMPAX LABORATORIES INC	IPXL	999	$13.53	$1.46	$1.88	9.3	7.2	$1,563	240	6.5
	MYLAN N V	MYL	19,954	$37.29	$5.37	$5.72	6.9	6.5	$33,775	4,201	8.0
	PERRIGO CO PLC	PRGO	12,147	$84.72	$7.54	$8.21	11.2	10.3	$17,627	1,592	11.1
	TEVA PHARMACEUTICAL INDS LTD	TEVA	36,838	$36.25	$5.49	$5.72	6.6	6.3	$76,543	8,754	8.7
	Average		**8,455**				**9.6**	**8.2**			**8.8**

Source: FactSet Consensus

Potential M&A Impact May Be Muted or Delayed

Background: To help companies repatriate foreign earnings, the new administration would need to change the Internal Revenue Code covering controlled foreign corporations. The House Republican Blueprint for tax reform has suggested a one-time mandatory repatriation "toll tax", which would tax all foreign earnings and profits held in cash and equivalents at an 8.75% tax rate and a 3.5% otherwise, with the payment of tax spread over 8 years[1]. After paying this one-time charge, companies will be able to treat these funds as previously taxed income. This is the proposal that is currently generating investor excitement

In 2004 the American Jobs Creation Act facilitated a tax holiday that allowed corporations to pay 5.25% rather than 35% on repatriated income. The IRS reported that during this holiday, $362 billion was brought back to the U.S. and $312 billion

[1] PWC: Pharmaceutical and life sciences. *Legislative and tax accounting year-end webcast*. December 13, 2016.

qualified for the tax deduction. Roughly a third of the funds were repatriated by pharma companies, and Pfizer, Merck, and Johnson & Johnson were among the top five companies by funds repatriated.[2] PWC reports that approximately $400 billion in earnings could be repatriated by the Pharma and Life Sciences industry in this cycle.

Deploying repatriated cash may take several years to play out: During the last repatriation holiday, we did not see an immediate major uptick in M&A with only two blockbuster, transformative deals completed three years after the holiday: Schering-Plough's acquisition of Organon in 2007 and Johnson & Johnson's acquisition of Pfizer's Consumer Health business in 2006. In 2009 we saw another wave of large pharma deals when Pfizer and Merck agreed to acquire Wyeth and Schering-Plough, respectively. Most companies repatriated their earnings in 2005 following clarification of the Act from Treasury, so it may have taken a year or two to structure the first wave of deals, in our view. We summarize M&A activity for the seven top pharma companies to repatriate cash in Exhibit 2.

Exhibit 2: Cash Used in Acquisitions (2003-2007) ($ in millions)

	2003	Cash Repatriated under AJCA	2004	2005	2006	2007
Pfizer	-	36,577	2,263	2,104	2,320	464
Johnson & Johnson	2,812	11,476	580	987	18,023	1,388
Merck	1,528	16,687	-	-	1,580	366
Bristol Myers	53	9,734	283	-	-	432
Schering Plough	-	9,617	18	-	-	15,789
Eli Lilly	-	9,476	102	-	-	2,784
Wyeth	-	3,156	-	-	-	-
Total	**4,393**	**96,723**	**3,246**	**3,091**	**21,923**	**21,223**

Source: United States Senate Permanent Subcommittee on Investigations,[3] Pfizer, Johnson & Johnson, Merck, Bristol Myers, Schering Plough, Eli Lilly, and Wyeth 10-Ks
*For the cash repatriated number, we are using all funds repatriated during the holiday, not just funds that qualified for the lower rate
AJCA=American Jobs Creation Act

Increased spending or buybacks are possible after repatriation: The 2005 cash repatriation did not spur further R&D investment increases but instead, was followed by an increase in stock repurchases (16% increase from 2004 to 2005, and 38% increase from 2005 to 2006 in the top 15 repatriating companies) and increases to executive compensation. This time around there could be more strings attached and a number of our companies are already investing in increased R&D as the demand for innovation intensifies. Additionally, the possibility of increased buybacks under less regulation would be positively received by investors, in our view.

