# Danger Zone: Pandora Media (P)

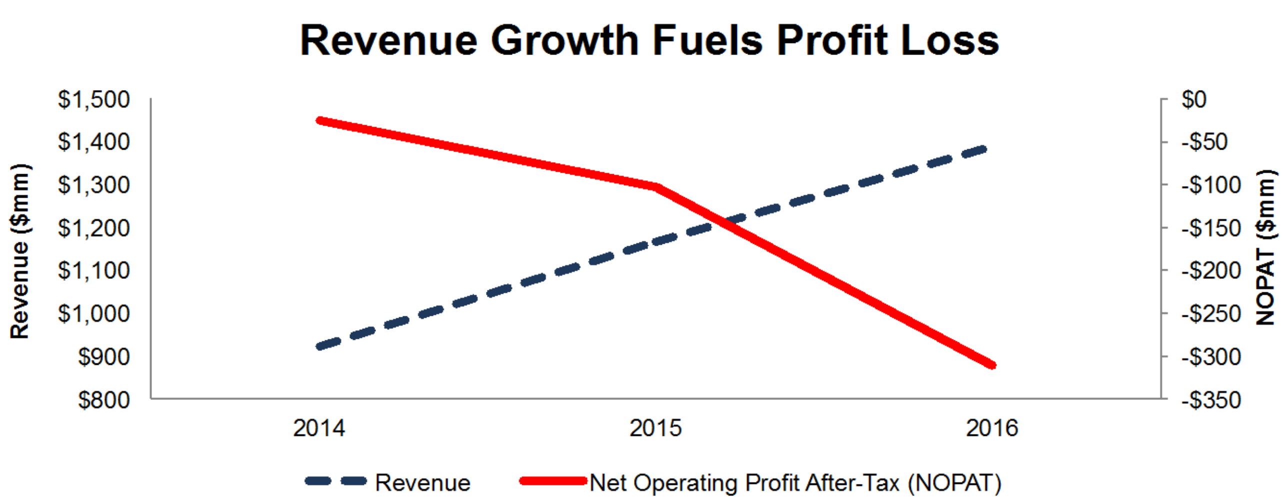
Check out this week's Danger Zone interview with Chuck Jaffe of Money Life and Marketwatch.com

First mover advantages erode quickly when first movers ignore new competitors. This week's Danger Zone pick has seen its market share decline while competitors' market shares have exploded. At the same time, this firm's already negative margins and limited revenue model undermine its ability to compete at this point. We think the ship has sailed on this business, but the stock is still pricing in huge improvements in profitability and market share. Pandora Media (P: $12/share) is in the Danger Zone this week.

### Profitless Revenue Growth

Pandora Media's after-tax profit (NOPAT) declined from -$27 million in 2014 to -$311 million in 2016. This profit decline comes despite revenue growing 23% compounded annually over the same time, per Figure 1.

**Figure 1: Pandora's Losses Soar As Revenue Grows**




Sources: New Constructs, LLC and company filings

The company's return on invested capital (ROIC) is currently a bottom-quintile -30% and its NOPAT margin is -23%. Additionally, Pandora has burned through $1.2 billion (44% of market cap) in free cash flow over the past two years. It burned $355 million in FCF in 2016. With only $237 million in cash on the books, Pandora has less than a year before it dilutes investors and raises capital, files for bankruptcy or suddenly turns its business around. Despite impressive revenue growth, Pandora's fundamentals are headed in the wrong direction.

### Compensation Plan Overlooks Shareholders

After reviewing Pandora Media's executive compensation plan, we are not surprised to see the major cash losses. Put simply, Pandora's executive compensation incentives are not aligned with shareholders' interests.

Pandora executives are eligible for base salaries, cash incentives, and long-term equity awards. The cash bonuses are tied to the "corporate performance objectives" of revenue and adjusted EBITDA. Adjusted EBITDA, a non-GAAP metric, conveniently removes stock-based compensation expense (10% of 2016 revenue) and is not correlated with shareholder value creation. As we've shown in Figure 1, revenue growth is not aligned with profits.

