Endo International plc (ENDP – $78.33)

September 22, 2015

Endo International plc (ENDP) is a global specialty healthcare company focused on branded and generic pharmaceuticals. The Company markets its branded products directly to physicians primarily in the US through its sales force. It markets its products to primary care and specialty physicians including those specializing in pain management, orthopedics, neurology, rheumatology, surgery, anesthesiology, urology, and pediatric endocrinology. Endo distributes its products primarily through independent wholesale distributors, but also sells directly to retailers, clinics, government agencies, doctors, and retail and specialty pharmacies. Founded in 1935, the Company is headquartered in Malvern, Pennsylvania. Its fiscal year ends on 12/31.

Thesis Summary

We are concerned about pressure on the Company's legacy branded pharmaceutical products. We believe the competitive environment for acquisitions in the pharmaceutical space may be elevated. Accordingly, we believe the valuation and performance of recent acquisitions may be pressured. In addition, we believe an increasing dependency on the Generics segment may pressure margins. Our concerns are heightened due to (1) elevated receivable levels, (2) elevated inventory levels, (3) weak cash flow levels, (4) delay in the implementation of a new ERP system, and (5) a recent change in auditors.

Catalysts and Timing

- Accelerating decline of legacy Branded products.
- Weaker-than-expected results and/or delays in approval for acquired products and products in development.
- Weaker-than-expected margins due to growth of Generics segment.
- Goodwill impairment from recent acquisitions.

Company Data

Country/Exchange	US/NASDAQ
Shares Outstanding (mil)	208.3
Float (mil)	204.1
Short Interest (mil)	9.4
% of Float Short	4.6%
Avg. Volume (mil)	2.0
52 Week Range	$57.14-$96.58
Dividend Yield	0.0%
Market Cap (bil)	$16.3
Net Debt (mil)	$2,903.1
TTM Rev (mil)/Rev Growth	$3,013.2/15.3%
TTM EBITDA (mil)	$1,626.5
TTM Gross Margin %/Change	63.0%/(250bps)
TTM Op. Margin %/Change	39.8%/260bps

Historical EPS

	Actual	Expected	Surprise
Q2 15	$1.08	$1.01	6.7%
Q1 15	$1.17	$1.07	9.3%
Q4 14	$1.16	$1.11	4.2%

Estimate Drift

	Est.	1M Ago	6M Ago	1Yr Ago
Q3 15 Rev	$761	$761	$763	$734
FY 15 Rev	$2,972	$2,969	$3,020	$2,907
FY 16 Rev	$4,806	$4,806	$3,140	$2,967
Q3 15 EPS	$1.06	$1.09	$1.12	$1.08
FY 15 EPS	$4.48	$4.51	$4.50	$4.51
FY 16 EPS	$5.11	$5.11	$5.06	$4.82

Peers Mentioned In This Piece

Allergan plc (AGN)
Mylan NV (MYL)
Valeant Pharmaceuticals International, Inc. (VRX)

Please refer to the end of this report for an updated version of *The Short List*.

Background and Bull Story

Company Background

Company background: Endo International plc (ENDP) is a global specialty healthcare company focused on branded and generic pharmaceuticals. The Company markets its branded products directly to physicians primarily in the US through its sales force. It markets its products to primary care and specialty physicians including those specializing in pain management, orthopedics, neurology, rheumatology, surgery, anesthesiology, urology, and pediatric endocrinology. Endo distributes its products primarily through independent wholesale distributors, but also sells directly to retailers, clinics, government agencies, doctors, and retail and specialty pharmacies. Founded in 1935, the Company is headquartered in Malvern, Pennsylvania. Its fiscal year ends on 12/31.

Segments background: In FY 14, the US Generic Pharmaceuticals (Generics) segment accounted for 47.9% (43.2%) of revenue (income from continuing operations), US Branded Pharmaceuticals (Branded) accounted for 40.7% (49.3%), and International Pharmaceuticals (International) accounted for 11.4% (7.5%). The Generics segment focuses on pain management through a portfolio of controlled substances and liquids. The products in this segment relate to pain management, urology, central nervous system (CNS) disorders, immunosuppression, oncology, women's health and hypertension markets, among others. The Branded segment includes branded prescription products related to treating and managing pain as well as urology and men's health, endocrinology and orthopedic products. The marketed products in this segment include Lidoderm®, Opana® ER, Voltaren® Gel, Percocet®, Fortesta® Gel, Supprelin®LA, XIAFLEX®, STENDRA®, Aveed® and Testim®, among others. The International segment includes a variety of specialty pharmaceutical products and certain medical devices for the Canadian, Mexican, South African, and world markets.

FY 14 Results By Segment	% of Revenue	% of Income
US Generic Pharmaceuticals	47.9%	43.2%
US Branded Pharmaceuticals	40.7%	49.3%
International Pharmaceuticals	11.4%	7.5%
Total	100.0%	100.0%

Customer distribution: In FY 14, McKesson Corporation (MCK) accounted for 26.0% of revenue, Cardinal Health, Inc. (CAH) accounted for 17.0%, and AmerisourceBergen Corporation (ABC) accounted for 14.0%. Endo has entered into distribution service agreements (DSAs) with certain significant wholesale customers. The agreements, which pertain to branded products only, obligate the wholesalers to provide Endo with specific services. Further, wholesalers are obligated to provide demand information and current inventory levels for branded products held at their locations.