[2] United States Senate Permanent Subcommittee on Investigations (2011). *Repatriating Offshore Funds: 2004 Tax Windfall for Select Multinationals.*
[3] United States Senate Permanent Subcommittee on Investigations (2011). *Repatriating Offshore Funds: 2004 Tax Windfall for Select Multinationals.*

Branded Outlook is Still Optimistic & We Are More Cautious on Generics

- **Branded outlook:** The majority of branded companies in our space are, to some extent, reliant on established or non-promoted products. These products are usually supported by price increases that are no longer sustainable, and some of the companies have struggled to build out future revenue growth drivers. Stocks have already been penalized for this transition, in our view. **We think the best positioned branded companies are AGN, JAZZ and MNK** that all have innovative pipelines and balance sheet capacity to pursue business development.

- **Innovation is in the eye of the beholder:** Some of our companies possess older products that are still growing due to commercial execution and volume growth in spite of having visible generic cliffs or competitive overhangs. These companies include Depomed, Horizon, Jazz, and Mallinckrodt. For example, all of Depomed's assets could be considered older or established since all have visible generic cliffs and represent minimal innovations in crowded categories. The same could be said of Horizon's primary care franchise that represents 50% of its sales but continues to grow due to increased contracting and market penetration. If we re-categorize Xyrem as an established product (due to generic overhangs and 2025 settlements), then Jazz looks a lot less interesting relative to the group (23% innovation). The company may be able to prolong its market exclusivity through some combination of life cycle extension and settlement strategies. Similarly, the same re-categorizing exercise for Acthar, which faces potential branded competition from ANI Pharmaceuticals also exposes potential weakness in the portfolio (25% innovation). Mallinckrodt continues to expand patient volumes and Acthar utilization via a combination of contracting and a scientific publication strategy that further validates appropriate uses of the drug. We summarize our analysis of innovation within our companies in Exhibit 3.

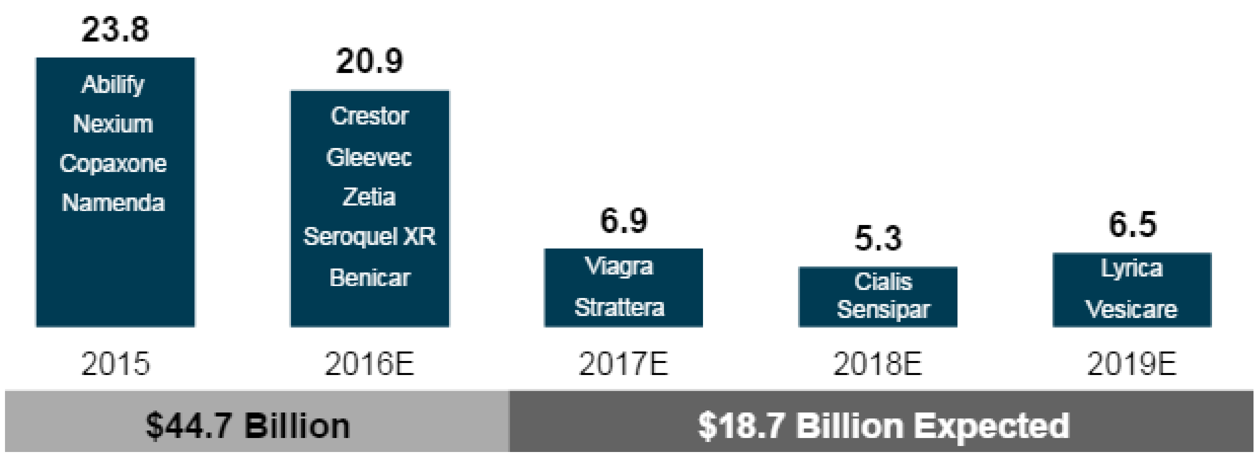
Exhibit 3: Innovation in Our Coverage Universe