Long-term equity awards are given in the form of restricted stock units and market stock units. Restricted stock units are given yearly and vest over a set time frame while market stock units vest according to Pandora's stock price performance. In either case, executives are incentivized by metrics that do little to create shareholder value and investors should be wary of heavy use of stock price as an incentive. Decisions can be made to maximize stock price in the short-term while the long-term best interests of the business go ignored.

We've demonstrated through numerous case studies that ROIC, not adjusted EBITDA or other non-GAAP metrics, is the primary driver of shareholder value creation. Without major changes to this compensation plan (e.g. emphasizing ROIC), investors should expect further value destruction.

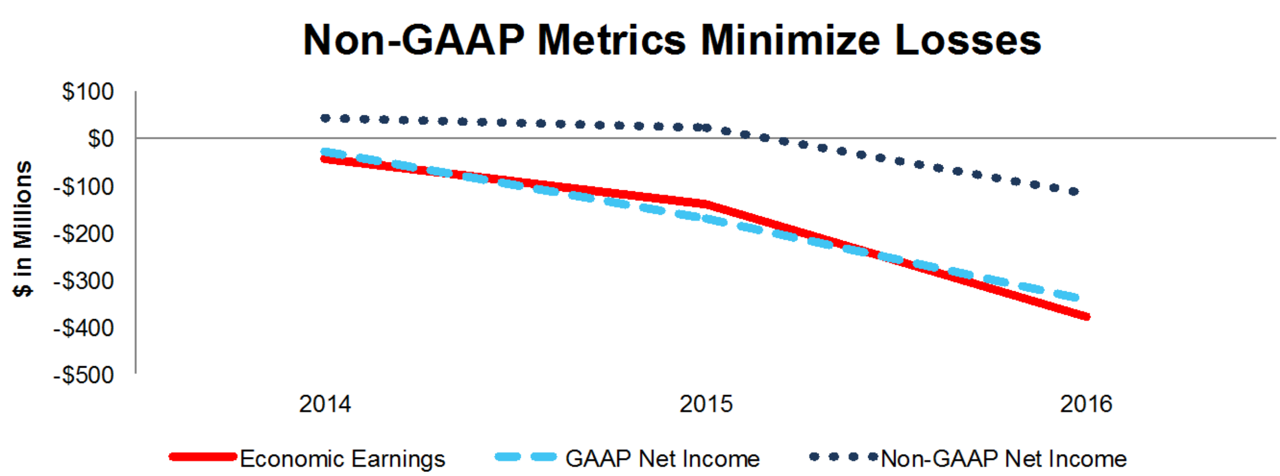
**Non-GAAP Metrics Can Only Lessen Losses**

Pandora uses non-GAAP metrics such as non-GAAP gross profit, non-GAAP net income, and adjusted EBITDA to effectively minimize its losses. Our research digs deeper so our clients see through the illusory numbers and understand the true profitability of the firm. Below are some of the items Pandora has removed when calculating its non-GAAP net income:

1. Stock-based compensation expense
2. Amortization of intangibles
3. Amortization of non-recoupable ticketing contract advances
4. Pre-1972 sound recordings settlement
5. RMLC publisher royalty charge

These adjustments have a large impact on the disparity between GAAP net income, non-GAAP net income, and economic earnings. In 2016 and 2015, Pandora removed over $138 million (10% of revenue) and $111 million (10% of revenue) respectively in expenses related to stock-based compensation to calculate non-GAAP net income. When added with the other adjustments, Pandora reported 2016 non-GAAP net income of -$118 million. Per Figure 2, GAAP net income was -$343 million and economic earnings were -$380 million in 2016.

**Figure 2: Disconnect Between Non-GAAP & Economic Earnings**




Sources: New Constructs, LLC and company filings

**Negative Profitability In A Highly Competitive Market**

Pandora Media was one of the first Internet radio providers in the market, long before the current competition entered the space. This first-mover advantage provided little economic moat and the firm's "freemium" model was no path to profitability. In today's music and radio landscape, Pandora faces competition for listeners from, but not limited to, traditional broadcast radio, Apple's (AAPL) Apple Music, Amazon's (AMZN) Amazon Music, Alphabet's (GOOGL) Google Play Music & YouTube Music, Sirius XM (SIRI), iHeartRadio, Spotify, Soundcloud, and Deezer. In addition, the firm faces competition for advertisers from Facebook (FB) and Twitter (TWTR) as well as traditional broadcast media such as Disney's (DIS) ABC and ESPN, CBS, and Twenty First Century Fox (FOXA).