FY 14 Results By Customer	% of Revenue
McKesson Corporation (MCK)	26.0%
Cardinal Health, Inc. (CAH)	17.0%
AmerisourceBergen Corporation (ABC)	14.0%
Total	57.0%

Major products: In FY 14, Lidoderm® accounted for 6.6% of revenue, Opana® ER accounted for 8.3%, and Voltaren® Gel accounted for 7.6%. Lidoderm® is a topical patch product containing lidocaine, it was the first FDA-approved product for relief of pain associated with post-herpetic neuralgia (damaged nerve fibers after a case of shingles). Opana® ER is an opioid agonist indicated for the management of pain severe enough to require daily, around-the-clock, long-term opioid treatment for which alternative treatment options are inadequate. Voltaren® Gel

was the first topical prescription treatment for the relief of joint pain of osteoarthritis in the knees, ankles, feet, elbows, wrists, and hands.

FY 14 Results By Major Product	% of Revenue
Opana® ER	8.3%
Voltaren® Gel	7.6%
Lidoderm®	6.6%
Total	22.5%

Competition: In the branded pharmaceutical industry Endo competes with major brand name and generic manufacturers of pharmaceuticals. Branded pharmaceutical competitors include Abbott Laboratories, Johnson & Johnson, Pfizer, Purdue Pharma, Allergan, and Valeant, among others. In the generic pharmaceutical market Endo competes with Teva, Mylan, and Sandoz, among others.[1]

Recent Acquisitions And Divestitures

Paladin acquisition and tax inversion: On 02/28/14, Endo acquired all of the shares of Paladin Labs Inc., a privately-held specialty pharmaceutical company focused on the Canadian and world markets, for $2.9 billion. A subsidiary of Endo merged with Paladin and the resulting company became Endo International plc, a public limited company organized under the laws of Ireland. Paladin's key products serve therapeutic areas including attention deficit hyperactivity disorder, pain, urology, and allergy. The Paladin acquisition and new corporate structure resulted in a lower effective tax rate reflecting the impact of increased non-US income which is subject to reduced local country tax rates relative to the US.

Background on Auxilium acquisition: On 10/09/14, Endo announced it would acquire Auxilium Pharmaceuticals, Inc. (formerly: AUXL) for $2.6 billion, $1.5 billion in stock and $1.0 billion in cash. On 01/29/15, Endo announced the completion of the Auxilium acquisition. The acquisition related to Endo's US Branded Pharmaceuticals segment. Specifically, Endo added certain urology and orthopedic products including XIAFLEX®, TESTOPEL®, and STENDRA®.

Background on Par Pharmaceuticals acquisition: On 05/18/15, Endo announced that it entered into an agreement to acquire privately-held Par Pharmaceutical Holdings, Inc. from TPG in a transaction valued at $8.1 billion, $1.6 billion in stock and $6.5 billion in cash. In its 05/18/15 Press Release, Endo indicated the acquisition would make its generics business one of the industry's fastest growing and among the top five as measured by US sales. On its Q2 15 Conference Call on 08/10/15, Endo guided for the Par acquisition to close before it reports Q3 15 results.

Divestiture of the AMS business: On 02/24/15, the Board of Directors approved a plan to sell Endo's American Medical Systems (AMS) business. Subsequently, Endo entered into an agreement to sell the Men's Health and Prostate Health components of the AMS business to Boston Scientific Corporation (BSX) for $1.6 billion. The transaction closed on 08/03/15. In its Q2 15 10Q, Endo indicated it was pursuing the sale of the Women's Health component of the AMS business. Given the plan to sell the AMS business, Endo reports the results of the AMS business as discontinued operations.

The Bull Story: Acquisitions, Product Development, Generics Margin Expansion

[1] Abbott Laboratories (ABT), Johnson & Johnson (JNJ), Pfizer Inc. (PFE), Purdue Pharma, L.P. (private), Allergan plc (AGN), Valeant Pharmaceuticals Intl Inc (VRX), Teva Pharmaceutical Industries Ltd. (TEVA), Mylan NV (MYL), and Sandoz Inc. (private).

Acquisitions may drive growth: As mentioned, Endo acquired Auxilium on 01/29/15 and announced the acquisition of Par on 05/18/15. On its Canaccord Genuity Conference Call on 08/13/15, Endo guided for the XIAFLEX® product (one of the main reasons for the Auxilium acquisition) to be "core" to the Company for "a long time to come." Further, Endo indicated the Par acquisition "transformed" its generics business and gave Endo a double-digit growth trajectory.

Product development and R&D pipeline: On 02/23/15, the US Food and Drug Administration accepted the New Drug Application (NDA) for Belbuca™ Buccal Film for substantive review. Belbuca™ is a product for pain severe enough to require daily, around-the-clock, long-term opioid treatment for which alternative treatment options are inadequate. The Prescription Drug User Fee Act (PDUFA) FDA expected action date for Belbuca™ is 10/23/15. On its Canaccord Genuity Growth Conference Call on 08/13/15, the Company indicated its R&D pipeline had $0.5 billion to $1.0 billion of potential between XIAFLEX and Belbuca™. Specifically, the Company indicated Belbuca™ could itself make up a "significant proportion" of the $0.5 billion to $1.0 billion.

> The question was our relative enthusiasm across the different pipeline assets and whether we could kind of divide up our view on value across the $0.5 billion to $1 billion of sales attributed to the pipeline across different projects. So we haven't done that. I think the commentary that we have made earlier this year which continues to be true which is that BELBUCA itself could make up a significant proportion of that $500 million to $1 billion of value just given the profile of the product and our expectations around, on scheduling for that product. (CEO Mr. Rajiv De Silva, Canaccord Genuity Growth Conference Call, 08/13/15)

Generic pharmaceutical product portfolio with fewer low-cost competitors: In Q2 15, Generics operating margin increased 450 basis points year-over-year to 43.2%. In its FY 14 10K, the Company indicated its Generics segment focused on categories with less competition from low-cost operators in China and India. Specifically, in FY 14, 36.0% of its generic products were comprised of controlled substances, which cannot be manufactured off-shore and 7.0% of its generic products were made up of liquids which Endo indicated are uneconomical to ship to the US. On its Par Acquisition Conference Call on 05/18/15, Endo represented the Par portfolio added products with high barriers to entry and higher gross margins.