Ticker	Innovative Product Sales as a Percent of 2017E Sales	Key Innovative Products	Key Older Products/Facing Generic Competition
ADMS	100%	ADS-5102 (Parkinson's LID, MS Gait); Undisclosed Epilepsy Product	Namenda XR royalty
AGN	59%	Viberzi, Vraylar, Namzaric, Kybella, Botox, Juvederm	Namenda XR, Bystolic, Restasis, Asacol, Minastrin, Viibryd/Fetzima, Saphris, Savella, Glaucoma drugs, Other Products
DEPO	95%	Nucynta, Lazanda, Gralise, Cambia; the innovative products are all mature but continue to grow	Zipsor
EGRX	94%	Bendeka, Ryanodex, Docetaxel	Argatroban
ENDP	52%	Xiaflex, Supprelin LA, Vasostrict, New Launches & Injectables	Percocet, Lidoderm, Voltaren Gel, Opana ER, Other Branded
HZNP	76%	Krystexxa, Actimmune, Procysbi, Ravicti, Pennsaid 2%, Rayos	Duexis, Vimovo, Buphenyl
IRWD	100%	Linzess, Zurampic	
JAZZ	96%	Xyrem (continues to grow), Defitelio, JZP-110, Vyxeos, Erwinaze	Prialt, Psychology & Women's Health portfolios
MNK	62%	Acthar (volume growth), Inomax, Therakos, Stratagraft, Terlipressin	Ofirmev, Generics Portfolio
MYL	1%	Biosimilars, Generic Advair, Generic Copaxone	Generics (can't tease out new launches); Branded EpiPen
PCRX	100%	Exparel	
SCMP	0%	CPP-1x/Sulindac (Phase III)	Amitiza
TEVA	6%	SD-809, CGRP, Fasinumab	Generics (can't tease out new launches); Copaxone, ProAir, Qvar, Oncology, Women's Health
VRX	28%	Consumer, Xifaxan, Uceris, Juvederm, Vyzolta, brodalumab, IDP-118	Isuprel, Nitropress, Solodyn, Ziana, Syprine, Cuprimine, Wellbutrin XL

Source: Company reports and Mizuho Research

- **Generic outlook is more tempered:** Generic manufacturers continue to face pricing pressures from payers, with Teva and Mylan indicating that they are facing 5% annual price erosion while smaller players may face even more due to their smaller portfolios and intensifying competition. Additionally, the generic stocks have been muted by DOJ collusion investigations that have pressured even the bigger players in our universe.
- There are now fewer "blockbuster" generics expected to enter the market. CVS/Caremark management estimates that generics launching in the next three years have a total branded market of ~$18.7 billion relative to $45 billion in 2015-2016. Furthermore, the number of big launches has also been tempered as summarized in Exhibit 4 below.[4]
- We note that Teva has first-to-file status on Viagra and Vesicare, and is the only company with a tentative approval for Sensipar. However, we remain on the sidelines for this stock ahead of what we expect to be weaker 2017 guidance and a potentially negative legal decision on Copaxone 40 mg.

Exhibit 4: Brand Market Sales of Expected Generic Launches >$100M, 2017-2019 ($ in billions)



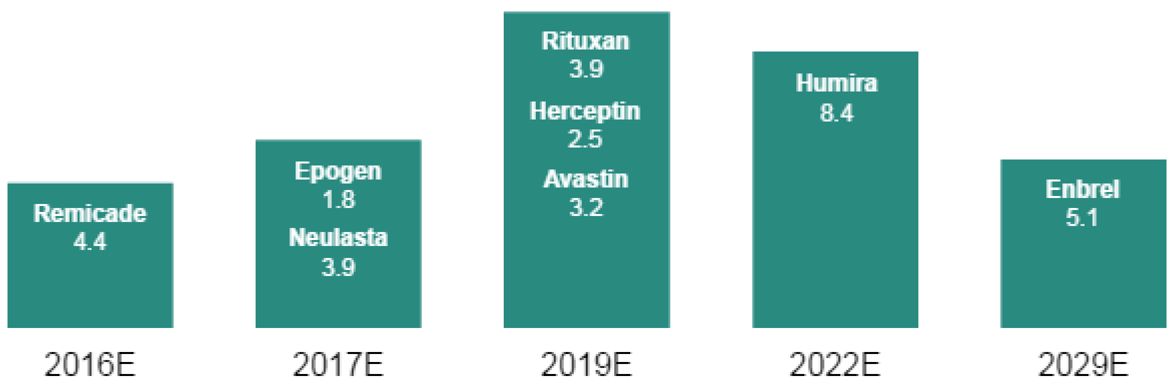
Source: CVS Investor Day presentation. *December 15, 2016.*

- We continue to think that best positioned generic companies have pipelines focused on complex generics and biosimilars, or could become acquisition targets themselves. **Within this somewhat less attractive universe we like MYL for its established business, innovative pipeline, and what we expect to be a relatively seamless transition to the EpiPen AG. We also like ENDP, which we view as a consolidation candidate, and think that the company will be able to de-lever via divestitures.**
- We summarize expected entry dates and branded market sales of some key biosimilars in Exhibit 5 below. Within our coverage universe, we view Mylan as the only leader in biosimilar development with the first accepted filing in the

[4] CVS Health Corp Investor Day, Dec 15, 2016.