The key takeaway from Figure 3 is Pandora's ROIC and NOPAT margin rank below all competitors. More importantly, music streaming is a secondary focus for many of the firms below. For instance, Apple, Amazon, and Alphabet offer music services as an add-on to their already profitable businesses. Furthermore, these firms can afford to take a loss in an effort to gain market share, or as a way to upsell another product line. Meanwhile, Pandora's business model provides a free service while relying on advertising revenue to fund operations. We are not surprised that Pandora's profitability aligns more along the lines of previous Danger Zone pick Twitter, which is another free service reliant upon advertising.

**Figure 3: Pandora's Negative ROIC & Margins**

| Company | Ticker | Return On Invested Capital (ROIC) | NOPAT Margin |
|---|---|---|---|
| Facebook Inc. | FB | 26% | 32% |
| Alphabet Inc. | GOOGL | 27% | 22% |
| Apple Inc. | AAPL | 171% | 20% |
| Sirius XM Holdings | SIRI | 10% | 20% |
| Entercom Communications | ETM | 4% | 15% |
| Cumulus Media | CMLS | 2% | 7% |
| Amazon.com | AMZN | 9% | 2% |
| Twitter Inc. | TWTR | -3% | -9% |
| Pandora Media | P | -30% | -23% |

Sources: New Constructs, LLC and company filings

**Bulls Case Ignores Broken Business Model & Market Share Losses To Formidable Competitors**

Pandora bulls will point to the shifting nature of its business model as reason to invest in the largely unprofitable firm.

Until recently, Pandora's business model has largely revolved around providing free music streaming and serving ads, much like a social media service such as Twitter or YouTube. However, Pandora's revenue growth has been unable to match the growing cost of this service and its NOPAT margin has fallen from -3% in 2014 to -23% in 2016.

Pandora's business model poses a dilemma in regards to its already negative margins. To attract advertisers, Pandora must prove that its user base is listening to its service. However, as listener hours increase, content acquisition costs also increase. Essentially, as more users listen to Pandora, the underlying service grows more expensive. Since 2014, content acquisition costs have grown 28% compounded annually while revenue has grown just 23% compounded annually.

Worse yet, Pandora has no plans to cut costs. With significant competition and the roll-out of a new paid service, the firm plans to increase investments. From the company's 2016 10-K, in regards to product development costs, "We intend to substantially increase investments in developing new products and enhancing the functionality of our existing products." From the same filing, in regards to sales & marketing costs, "We are substantially increasing sales and marketing expenses to drive growth as we hire additional personnel to build out our sales and sales support teams."

Bulls hoping for a quick turnaround to profitability may be left waiting. Pandora's cost growth already outpaces its revenue growth and the firm expects to increase these costs moving forward. Per Figure 4, Pandora's product development, sales & marketing, and general & administrative costs have grown 63%, 33%, and 25% compounded annually, respectively, since 2014. Over the same time, Pandora's revenue has grown 23% compounded annually.

**Figure 4: Pandora's Operating Expenses Growing Faster Than Revenue**

| Operating Item | 2014 | 2016 | CAGR |
|---|---|---|---|
| Product Development | $53 | $142 | 63% |
| Sales & Marketing | $277 | $491 | 33% |
| General & Administrative | $112 | $176 | 25% |
| Revenue | $921 | $1,385 | 23% |