> Our U.S. Generic Pharmaceuticals segment is focused in categories where there are fewer challenges from low-cost operators in markets such as China and India, with approximately 36% of our generic product portfolio being comprised of controlled substances, which cannot be manufactured off-shore and imported into the U.S. In addition, approximately 7% of our generic product portfolio is made up of liquids, which are uneconomical to ship to the U.S. (FY 14 10K)

US Generic Pharmaceuticals Margin Analysis	Q2 15	Q1 15	Q4 14	Q3 14	Q2 14
Generics operating margin	43.2%	51.4%	43.1%	43.7%	38.7%
Year-over-year change	*450 bps*	*1,660 bps*	*1,690 bps*	*1,720 bps*	*1,170 bps*

Valuation: On 08/10/15, Endo reported Q2 15 revenue (non-GAAP earnings) of $735.2 million ($1.08), 1.2% (6.9%) above the consensus estimate of $726.5 million ($1.01). As of the date of publication, Endo's shares trade at 17.1x next twelve-month earnings, 22.5% above the peer group average. Endo's combined branded and generic product portfolio and recent Generics operating margin expansion may have driven the premium valuation.

Valuation Analysis	NTM P/E
Endo International plc (ENDP)	17.1
Mylan NV (MYL)	10.8
Teva Pharmaceutical Industries Ltd. (TEVA)	12.1
Allergan plc (AGN)	16.7
Valeant Pharmaceuticals Intl Inc (VRX)	16.2
Peer group average	13.9
% above (below) peer group average	*22.5%*

Voyant's Earnings Risk Assessment

We are concerned about pressure on the Company's legacy branded pharmaceutical products. We believe the competitive environment for acquisitions in the pharmaceutical space may be elevated. Accordingly, we believe the valuation and performance of recent acquisitions may be pressured. In addition, we believe an increasing dependency on the Generics segment may pressure margins. Our concerns are heightened due to (1) elevated receivable levels, (2) elevated inventory levels, (3) weak cash flow levels, (4) delay in the implementation of a new ERP system, and (5) a recent change in auditors.

Organic Branded Growth May Be Pressured, In Our View

Background on major branded products: In FY 14, the Branded segment accounted for 40.7% (49.3%) of revenue (operating income). Further, the Company's three most important branded products, Lidoderm®, Opana® ER, and Voltaren® Gel, accounted for 22.5% of revenue (55.3% of Branded revenue). In FY 14, Lidoderm®, Opana® ER, and Voltaren® Gel revenue in aggregate declined 46.6% to $535.1 million. The Branded segment remained the Company' highest margin business.

Revenue By Major Product	FY 14	FY 13	FY 12
Lidoderm ®	$157.5	$603.0	$947.7
Opana ® ER	$197.8	$227.9	$299.3
Voltaren Gel	$179.8	$170.8	$117.6
Total	$535.1	$1,001.7	$1,364.5
Change	*(46.6%)*	*(26.6%)*	*0.9%*

We have the following observations:

1. **Increased Lidoderm® generic competition may pressure revenue growth, in our view:** In Q2 15, Lidoderm® revenue declined 29.8% year-over-year to $30.2 million. In its Q2 15 10Q, the Company attributed the decline to the launch of generic versions of the product. On 09/16/13, Actavis, Inc. launched a generic form of Lidoderm® (lidocaine patch 5%).[2] In May 2014, Endo launched an authorized generic lidocaine patch 5% (referred to as Lidoderm® authorized generic). On 08/10/15, Mylan announced its launch of a generic form of Lidoderm®. Given increased generic competition for Lidoderm®, we believe branded Lidoderm® revenue may decline faster-than-expected. Further, we believe Endo's generic lidocaine patch may cannibalize certain branded Lidoderm® revenue.

Lidoderm® Analysis ($ in millions)	Q2 15	Q1 15	Q4 14	Q3 14	Q2 14
Lidoderm®	$30.2	$25.2	$39.8	$41.6	$43.0
Year-over-year change	*(29.8%)*	*(23.9%)*	*9.4%*	*(72.3%)*	*(81.3%)*

2. **Opana® ER generic competition may pressure revenue growth, in our view:** In Q2 15, Opana® ER revenue declined 20.4% year-over-year to $43.1 million. In its Q2 15 10Q, the Company attributed the decline to competing generic versions of the non-crush resistant formulation of Opana® ER that launched beginning in early FY 13. Given the generic competition, we believe Opana® ER revenue may continue to decline.

[2] On 03/17/15, Actavis plc (formerly: ACT) announced it completed the acquisition of Allergan, Inc. (formerly: AGN). As a result of the acquisition Actavis adopted a new global name of Allergan plc (AGN).

Opana® Analysis ($ in millions)	Q2 15	Q1 15	Q4 14	Q3 14	Q2 14
Opana® ER	$43.1	$46.9	$46.9	$49.8	$54.1
Year-over-year change	*(20.4%)*	*(0.2%)*	*(12.6%)*	*(16.9%)*	*(6.6%)*

3. **Release of Voltaren® Gel generic may pressure revenue, in our view:** In Q2 15, Voltaren® Gel revenue increased 11.4% year-over-year to $51.0 million. In its Q2 15 10Q, the Company attributed the increase to volume growth resulting from increased sales and marketing emphasis on the product. In our view, the Company may have increased sales and marketing spend on Voltaren® Gel due to the generic competition for the Lidoderm® and Opana® ER products. Further, Endo guided for "one or more" products that would compete with Voltaren® Gel to enter the market in FY 15. As such, we are concerned about potential increased generic competition for Voltaren® Gel.