U.S. for Herceptin. Mylan is also one of the later stage players in highly competitive spaces, such as Humira (Amgen received approval for Amjevita in September 2016) and Neulasta (Coherus/Baxalta's 351(k) filing was accepted in October 2016 and has a June 9, 2017 BSUFA). Teva has a small biosimilar pipeline with Celltrion for the development of Rituxan and Herceptin Biosimilars in the U.S. and Canada (we model market entry in 2020 and 2019 respectively). We also note that Allergan, through its partnership with Amgen, is currently on track to have the first approved Avastin biosimilar in both the U.S. and Europe.

Exhibit 5: Biosimilar Launches, 2016-2029 ($ in billions)



Source: CVS Investor Day presentation. *December 15, 2016.*

Price Target Calculation and Key Risks

Adamas Pharmaceuticals, Inc.

We value Adamas using discounted cash flow analysis with a Bloomberg 14.2% weighted average cost of capital (WACC) and 3% terminal growth rate to arrive at our $26 price target, which supports our BUY rating. Our high 3% terminal growth rate reflects our belief that the company has a number of interesting pipeline programs that should support growth beyond the 2025 time horizon summarized by our model.

Risks:

(1) Competitive data read-outs from Osmotica's LID program which could occur in late 2016/early 2017 (no updates on www.clinicaltrials.gov since Feb 2016).

(2) Financing risk may begin to pressure the stock in 2H:16, though we view this as less likely if the $22.3 million secondary offering is successfully completed.

(3) ADS-5102 may receive a CRL in late 2017

(4) Clinical risk in the pivotal MS gait program in 2017-2018. Clinical risk in the undisclosed Epilepsy program.

(5) Slower than expected launch of ADS-5102 due to generic headwinds, managed care access, and the company's small commercial footprint.

(6) Poor market uptake of Namzaric and Namenda XR which can adversely impact Adamas' royalties in 2018 and beyond.

Allergan PLC

We value AGN via DCF analysis. We utilize a weighted average cost of capital of 11% and a 3% terminal growth rate, which we believe adequately captures the pipeline risk and healthy growth expectations for this company. This analysis generates a valuation of $273 per share since we lowered revenue estimates while increasing spending assumptions. Under this scenario we credit Allergan for its $15 billion in share repurchases. We utilize 365 million shares in our DCF calculation for now until we get more clarity on the shares repurchased in November. Finally, we updated our model for the most recent transactions announced by the company in 4Q:16, including the $500 million Anda divestiture, and $1.84 billion in pipeline deals, but have not added any risk adjusted revenues for the programs (so believe there is upside to our conservative estimates).

If we utilize comparables analysis we would apply a 13.5x multiple to 2017 EPS of $15.96 (in line with large cap pharmaceutical peers that have annual EBITDA of $4-12 billion). Using this method we arrive at a hypothetical ~$215 price target, which suggests that AGN shares are slightly undervalued.

Risks:

(1) The Aesthetics business may under-perform expectations. We are particularly concerned about Kybella.

(2) 2017 guidance may be disappointing and consensus estimates may be too high.

(3) The company may overpay for assets or enter into a large dilutive deal.

(4) Pipeline risk for key assets in gastroparesis, migraine, depression, NASH, dermatology, and ophthalmology could pressure the stock.

(5) Allergan may be unable to cut costs or generate additional efficiencies, or its expenses may grow.

Depomed, Inc.

We used a weighted blend of discounted cash flow analysis and takeout analysis to value DEPO.

(1) DCF: We utilized a weighted average cost of capital of 11% and a 0% terminal growth rate and extended our model to 2025, since we expect all of the company's drugs to face generic competition by the following year. We also included $150 million in risk-adjusted cash to credit the company for a potential settlement with Purdue on its Oxycontin patent infringement litigation. We assigned a 10% probability to a standalone situation since media speculation continues to indicate that there have already been several interested parties in the name. We calculated standalone valuation as $14/share.