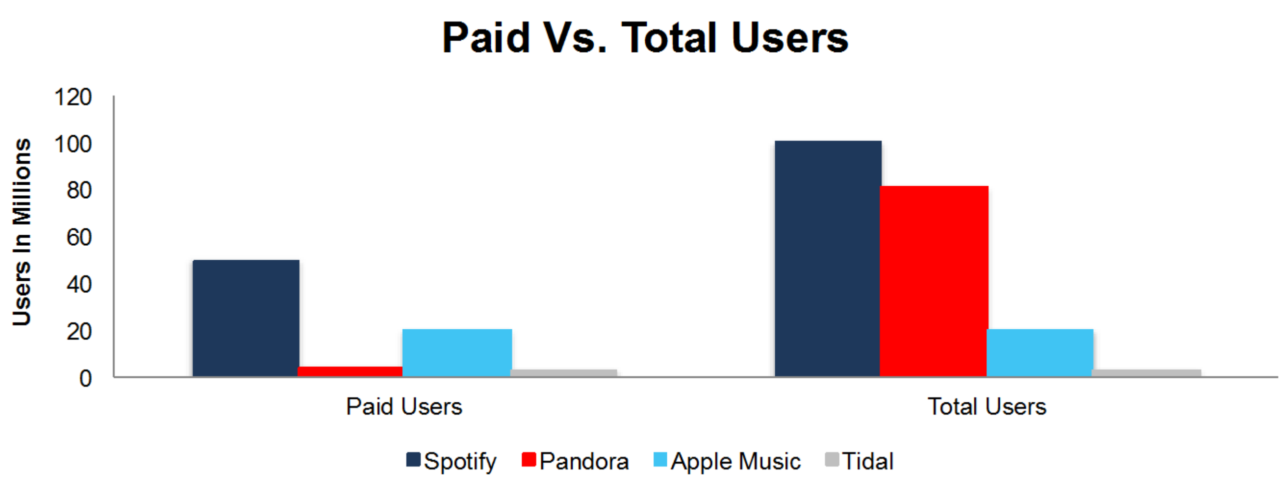
Sources: New Constructs, LLC and company filings

Bulls will also point to Pandora's upcoming paid service, Pandora Premium, as the turning point to bring profitability to the business model. However, this service only matches a number of other on-demand streaming services such as Spotify, Apple Music, Amazon Music, and Tidal. More importantly, the market has grown highly commoditized with little price differentiation. In fact, nearly all music services operate around the same price point, as shown below:

1. Pandora Premium – $9.99/month
2. Spotify – $9.99/month
3. Apple Music – $9.99/month
4. iHeartRadio All Access – $9.99/month
5. Amazon Music Unlimited – $9.99/month, unless Prime member, then $7.99/month
6. Tidal – $9.99/month
7. Sirius XM – $15.99/month

Lastly, Pandora's delay to provide a premium on-demand offering opened the door to other firms to own that market. Per Figure 5, Pandora's paid user base (4 million) is much less than competitors (50 million Spotify, 20 million Apple Music). Similarly its total user base (81 million) is dwarfed by Spotify (100 million), which launched eight years after Pandora. More importantly, the trend in user base for Pandora is negative. Despite spending nearly $1.2 billion in sales & marketing costs over the last three years, active users have fallen from 81.5 million in 2014 to 81 million in 2016.

**Figure 5: Paid Vs. Total User Base**




Sources: New Constructs, LLC and company filings

Meanwhile, Apple Music has grown from 0 members in 2015 to 20 million in December 2016. Similarly, Spotify has grown from 20 million paid members in mid 2015 to 50 million in March 2017. To capitalize on the market, Pandora bulls are betting that user growth can be reignited through increased spending, which has failed in the past, and a product that is late to enter the market.

The expectations already baked into Pandora's stock price imply that Pandora will grow much faster than the entire industry and take significant market share, as we'll show below.

**Pandora Is Already Priced to Perfection**

Despite the rollercoaster ride, Pandora's stock price remains significantly overvalued. To justify its current price of $12/share, P must achieve NOPAT margins of 3% (compared to -23% in 2016) and grow revenue by 17% compounded annually for the next 12 years. A 3% margin falls below traditional radio broadcasters (which have lower content acquisition costs), but above advertising reliant firms such as Twitter. In this scenario, Pandora would be generating over $9 billion in revenue 12 years from now, which is nearly double SiriusXM's 2016 revenue. This scenario also seems unlikely given that Technavio estimates the music streaming market will grow by only 13% compounded annually through 2020. Ultimately, the expectations already baked into the stock price imply Pandora will grow faster than the industry while also drastically improving its margins in a commoditized market.