Voltaren® Gel Analysis ($ in millions)	Q2 15	Q1 15	Q4 14	Q3 14	Q2 14
Voltaren® Gel	$51.0	$45.5	$50.2	$46.3	$45.8
Year-over-year change	*11.4%*	*21.1%*	*6.9%*	*2.8%*	*7.0%*

Branded growth may be dependent on acquisitions and/or product development, in our view: On its Q2 15 Conference Call on 08/10/15, Endo guided for the XIAFLEX® product to be a "key long-term growth driver." The XIAFLEX® product was acquired in the Auxilium acquisition and treats Peyronie's disease and Dupuytren contracture. Further, Endo indicated targeted branded revenue growth of high-single to low-double digit growth was dependent on the timely launch of Belbuca™ and continued progress of XIAFLEX®. As noted below, XIAFLEX® revenue growth has slowed in recent periods. Given the increased generic pressure on legacy branded products described above, we believe branded growth may be dependent on acquisitions and/or product development. To the extent Endo experiences delays and/or setbacks in the approval process for new branded products, we believe revenue growth may be pressured and/or more volatile than prior periods.

> **Analyst:** After the Auxilium acquisition, the guidance was for double-digit growth. You're still at 8% growth. So are you where you want to be with the branded business with the assets that you have right now to get to that goal?
>
> **CEO Mr. Rajiv De Silva:** We are not there yet because what we've signaled is that on a longer-term basis that we would expect this portfolio to get us to high single digit to low double digit. I think our clear expectation and aspiration is double digits. I think what we would need to see for that to transpire is a timely launch of BELBUCA. And we are currently projecting, assuming on-time approval, that to happen in early 2016; continued progress on XIAFLEX, including the new indications. So I would say we are making good progress, but we would like to see a step up going into 2016. (Q2 15 Conference Call, 08/10/15)

Stretched Valuations And Potentially Underperforming Acquisitions, In Our View

Increased competition for health care acquisitions, in our view: In its January 2015 Firepower Index and Growth Gap Report, Ernst & Young (privately held accounting and consulting firm) indicated biopharma mergers and acquisitions exceeded $200.0 billion in FY 14, well over twice the average annual deal volume in the last ten years. Further, Ernst & Young indicated valuation premiums increased in FY 14 and guided for premium valuations to persist in FY 15. In our view, the competition for pharmaceutical mergers and acquisitions may be elevated. **Accordingly, we are concerned about (1) the potentially unwarranted premium valuation of Endo's recent acquisitions and (2) Endo's ability to make attractive acquisitions in the future.**

We highlight a few recent competitive bids below:

- **Allergan bid:** On 04/21/14, Valeant offered to acquire Allergan Inc. for approximately $50.0 billion. On 05/12/14, Allergan rejected Valeant's bid. Valeant increased its bid for Allergan on 05/30/14 and again on 10/27/14. On 11/17/14, Actavis plc agreed to acquire Allergan for $66.0 billion.

- **Failed Salix bid:** In its 02/22/15 Press Release, Valeant Pharmaceuticals International, Inc. (VRX) announced a definitive agreement to acquire Salix Pharmaceuticals, Ltd. (formerly: SLXP), a specialty pharmaceutical company, for $158.00 per Salix share. In its 03/11/15 Press Release, Endo announced a proposal to acquire Salix for $175.00 per Salix share. Endo represented its proposal (1) delivered more value to Salix shareholders and (2) provided further upside potential through a material equity component than the Valeant proposal. In its 03/16/15 Press Release, Valeant announced it agreed with Salix on an amended acquisition agreement for $173.00 per Salix share. On 04/01/15, Valeant announced the completion of the Salix acquisition.

Par Pharmaceuticals valuation may have been unwarranted, in our view: In its 07/16/12 Press Release, Par Pharmaceuticals indicated it was acquired TPG for $1.9 billion. In its 03/13/15 Press Release, Par announced that it filed a registration statement with the SEC relating to a proposed initial public offering of its common stock. On 05/18/15, Endo announced it acquired Par for $8.1 billion. Accordingly, Par's value increased 326.3% in less than three years. **In our view, the failed Salix bid and Par's filing for an IPO may have pressured Endo into acquiring Par at an unwarranted valuation.**

Par Acquisition Analysis ($ in billions)	Acquisition Value
Endo acquisition of Par (05/18/15)	$8.1
TPG acquisition of PAR (07/16/12)	$1.9
Value increase	*326.3%*

Recently acquired business exhibits slowing growth, in our view: On 01/29/15, Endo announced the completion of the Auxilium acquisition. In FY 14, the XIAFLEX® product accounted for 38.1% of Auxilium revenue. In Q2 15, XIAFLEX® revenue increased 35.9% year-over-year to $40.0 million, the slowest growth rate in five periods. On its Q2 15 Conference Call, Endo indicated XIAFLEX® sales in April and May were slower due to commercial changes and reimbursement process updates as a part of the integration of Auxilium. Endo guided for XIAFLEX® to "continue its strong growth track." In its FY 14 10K, Endo disclosed a XIAFLEX® patent regarding the treatment of Dupuytren's contracture would expire on 08/22/15. Given the slowed XIAFLEX® growth in recent periods and recent patent expiration, we believe XIAFLEX® growth may be pressured and Endo may not recognize the anticipated growth from the Auxilium acquisition.