(2) Takeout: If we evaluate Depomed through the takeout lens, we believe it should be acquired at a 4.5x sales multiple after subtracting out net debt, using our FY:17 sales estimates of $526 million, which yields a per-share value of $25, still a discount to last year's Horizon offer of $32/share. Our takeout multiple represents a discount to the recent HZNP/RPTP deal which was based on a 6.6x multiple of estimated 2016 sales for Procysbi.

A weighted blend of these two hypothetical price targets generated our $24 price target, which supports our Buy rating.

$24 = (10%*$14) + (90%*$25)

Risks

(1) Potential bidders may not emerge for Depomed, or the bid price could come in below our expectations.

(2) Sector risk around drug pricing could pressure the stock.

(3) Commercial execution in the Nucynta/ER franchise is at risk after the company terminated its chief commercial officer and transferred his responsibilities to the CEO.

(4) The company may not win any cash in its Purdue litigation.

(5) Clinical risk in the cebranopadol program.

Eagle Pharmaceuticals, Inc.

We utilize a weighted blend of Sum of the Parts (SOTP) analysis and DCF analysis to arrive at our $78 price target, which supports our Neutral rating.

We still believe that Eagle is likely to be sold due to pressure from its activist investors and utilize an SOTP as our primary valuation tool (assigning it a 60% probability weight). This SOTP captures our expected value of Bendeka royalties (at a new higher 25% rate), Bendeka tail revenues out to 2026 (we use the full year even though the patent expires in July since Eagle may be able to enter into a generic settlement to prolong patent life), and contributions from Ryanodex to derive our $94 SOTP valuation. We also added $65 million in Teva milestones to the cash in our SOTP.

We also assign a 40% probability to standalone status, and use a DCF valuation to assess this outcome. We use an 11% WACC and 2% terminal growth rate to account for the tail value for Bendeka. We also added in $65 million in cash milestones to our DCF cash balance. This analysis generates a $53 per share valuation, which supports our thesis that EGRX is already trading at a significant takeout premium. Our DCF valuation was boosted by higher Ryanodex EHS estimates after the Analyst Day.

$78 = (60%*$94) + (40%*$53)

Risks:

(1) The stock may continue to trade up as management introduces new investors to the story and advances Ryanodex towards approval in the EHS and drug overdose indications. We may be underestimating investor enthusiasm.

(2) On the downside, no bidders may emerge for the business or incoming bids may come in below current trading price if strategic buyers take a conservative view on the Ryanodex opportunity.

(3) Eagle may be forced to raise money in 2017 if it needs to support its launch of Ryanodex in EHS, which could be dilutive to the stock.

(4) Remaining regulatory and clinical risk in the Ryanodex EHS and Overdose programs.

(5) Commercial execution risk in a price sensitive hospital setting where payers may be unimpressed by Eagle's product innovation. We know for example that alcohol-free Docetaxel has not met an enthusiastic reception.

(6) Eagle may support the stock via continued share buy-backs.

Endo International PLC

We value ENDP using an equally weighted blend of discounted cash flow analysis and comparables.

DCF: We utilized a weighted average cost of capital of 11% (a premium to the Bloomberg 6.2% WACC to incorporate execution risk). We used a 1% terminal growth rate since we expect since the company may be able to add some durable sterile injectable assets from its pipeline. This analysis generates a valuation of $23 per share.

Comparables: If we apply a 5.5x multiple to our 2017 EPS estimate of $4.72, we arrive at a $26/share value for ENDP. Other large generic companies trade at ~7x 2017 EPS multiples (after the EpiPen crisis) so even if we value ENDP at a slight discount to its peers, we still see meaningful upside to the stock.

Taking an equally weighted average of these two methodologies generates a $25 PT, which supports our BUY rating.

$25=(50%*$23)+(50%*$26)

Risks:

1. Endo may still miss consensus estimates on its next earnings call. A significant portion of guidance is dependent on successful execution of two generic launches in 4Q:16 so any mis-steps could be detrimental to the stock.