Even if we assume Pandora can achieve a 3% NOPAT margin and grow revenue by 13% compounded annually for the next decade, the stock is worth only $6/share today – a 50% downside. Each of these scenarios also assumes Pandora is able to grow revenue and NOPAT/free cash flow without spending on working capital or fixed assets. This assumption is unlikely but allows us to create very optimistic scenarios that demonstrate how high expectations in the current valuation are. For reference, P's invested capital has grown on average $406 million (29% of 2016 revenue) per year over the last two years.

**Is P Worth Acquiring?**

The largest risk to our bear thesis is what we call "stupid money risk", which means an acquirer comes in and pays for P at the current, or higher, share price despite the stock being overvalued. Many are betting that Pandora will be an M&A target and rumors of potential deals have popped up in the past. However, recent statements would indicate a potential white-knight acquisition is unlikely. In September 2016, Apple noted it was not looking to acquire any streaming services. More recently, in February 2017, Liberty Media (majority owner of SiriusXM) CEO Greg Maffei stated "Pandora holders or whoever have hyped that we're going to be here to bid … I wouldn't hold my breath."

We see an acquisition as possible only if an acquiring firm is willing to ignore prudent stewardship of capital and destroy substantial shareholder value. We show below how expensive P remains even after assuming an acquirer can gain significant synergies.

To begin, Pandora has liabilities of which investors may not be aware that make it more expensive than the accounting numbers suggest.

1. $128 million in off-balance-sheet operating leases (5% of market cap)
2. $55 million in outstanding employee stock options (2% of market cap)

After adjusting for these liabilities we can model multiple purchase price scenarios. Even in the most optimistic of scenarios, P is worth less than the current share price.

Figures 6 and 7 show what we think Amazon (AMZN) should pay for Pandora to ensure it does not destroy shareholder value. Amazon recently released its own on-demand streaming service and acquiring Pandora would instantly add millions of users interested in music to Amazon' clientele while bolstering playlist features and music curation. However, there are limits on how much AMZN would pay for P to earn a proper return, given the NOPAT of free cash flows being acquired.

Each implied price is based on a 'goal ROIC' assuming different levels of revenue growth. In each scenario, the estimated revenue growth rate in year one and two equals the consensus estimate for the current year (17%) and next year (26%). For the subsequent years, we use 26% in scenario one because it represents a continuation of next year's expectations. We use 30% in scenario two because it assumes a merger with AMZN could create revenue growth through increased exposure and resources to market the service.

We conservatively assume that Amazon can grow Pandora's revenue and NOPAT without spending on working capital or fixed assets. We also assume Pandora immediately achieves a 3% NOPAT margin, which is below traditional radio broadcasters yet above advertising reliant firms. For reference, P's NOPAT margin is -23%, so this assumption implies immediate improvement and allows the creation of a truly best case scenario.

**Figure 6: Implied Acquisition Prices For AMZN To Achieve 7% ROIC**

| To Earn 7% ROIC On Acquisition | | |
|---|---|---|
| Revenue Growth Scenario | P's Implied Stock Value | % Discount to Current Price |
| 24% CAGR for 5 years | $5 | 56% |
| 27% CAGR for 5 years | $6 | 51% |

Sources: New Constructs, LLC and company filings.

Figure 6 shows the 'goal ROIC' for AMZN as its weighted average cost of capital (WACC) or 7%. Even if Pandora can grow revenue by 27% compounded annually with a 3% NOPAT margin for the next five years, the firm is worth less than its current price of $12/share. It's worth noting that any deal that only achieves a 7% ROIC would be only value neutral and not accretive, as the return on the deal would equal AMZN's WACC.