XIAFLEX® Analysis ($ in millions)	Q2 15	Q1 15	Q4 14	Q3 14	Q2 14
XIAFLEX®	$40.0	$28.0	$49.3	$38.6	$29.4
Year-over-year change	*35.9%*	*41.0%*	*114.5%*	*120.1%*	*55.8%*

Impairments and contingent consideration suggest certain acquisitions may have underperformed: In Q2 15, the Company recorded a $70.2 million asset impairment charge related to certain intangible asset of its Generics segment. In its Q2 15 10Q, Endo indicated it recorded other-than-temporary impairment of its Litha joint venture of $18.9 million to reflect the excess carrying value of the investment over its estimated fair value. Further, Endo reduced contingent consideration for certain acquisitions by $7.2 million for measurement period adjustments. Given the recent impairments and reduced contingent consideration, we believe certain acquisitions may have underperformed.

Funding acquisitions through equity may dilute existing shareholders, in our view: In Q2 15, weighted average diluted shares outstanding increased 13.4% year-over-year to 185.3 million shares. Endo used $2,713.0 million in stock to acquire Paladin, used $1,519.3 million in stock to acquire Auxilium, and guided to use $1,550.0 million in stock to acquire Par. On its Par Acquisition Conference Call, Endo indicated it would consider continuing to use

equity to fund acquisitions. Accordingly, we are concerned about the potential dilution of existing shareholders through the use of equity to complete acquisitions.

> On a longer term basis, we are driven by shareholder value creation. So if there are transactions where we can continue to use our equity in a way that we think creates value for our shareholders and are accretive to our shareholders, we will continue to look at those as well. (CEO Mr. Rajiv De Silva, Par Acquisition Conference Call, 05/18/15)

Weighted Average Shares Analysis (shares in millions)	Q2 15	Q1 15	Q4 14	Q3 14	Q2 14
Weighted average diluted shares	185.3	176.8	153.8	153.3	163.4
Year-over-year change	*13.4%*	*38.0%*	*33.6%*	*27.5%*	*39.4%*

Increasing Dependence On Generics Business May Pressure Margins, In Our View

Background on US Generic Pharmaceuticals segment: In FY 14, the Generics segment accounted for 47.9% (43.2%) of revenue (operating income). Since FY 12, the Generics segment increased 2,050 basis points as a percentage of revenue primarily driven by the launch of certain generic products (e.g. authorized generic of Lidoderm®) and acquisitions. In FY 14, Generics operating margin increased 1,420 basis points to 40.7%, 440 basis points below Company operating margin of 45.1%.[3] In its FY 14 10K, the Company attributed the Generics operating margin improvement to the Boca and DAVA acquisitions, launch of its authorized generic of Lidoderm, and certain price increases.

Generics Segment Analysis	FY 14	FY 13	FY 12
Generics revenue as % of total	47.9%	34.4%	27.4%
Change	*1,350 bps*	*700 bps*	*190 bps*
Generics operating margin	40.7%	26.5%	27.1%
Company operating margin	45.1%	46.0%	46.7%
Difference	*(440 bps)*	*(1,950 bps)*	*(1,960 bps)*

Background on past acquisitions in the Generics segment: On 11/30/10, Endo acquired Qualitest Pharmaceuticals, a manufacturer and distributor of generic drugs and over-the-counter pharmaceuticals in the US, for approximately $770.0 million. On 02/03/14, Endo acquired Boca Pharmacal LLC, a specialty generics company focused on niche areas, for $236.6 million in cash. On 08/06/14, Endo acquired DAVA Pharmaceuticals, Inc., a marketed, pre-launch, and pipeline generic pharmaceuticals company, for $595.3 million of cash and contingent consideration.

Par Pharmaceuticals acquisition expands Generics segment: On 05/18/15, Endo announced that it entered into an agreement to acquire privately-held Par Pharmaceutical Holdings, Inc. from TPG in a transaction valued at $8.1 billion, $1.6 billion in stock and $6.5 billion in cash. In its 05/18/15 Press Release, Endo indicated the acquisition would make its generics business one of the industry's fastest growing and among the top five as measured by US sales.

We have the following observations:

1. **Failed Salix bid may have shifted Endo's strategy, in our view:** As mentioned, Endo failed in its attempt to acquire Salix, which was acquired by Valeant. On its Auxilium Acquisition Conference Call on 10/09/14, Endo indicated its priority for capital allocation would be the Branded segment. In our view, the Salix bid aligned with

[3] We excluded the held for sale Devices segment from our calculation of Company operating margin.

this strategy focusing on branded pharmaceuticals. We believe Endo may have felt compelled to make an acquisition after the failed Salix bid and shifted its strategy away from allocating capital to branded pharmaceuticals with the Par acquisition (largest acquisition in at least three years). **Accordingly, we are concerned about (1) potential margin pressure from growth of the lower margin Generics segment, (2) less capital available for large branded acquisitions, and (3) potential overpayment for Par.**

> As we think about our capital allocation decisions going forward, we expect to allocate capital among those three businesses with the priority being on our U.S. branded business. (CEO Mr. Rajiv De Silva, Auxilium Acquisition Conference Call, 10/09/14)

2. **Par acquisition may have been poor use of capital, in our view:** In its FY 14 10K, Endo highlighted that the Qualitest acquisition enabled Endo to reach "critical mass" in its generic business. On its Canaccord Genuity Growth Conference Call on 08/13/15, Endo indicated that the Par acquisition gave it the opportunity to bring its presence in the generic space "to the next level." Endo represented it wanted to be at a point of "critical mass" in all of its segments to be able to maintain sustainable growth. In addition, on its Par Acquisition Conference Call on 05/18/15, Endo indicated its first priority post close of the acquisition would be to pay down debt and it would only consider "smaller transactions" in the near term. Accordingly, we believe the Par acquisition may have been a poor use of capital relative to Endo's capital allocation strategy and may have limited Endo's ability to complete future acquisitions.