2. Endo has a number of ongoing legal proceedings outlined in its 10-Q filing. The most notable of these include litigation and investigations around alleged violation of the False Claims Act, anti-competitive behavior, opioid marketing, and Endo's pricing. The mesh litigation could remain a background concern until paid off.

3. Endo may opt not to divest any assets to service its debt.

4. Endo could experience manufacturing disruptions in its plants as it shuts select Qualitest facilities.

Horizon Pharma Plc

We value HZNP using discounted cash flow analysis, and we utilize a weighted average cost of capital of 12% in light of the SEC subpoena, and continued pricing pressure. We use a 1% terminal growth rate since the company now has minimal pipeline activity and continued erosion of at least a portion of its primary care drugs. This analysis generates a valuation of $25 per share.

Risks:

(1) Commercial execution risk in primary care, Krystexxa, and Actimmune

(2) Escalating investigations into the company's patient assistance program for its primary care drugs, or its support of patient foundations/charities in its Orphan business.

(3) Lack of near-term stock momentum due to lack of catalysts and uncertainty about 2017 guidance.

Ironwood Pharmaceuticals, Inc.

We value Ironwood using a discounted cash flow analysis. We utilize a weighted average cost of capital of 11% and a 3% terminal growth rate. We believe that the growth rate is warranted given the durability of the Linzess and Zurampic patent estate and the progression of the company’s pipeline. This analysis generates a valuation of $20 per share, which supports our BUY recommendation on the stock.

Risks

(1) Catalyst flow in 2017 may not be sufficiently meaningful to offset the volatile macro-environment, and could keep the stock range-bound.

(2) Commercial execution in Linzess or in Zurampic for gout may prove more challenging than expected.

(3) Clinical risk in the colonic release trial and in the refractive GERD program could represent future disappointments.

Jazz Pharmaceuticals, Inc

We value JAZZ using discounted cash flow analysis. We utilize a weighted average cost of capital of 12% (relative to 9.5% calculated by Bloomberg) in light of generic litigation risk facing the business as well as the company’s dependence on Xyrem. There is also clinical risk around the JZP-110 program that we wanted to incorporate. We use a 1% terminal growth rate since we now have lower expectations of Xyrem durability but anticipate growth in the company's cancer products as well as additional business development and pipeline expansion. This analysis generates a valuation of $127 per share, which supports our BUY rating.

Risks:

(1) An earlier Xyrem generic entry date by Roxane, or branded competitor progress (FLML) represent realistic generic or competitive risk, in our view.

(2) Any weakness in Xyrem performance announced on earnings calls could lead to negative volatility in the stock.

(3) Failure to develop a Xyrem life cycle extension could pressure the stock over time.

(4) Clinical risk associated with the JZP-110 program and Vyxeos.

(5) The company may get a negative FDA response to its Xyrem "skinny label" Citizen Petition in 1Q:17.

(6) Jazz received a second subpoena in October 2016 with regards to an investigation into its support of 501(c)(3) organization that provide financial assistance to Medicare patients. Resolution timing is unclear.

Mallinckrodt PLC

We value Mallinckrodt via discounted cash flow analysis. We assign the company an 11% weighted average cost of capital (vs. 7.8% Bloomberg), since we view its commercial risk as manageable but acknowledge investor anxiety about Acthar. We utilize a 2% terminal growth rate since the company has durable assets and is investing further in its pipeline.

Our analysis generates an $85 price target, which supports our Buy rating.

Risks

(1) Growth in the Specialty Brands segment may be lumpy, while Specialty Generics could decline more rapidly than expected. These characteristics of the business introduce greater unpredictability into quarterly earnings reports.

(2) Payer reimbursement risk associated with H.P. Acthar Gel which could introduce greater than expected rebates.

(3) Competitive pressure to H.P. Acthar Gel from Ani Pharmaceuticals' corticotropin products still represent some downside to the stock but we are less concerned about this risk after our deep dive into the issue.

(4) Vocal short-sellers in the name have negatively impacted the stock in the past but we think this noise will die down.

(5) Sector concerns about drug pricing may pressure MNK shares.