**Figure 7: Implied Acquisition Prices For AMZN To Achieve 9% ROIC**

| To Earn 9% ROIC on Acquisition | | |
|---|---|---|
| Revenue Growth Scenario | P's Implied Stock Value | % Discount To Current Price |
| 24% CAGR for 5 years | $3.56 | 70% |
| 27% CAGR for 5 years | $4.09 | 66% |

Sources: New Constructs, LLC and company filings.

Figure 7 shows the next 'goal ROIC' of 9%, which is Amazon's current ROIC. Acquisitions completed at these prices would be truly accretive to AMZN shareholders. Even in the best-case growth scenario, the most AMZN should pay for P is $4/share (66% downside). Even assuming this best-case scenario, AMZN would destroy over $2 billion by purchasing P at its current valuation. Any scenario assuming less than 27% CAGR in revenue would result in further capital destruction for AMZN.

### Market Expectations Set P Up For A Fall

With less than one year in cash and equivalents on hand, Pandora must quickly achieve profitability to continue its operations. Up to this point, the company has been unable to spend its way to profitability, as previously noted.

As Pandora readies its on-demand service, the firm enters a commoditized business with entrenched competition. Essentially, the firm is betting its future on its ability to convince users of a previously free service to now pay for that service. As the acquisition rumors fade and the deteriorating fundamentals are brought back to focus, we believe Pandora is only one earnings miss away from seeing a significant cut to its valuation.

The stock is between a rock and a hard place because its valuation implies it will grow revenues above industry expectations while immediately reversing years of negative margins. While we cannot predict exactly when the company might fall short of the high expectations embedded in the stock price investors could "abandon ship" at a moments notice. It has happened before and could happen again.

In 3Q16, after revenue and earnings came in below consensus, P fell 14% the following week. In 1Q16, when earnings were below expectations, the stock fell 8% shortly after.

Going forward, Pandora must consistently beat expectations or watch its valuation fall to more rational levels.

### Short Interest Is Noteworthy While Insider Action Is Minimal

There are 61 million shares sold short, or 26% of shares outstanding. It's clear the market is voicing its skepticism over the future of Pandora. It could be just a matter of time before its valuation falls to more rational levels.

Over the past 12 months, 3 million insider shares have been purchased and 389 thousand have been sold for a net effect of 2.6 million insider shares purchased. These purchases represent less than 1% of shares outstanding.

**Impact of Footnotes Adjustments and Forensic Accounting**

Our robo-analyst technology enables us to perform forensic accounting with scale and provide the research needed to fulfill fiduciary duties. In order to derive the true recurring cash flows, an accurate invested capital, and a real shareholder value, we made the following adjustments to Pandora Media's 2016 10-K:

Income Statement: we made $35 million of adjustments with a net effect of removing $32 million in non-operating expense (2% of revenue). We removed $2 million related to non-operating income and $33 million related to non-operating expenses. See all the adjustments made to P's income statement here.

Balance Sheet: we made $151 million of adjustments to calculate invested capital with a net increase of $107 million. The most notable adjustment was $128 million (14% of reported net assets) for operating leases. See all adjustments to P's balance sheet here.

Valuation: we made $537 million of adjustments with a net effect of decreasing shareholder value by $537 million. There were no adjustments that increased shareholder value. Apart from total debt, which includes the $128 million in operating leases noted above, the largest adjustment to shareholder value was $56 million in outstanding employee stock options. This adjustment represents less than 1% of P's market cap.

**Dangerous Funds That Hold P**

The following funds receive our Dangerous-or-worse rating and allocate significantly to Pandora Media.

1. Zevenbergen Genea Fund (ZVGNX) – 4.5% allocation and Very Dangerous rating.
2. Technology Opportunities Fund (TEFQX) – 3.3% allocation and Dangerous rating.
3. Jacob Internet Fund (JAMFX) – 3.1% allocation and Very Dangerous rating.
4. 13D Activist Fund (DDDAX) – 3.0% allocation and Very Dangerous rating.

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*Disclosure: David Trainer, Kyle Guske II, and Kyle Martone receive no compensation to write about any specific stock, style, or theme.*

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2. Standard for all companies.
3. A more accurate representation of the true underlying cash flows of the business.

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