> The acquisition of Qualitest enabled us to gain critical mass in our generics business. (FY 14 10K)

> Given the success of Qualitest, I think we really saw Par as an opportunity to bring our presence in the generic space to the next level. And the reason I say that is ultimately with all of our businesses, we want to be at a point of critical mass and leadership such that we really can have a sustainable growth engine in front of us. (CEO Mr. Rajiv De Silva, Canaccord Genuity Growth Conference Call, 08/13/15)

3. **Legacy Generics business may be under pressure, in our view:** In Q2 15, Generics revenue increased $66.1 (24.3%) year-over-year to $338.3 million. In its Q2 15 10Q, Endo indicated $17.0 million ($28.0 million) of the increase related to the launch of its authorized generic of Lidoderm® (acquisition of DAVA). Accordingly, $21.1 million (31.9%) of the increase related to organic (excluding acquisitions and the Lidoderm generic) generic products. Further, organic generic revenue only increased 7.8%. On its Canaccord Genuity Growth Conference Call on 08/13/15, Endo indicated its legacy generic R&D pipeline was not "best in class." **Given the weak generic organic growth and the Company's representation of a weak R&D pipeline, we believe the legacy Generics segment may be under pressure.**

> Qualitest has been extraordinarily successful, as I said. It's one of the few generics companies of that size that's growing double digit at least for the last five years on organic basis. But really, **the R&D pipeline was not one that we would have characterized as being best in class**, right? So, as we look forward, we were looking at probably having a lower growth rate than we had done in the past. (CEO Mr. Rajiv De Silva, Canaccord Genuity Growth Conference Call, 08/13/15) [emphasis added]

Receivables Build Suggests Elevated Channel Inventory Levels

Background on revenue recognition and sales deductions: The Company recognizes revenue from sales of pharmaceutical products less estimated chargebacks, rebates, sales incentives and allowances, certain royalties, distribution service agreement fees, and returns and allowances. The Company estimates the sales deductions and records the adjustments as accrued expenses.[4]

Sales deductions expense increases as a percentage of gross revenue: In FY 14, sales deductions expense increased 36.3% to $2,638.3 million, while gross revenue increased 21.2% to 5,515.5 million. Accordingly, sales deductions expense as a percentage of gross revenue increased 530 basis points to 47.8%. The Company has not commented on the increase in sales deduction expense levels in recent years.

[4] The Company only discloses sales deductions on an annual basis.

Sales Deduction Analysis ($ in millions)	FY 14	FY 13	FY 12
Gross revenue	$5,515.5	$4,552.5	$4,532.8
Sales deductions expense	$2,638.3	$1,935.6	$1,717.0
Net revenue	$2,877.2	$2,616.9	$2,815.7
Deductions expense as a % of gross revenue	47.8%	42.5%	37.9%

Background on distribution service agreements: Endo has entered into distribution service agreements (DSAs) with certain significant wholesale customers. The agreements, which pertain to branded products only, obligate the wholesalers to provide Endo with specific services. Further, wholesalers are obligated to provide demand information and current inventory levels for branded products held at their locations.

Net receivable levels suggest channel inventories may be elevated, in our view: In Q4 14, receivables increased 55.1% year-over-year to $1,126.1 million. Receivables net of the sales deduction accruals increased 36.7% on an absolute basis and remained flat relative to revenue (at 0.259). **We would have expected net receivable levels to decline given the increase in sales deductions as a percentage of gross revenue (i.e. more sales/receivables have associated sales discounts). At a minimum, we believe the increase in receivables suggests channel inventories are elevated.**

Net Receivables Analysis ($ in millions)	Q4 14	Q4 13	Q4 12
Receivables	$1,126.1	$725.8	$690.9
Chargebacks	$217.4	$118.0	$61.3
Returns and allowances	$177.3	$106.4	$85.8
Rebates	$498.7	$337.0	$327.9
Other sales deductions	$25.4	$12.9	$17.8
Total sales deduction accrual	$918.8	$574.3	$492.8
Net receivables	$207.3	$151.6	$198.0
Revenue	$800.0	$584.9	$801.1
Net receivables-to-revenue	0.259	0.259	0.247
Change	*0.0%*	*4.8%*	*1.3%*

Receivable levels continue to increase: In Q2 15, receivables increased 50.5% year-over-year to $1,318.3 million, while revenue increased 2.3% to $735.2 million.[5] Accordingly, receivables-to-revenue increased 47.1% to 1.793. The Company did not discuss the receivable levels in its Q2 15 10Q, in its Q2 15 Earnings Release, or on its Q2 15 Conference Call.

[5] We used the reported revenue per each quarter's SEC 10Q or 10K filing in our working capital analysis for comparability purposes.