Mylan NV

Valuation:

We value Mylan using a discounted cash flow model that utilizes a 9.0% WACC and a 0% terminal growth as we think the company faces continual generic erosion. Our 9.0% WACC layers in a significant amount of risk over the 6.5% WACC reported by Bloomberg, which we believe penalizes the company for its corporate governance and the EpiPen generic pressure, but is lower than risk rates utilized for our branded companies since we believe the EpiPen generic introduction is already in the stock, and performance is not heavily dependent on branded launch execution nor pipeline progression. These assumptions generate a $47 price target, which supports our Buy recommendation.

If we utilize comparables analysis to value the company, and apply a low 7.0x multiple to our 2017 EPS estimate of $5.42, we would arrive at valuation in the $38 range. We consider this multiple to be temporarily depressed by the uncertainty surrounding the EpiPen AG, as well as a management discount, and expect expansion closer to the 9.0x range after there is increased visibility into a generic EpiPen demand and number of key product catalysts that could occur within the next six months. If we apply a 9.0x multiple to our EPS estimate, we would arrive at a hypothetical $49 price target, which we believe generates a more realistic valuation of this stock.

Risks:

(1) Continued pressure on the sector related to uncertainty about drug pricing and the future structure of the Affordable Care Act could prevent multiple expansion in this stock if new buyers or generalists avoid the healthcare space. Additionally, if investors do return to the sector they may opt for more attractive growth stories within branded pharma that have also sold off in the recent market.

(2) The negative impact of the EpiPen authorized generic could be more significant than that estimated in our model.

(3) Our forecasts for Meda and the growth of the baseline Mylan business could be overly generous, or the company may never advance its biosimilar programs, generic Advair, nor generic Copaxone.

(4) We may be underestimating the negative sentiment towards management.

Pacira Pharmaceuticals, Inc.

Valuation:

We value Pacira based on discounted cash flow analysis (2016-2025) using a 12% WACC (to reflect existing clinical risk in both ongoing Exparel programs and its early stage pipeline) and a 2% terminal growth rate. We believe that Pacira has created a highly durable hospital business that has a long growth trajectory, and no imminent competitors in sight, which also may be attractive to strategic buyers. Based on this methodology, we arrive at a value of $41, which supports our Buy recommendation. If we pull out 2016 cash flows from our DCF we would arrive at a slightly lower $39 PT.

Risks:

(1) Clinical trial risk in the company's arthroscopic knee and spine infiltration trials, as well as its pivotal nerve block studies. We have also modeled in a 50% probability of approval for Pacira's DepoMeloxicam and DepoTranexamic acid programs.

(2) Increasing cost sensitivity in the hospital setting could make commercial execution more challenging than expected and require greater discounting.

(3) Uncertainty around the FDA tracked safety issue (TSI) could overhang the stock in the near-term. If the TSI results in unfavorable label changes or in delayed approval of the nerve block indication, it could slow the Exparel growth trajectory in the future. We are not very concerned about this issue at this time.

Sucampo Pharmaceuticals, Inc.

Valuation:

We value Sucampo using discounted cash flow analysis, which serves as the basis for our Buy rating (up from Neutral, previously).

If we utilize an 11% WACC and 0% terminal growth rate over the 2016-2027 period, we arrive at our revised valuation of $16 per share. Sucampo does not have to do much to generate its revenue streams since it depends primarily on the productivity of Takeda and Mylan for its royalties, which we view as a lower risk business for now.

If we utilize comparables, Sucampo looks relatively inexpensive on an EV/EBITDA basis relative to the small cap group (4.4x relative to ~10x). We attribute this discount to the company's looming Amitiza patent cliff and concerns about dilutive M&A activities to fill that gap.

Risks:

(1) The company may acquire a dilutive asset that is perceived to be risky and/or utilize equity financing.

(2) Large shareholders may want to unwind a portion of their holdings.

(3) Continued Amitiza competitive pressure from Ironwood and other market entrants.

(4) The near-term growth of the constipation market may slow. Additional market entrants may also crowd Amitiza but we believe that our updated estimates already reflect this possibility.

(5) Clinical risk associated with the FAP program in 2017 could also drive revisions to our model.

Teva Pharmaceutical Industries Ltd.

We valued Teva using a discounted cash flow analysis. We utilized a weighted average cost of capital of 12.5% and a 2% terminal growth rate. Our WACC is higher than the 6.6% WACC reported by Bloomberg because we see additional risk around Copaxone litigation, lowered guidance and price targets, as well as new launch execution. This analysis generated a valuation of $40 per share, which supports our Neutral rating on the stock. We will re-evaluate our position once there is more visibility on longer term outlook, which we believe could benefit the stock.