Receivables Analysis ($ in millions)	Q2 15	Q1 15	Q4 14	Q3 14	Q2 14
Receivables	$1,318.3	$1,235.4	$1,126.1	$1,039.8	$875.9
Revenue	$735.2	$714.1	$800.0	$763.9	$718.7
Receivables-to-revenue	1.793	1.730	1.408	1.361	1.219
Year-over-year change	*47.1%*	*30.1%*	*13.4%*	*34.0%*	*22.4%*

We have the following observations:

1. **Surge in Generics revenue heightens our concerns about elevated channel inventory levels:** In Q2 15, Generics revenue increased 24.3% year-over-year to $338.3 million. Further, Generics as a percentage of revenue increased 10 basis points to 46.0% from a significantly elevated base (increased 1,680 basis points in Q2 14). In its Q2 15 10Q, the Company attributed the growth to (1) the May 2014 launch of the authorized generic of Lidoderm and (2) the August 2014 acquisition of DAVA Pharmaceuticals, Inc., and (3) increased demand for generic pain products. As mentioned, Endo's distribution service agreements with its large wholesalers only relate to branded products. As such, generic wholesalers are not required to provide Endo with demand and/or channel inventory information. In our view, Endo may have limited visibility into its Generics segment demand and channel inventory levels. **Given the elevated receivable levels and growth in the Generics segment, our concerns about potentially elevated channel inventory levels are heightened.**

US Generic Pharmaceuticals Analysis ($ in millions)	Q2 15	Q1 15	Q4 14	Q3 14	Q2 14
Generics	$338.3	$357.0	$337.4	$319.4	$272.2
Year-over-year change	*24.3%*	*68.5%*	*70.4%*	*73.6%*	*59.6%*
Generics as % of revenue	46.0%	50.0%	50.9%	48.8%	45.9%
Year-over-year change	*10 bps*	*500 bps*	*720 bps*	*1,540 bps*	*1,680 bps*

2. **Auxilium receivable levels surge prior to acquisition:** As mentioned, Endo acquired Auxilium on 01/29/15. In Q4 14, Auxilium receivables declined 1.2% year-over-year to $88.3 million, while Auxilium revenue declined 37.3% to $79.0 million. Accordingly, Auxilium receivables-to-revenue increased 57.5% to 1.118. The elevated Auxilium receivable levels prior to the acquisition heighten our concerns about revenue sustainability.

Auxilium Receivables Analysis ($ in millions)	Q4 14	Q3 14	Q2 14	Q1 14	Q4 13
Receivables	$88.3	$81.9	$54.1	$95.2	$89.4
Revenue	$79.0	$109.6	$83.0	$88.5	$125.9
Receivables-to-revenue	1.118	0.747	0.652	1.075	0.710
Year-over-year change	*57.5%*	*9.5%*	*(13.4%)*	*49.0%*	*119.3%*

Elevated Inventory Levels May Portend Margin Pressure, In Our View

Inventory levels surge: In Q2 15, inventory increased 46.5% year-over-year to $625.8 million, while revenue increased 2.3% to $735.2 million. Accordingly, inventory-to-revenue increased 43.2% to 0.851. The Company did not discuss the inventory levels on its Q2 15 Conference Call, in its Q2 15 Earnings Release, or in its Q2 15 10Q.

Inventory Analysis ($ in millions)	Q2 15	Q1 15	Q4 14	Q3 14	Q2 14
Inventory	$625.8	$611.4	$423.3	$503.6	$427.2
Revenue	$735.2	$714.1	$800.0	$763.9	$718.7
Inventory-to-revenue	0.851	0.856	0.529	0.659	0.594
Year-over-year change	*43.2%*	*9.7%*	*(17.3%)*	*4.7%*	*(1.5%)*

We have the following observations:

1. **Finished goods surge suggest margins may be pressured, in our view:** In Q2 15, finished goods increased 55.7% year-over-year to $405.8 million, while inventory increased 46.5% to $625.8 million. Accordingly, finished goods as a percentage of inventory increased 380 basis points to 64.8%. In our view, elevated finished goods inventory levels suggest the Company may have overestimated demand.

Finished Goods Analysis ($ in millions)	Q2 15	Q1 15	Q4 14	Q3 14	Q2 14
Finished goods (FG)	$405.8	$418.1	$261.6	$367.6	$260.6
Inventory	$625.8	$611.4	$423.3	$503.6	$427.2
FG as % of inventory	64.8%	68.4%	61.8%	73.0%	61.0%
Year-over-year change	*380 bps*	*740 bps*	*260 bps*	*1,380 bps*	*1,010 bps*

2. **Long-term inventory suggests inventory normalization may be difficult, in our view:** In its Q3 14 10Q, the Company began disclosing long-term inventory. The Company disclosed long-term inventory related to "inventory that was in excess of the amount expected to be sold within one year." The Company recorded the long-term inventory balance in other assets on its balance sheet. In its Q2 15 10Q, the Company attributed the $32.8 million of long-term inventory primarily to XIAFLEX®, which was acquired in the Auxilium acquisition. Given long-term inventory is recorded under other assets, we believe total inventory levels may be obfuscated and/or inventory normalization may be difficult.

Long-term Inventory Analysis ($ in millions)	Q2 15	Q1 15	Q4 14	Q3 14	Q2 14
Long-term inventory	$32.8	$119.8	--	$35.8	--

3. **Certain supply agreements heighten inventory risk, in our view:** In its Q2 15 10Q, Endo indicated it had a supply agreement with Vivus, Inc. to manufacture STENDRA®. Under the supply agreement, Endo is required to purchase an agreed minimum amount of product from Vivus. If Endo fails to purchase the agreed minimum amount of product it will reimburse Vivus for the shortfall as it relates to Vivus' out of pocket costs to acquire certain raw materials needed to manufacture STENDRA®. In addition, Endo has a supply agreement with Jubilant HollisterStier Laboratories LLC to fill and lyophilize the XIAFLEX® drug substance. Endo is required to purchase a specific percentage of its total forecasted volume of XIAFLEX® from JHS each year. Finally, Endo has an agreement with Teikoku Seiyaku Co. Ltd. that requires Endo to issue firm purchase orders for a minimum number of Lidoderm® patches per year through FY 17. To the extent demand for STENDRA®, XIAFLEX®, and/or Lidoderm® is weaker-than-expected, we believe inventory risk may be elevated due to Endo's supply agreements.

   For 2015 and each subsequent year during the term, should Auxilium fail to purchase an agreed minimum amount of the product from VIVUS, it will reimburse VIVUS for the shortfall as it relates to VIVUS's out-of-pocket costs to acquire certain raw materials needed to manufacture STENDRA®... Auxilium is required to purchase a specified percentage of its total forecasted volume of XIAFLEX® from JHS each

year, unless JHS is unable to supply XIAFLEX® within the timeframe established under such forecasts. (Q2 15 10Q)

3. **Auxilium inventory levels surge prior to acquisition:** As mentioned, Endo acquired Auxilium on 01/29/15. In Q4 14, Auxilium inventory increased 57.7% year-over-year to $67.0 million, while Auxilium revenue declined 37.3% to $79.0 million. Accordingly, Auxilium inventory-to-revenue increased 151.4% to 0.849 from an elevated base (increased 163.0% in Q4 13). The elevated Auxilium inventory levels prior to the acquisition heighten our concerns about potential margin pressure.

Auxilium Inventory Analysis ($ in millions)	Q4 14	Q3 14	Q2 14	Q1 14	Q4 13
Inventory	$67.0	$56.5	$54.3	$47.1	$42.5
Revenue	$79.0	$109.6	$83.0	$88.5	$125.9
Inventory-to-revenue	0.849	0.516	0.654	0.532	0.338
Year-over-year change	*151.4%*	*24.6%*	*63.3%*	*44.0%*	*163.0%*

Cash Flow Remains Weak Off Depressed Base, In Our View

Cash return on assets deteriorates: In FY 14, cash flow from operations increased 13.2% to $337.8 million, while assets (excluding cash) increased 73.7% to $10,500.9 million. Accordingly, cash return on assets declined 170 basis points to 3.2%, 990 basis points below FY 10. **The material deterioration in cash return on assets over the past five years heightens our concerns about asset quality.**

Cash Flow Analysis ($ in millions)	FY 14	FY 13	FY 12	FY 11	FY 10
Assets (excluding cash)	$10,500.9	$6,045.3	$6,038.9	$6,765.9	$3,462.7
Cash flow from operations	$337.8	$298.5	$733.9	$702.1	$453.6
Cash return on assets	3.2%	4.9%	12.2%	10.4%	13.1%
Change	*(170 bps)*	*(720 bps)*	*180 bps*	*(270 bps)*	--

Cash earnings and non-GAAP earnings diverge: In FY 14, cash flow from operations-per-share declined 12.7% to $2.30, while non-GAAP earnings declined 10.1% to $4.31. Accordingly, cash earnings-to-non-GAAP earnings declined 2.9% to 0.534. The recent divergence between cash earnings and non-GAAP earnings heightens our concerns about earnings sustainability.

Cash Earnings Analysis	FY 14	FY 13	FY 12
Cash flow-per-share	$2.30	$2.63	$6.34
Non-GAAP earnings	$4.31	$4.79	$4.99
Cash earnings-to-non-GAAP earnings	0.534	0.550	1.271
Change	*(2.9%)*	*(56.7%)*	--

Other Observations: ERP Implementation and Auditor Turnover

ERP implementation delays: In FY 13, the Company began the implementation of a new Enterprise Resource Planning (ERP) system. In its Q3 14 10Q, the Company indicated the implementation resulted in changes to certain internal controls and guided for the implementation to continue "through the end of 2014." In its FY 14 10K, the

Company revised its guidance for the implementation to continue "through early 2015." In its Q2 15 10Q, the Company revised its guidance for the implementation to continue "through 2015." In our view and experience, the implementation of new ERP systems, and delays in the implementation of these systems, increases the risk of internal control weaknesses and accounting irregularities. Our concerns are heightened given the Company's recent significant acquisitions and divestitures.

> In 2013, we began the implementation of a new Enterprise Resource Planning (ERP) system. This implementation was planned in phases to correspond with the needs of the Company. Due to this implementation, internal controls have changed in various functional areas within the company. Management has taken steps so that the appropriate controls are designed and implemented as each functional area of the system is enacted. This implementation is anticipated to continue through 2015. (Q2 15 10Q)

ERP Implementation Guidance Analysis	Guidance For ERP Implementation Completion
Q3 14 10Q	"through the end of 2014"
FY 14 10K	"through early 2015"
Q2 15 10Q	"through 2015"

Change in auditors: In its 06/13/14 Press Release, the Company indicated it conducted a competitive selection process to determine its independent registered public accounting firm for FY 14. As a result of the selection process, the Endo requested Deloitte & Touche to resign as its independent auditor. Subsequently, Endo engaged PricewaterhouseCoopers as its principal auditor. In our view, an auditor change amid deteriorating working capital metrics and significant acquisitions increases the risk of potential accounting irregularities.

Risks to Our Thesis and Conclusion

Risks to our thesis: The following developments could present challenges to our thesis:

- Deterioration in legacy branded products slows and/or fewer-than-expected competing generics are released.
- Recent acquisitions exceed expectations.
- The Company makes additional acquisitions.
- New product releases receive FDA approval on time and/or ahead of schedule.

Conclusion: We are concerned about pressure on the Company's legacy branded pharmaceutical products. We believe the competitive environment for acquisitions in the pharmaceutical space may be elevated. Accordingly, we believe the valuation and performance of recent acquisitions may be pressured. In addition, we believe an increasing dependency on the Generics segment may pressure margins. Our concerns are heightened due to (1) elevated receivable levels, (2) elevated inventory levels, (3) weak cash flow levels, (4) delay in the implementation of a new ERP system, and (5) a recent change in auditors.

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