Risks

(1) Lower than expected accretion or synergies from the Allergan generics business. We think consensus could be too high.

(2) Lowered longer-term outlook on the 4Q:16 earnings call is likely, in our view. Alternatively, the company could reiterate its long-term outlook which could be a positive to the stock.

(3) Negative outcome in the Copaxone litigation is possible in February 2017, and while this is generally expected, it may create an overhang on the stock until that time.

(4) New launches may get delayed or under-perform investor expectations so commercial execution risk should not be ruled out.

(5) Clinical risk in the pipeline, particularly for assets like pridopidine, laquinimod, QVAR BAI, the CGRP Migraine program, and fasinumab

Valeant Pharmaceuticals International, Inc.

We value VRX as an equally-weighted blend of DCF and SOTP valuations, which generates our $11 PT and supports our Underperform rating.

SOTP: We have updated our previous SOTP analysis to align it with revised guidance and our sales estimates and to our weaker growth outlook in Branded Rx, Ophthalmic Rx, and the inventory issues in Valeant's international business. We also model $2.0 billion in legal reserves since we worry that criminal charges filed on company insiders like Gary Tanner (who could implicate the company and its former senior management in the Philidor activities) may translate into a weaker negotiating position in some of the other ongoing litigation facing the company. Our SOTP analysis generates a valuation of $16/share.

DCF: Our model assumes a WACC of 9%, relative to the 4.2% reported by Bloomberg due to the execution risk in the name as well as significant legal and headline risk, and a terminal growth rate of -2%, which reflects our view on the company's weak pipeline and future divestitures. Our DCF generates a valuation of $6/share.

Our blended, equally weighted price target is calculated below.

$11 = ($16 * 50%) + ($6 * 50%)

Risks

The risks to our rating and price target include, but are not limited to:

(1) 2017 guidance could be stronger than expected.

(2) The company could beat expectations in 4Q:16, which would be a strong boost to investor morale.

(3) Asset sales may drive larger than expected bids.

(4) Walgreens drives additional topline growth above our current expectations (sales through this channel represented 3% of Valeant sales in 2Q:16 and 1H:16, so it may not be a meaningful revenue driver).

Companies Mentioned (prices as of 12/21)

Adamas Pharmaceuticals, Inc. (ADMS- Buy $16.35)
Amgen Inc. (AMGN- Buy $146.17)
CVS Health (CVS- Buy $79.85)
Eagle Pharmaceuticals, Inc. (EGRX- Neutral $75.61)
Endo International PLC (ENDP- Buy $15.69)
Ironwood Pharmaceuticals, Inc. (IRWD- Buy $16.01)
Johnson & Johnson (JNJ- NR $115.31)
MERCK & CO. INC. (MRK- Not Rated)
Pacira Pharmaceuticals, Inc. (PCRX- Buy $30.80)
Sucampo Pharmaceuticals, Inc. (SCMP- Buy $12.85)
Valeant Pharmaceuticals International, Inc. (VRX- Underperform $14.20)
Allergan PLC (AGN- Buy $193.99)
BRISTOL-MYERS SQUIBB CO (BMY- Not Rated)
Depomed, Inc. (DEPO- Buy $17.99)
ELI LILLY & CO (LLY $68.36)
Horizon Pharma Plc (HZNP- Buy $16.00)
Jazz Pharmaceuticals, Inc (JAZZ- Buy $108.03)
Mallinckrodt PLC (MNK- Buy $52.43)
Mylan NV (MYL- Buy $37.52)
PFIZER INC (PFE- Not Rated)
Teva Pharmaceutical Industries Ltd. (TEVA- Neutral $36.37)

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NR:	No Rating - not covered, and therefore not assigned a rating.

Rating Distribution

(As of 12/21)	**% of coverage**	**IB service past 12 mo**
Buy (Buy)	44.13%	42.74%
Hold (Neutral)	53.02%	34.90%

Sell (Underperform)	2.85%	50.00%

For disclosure purposes only (NYSE and FINRA ratings distribution requirements), our Buy, Neutral and Underperform ratings are displayed as Buy, Hold and Sell, respectively.

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