# ZACKS & ZRS
INVESTMENT RESEARCH — Information with Ease

## 3-Minute Manager Series

Using **ZRS** and the **Zacks Valuation Model** to identify factors impacting equity valuations in 3 minutes or less

## SEATTLE'S BEST COFFEE?

## Starbucks: Can this International coffeehouse add value to your portfolio?

For over 40 years Starbucks has been providing coffee, pastries and assorted beverages to the masses. Since it went public in 1992, Starbucks (SBUX) has grown from a small Seattle coffee shop into the world's largest coffeehouse, with locations in 58 counties and annual revenues exceeding $11 billion.

It's useful – before delving into the fundamental analysis of Starbucks – to first look at the qualitative reports provided by the Sell Side brokers. Consensus Sell Side research is available within the Digest section of ZRS. In this single report one will find key consensus Positive (bullish) and Negative (bearish) arguments for a given stock. Additionally, you'll find recent news, target price and valuation and the key drivers behind the stock valuation.

Below is an excerpt from the Starbucks Digest Report, outlining Key Positive and Negative Arguments:

| Key Positive Arguments | Key Negative Arguments |
|---|---|
| The company commands a strong leadership position, possesses a powerful brand portfolio, enjoys strong consumer acceptance, and has global expansion opportunities. | The price of coffee is subject to significant volatility. Supply and price can be affected by multiple factors in the producing countries, including weather, political and economic conditions. |
| The company remains focused on increasing its presence in China, where demand is growing very fast and revenue growth is expected to be robust. | Persistent headwinds from commodity cost increases, especially coffee. |
| Strong balance sheet and cost controlling initiatives focused on generating more revenue from existing stores. | |

A read through these reports provides important information on the company and a good starting point for further analysis. Next we will start off by looking at a simple Performance Chart of Starbucks:



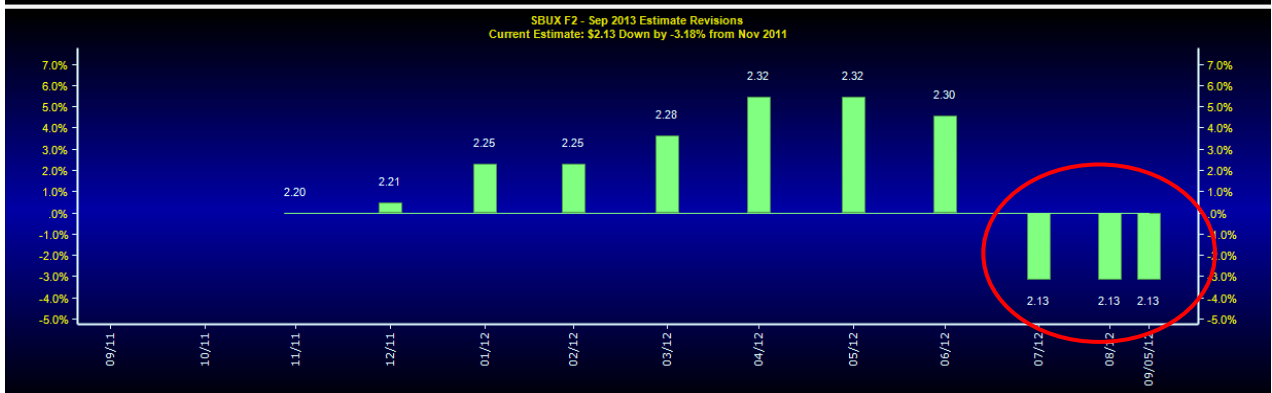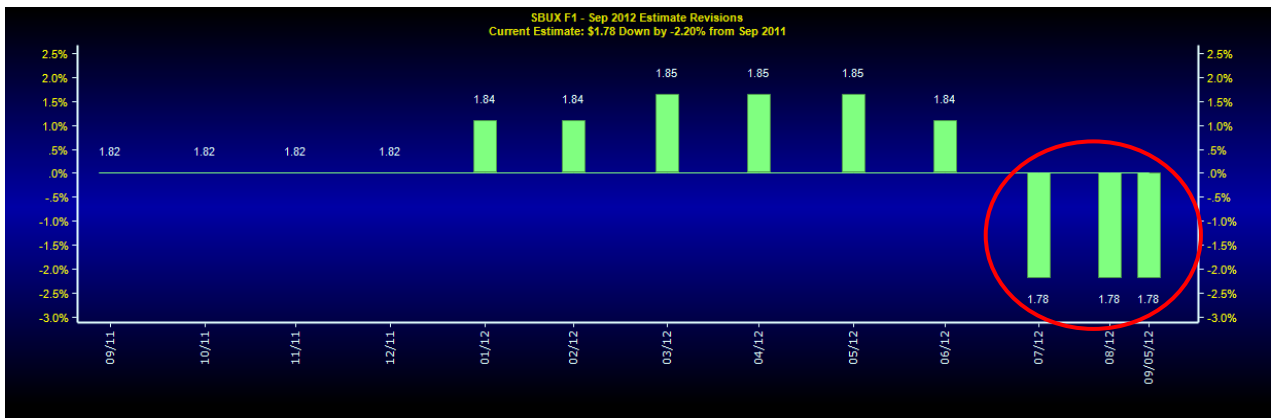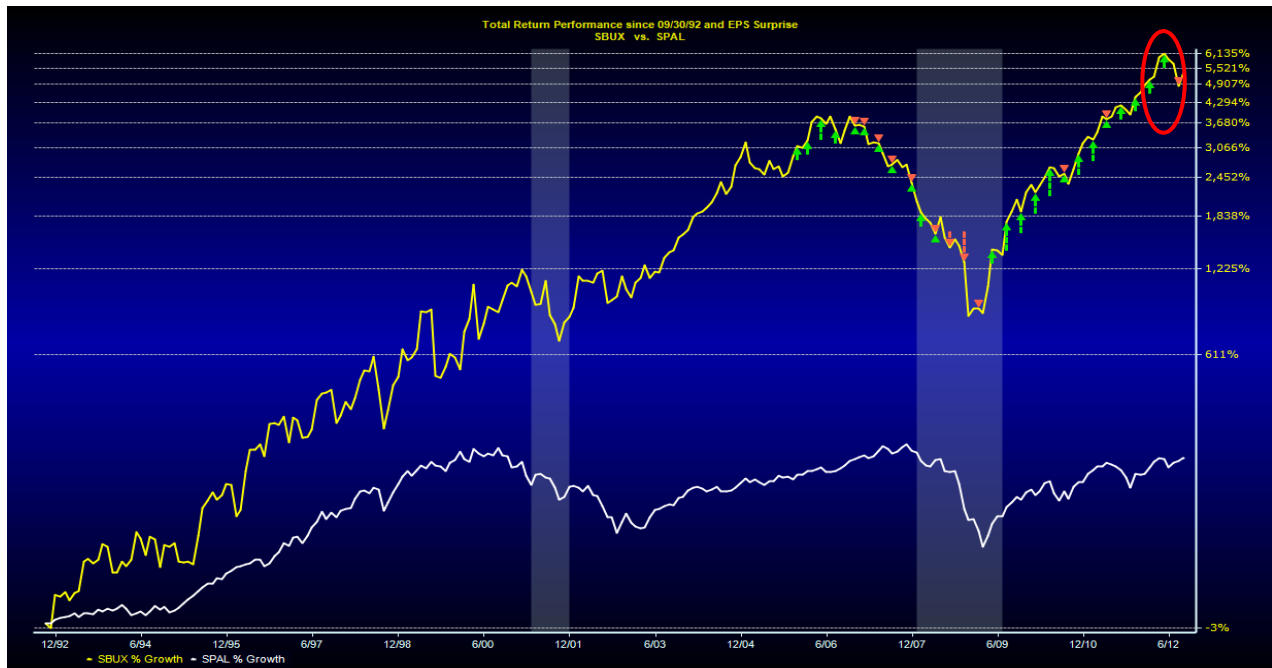Total Return Performance since 09/30/92
SBUX

As you can see, following the most recent financial crisis in 2008 Starbucks has seen a healthy recovery, substantially outperforming the S&P 500 over the last 5 years.

Using Zacks Research System (ZRS), one can compare the relative performance of Starbucks versus the S&P 500 to reveal when Starbucks has outperformed the market and vice versa. A downward trend indicates that the market is outperforming Starbucks, while an upward trend indicates the opposite.



Notice in the above Performance graph – relative to the S&P 500 – Starbucks took a major hit in the years leading up to the financial crisis (represented by gray recession shading), but rebounded strong and has continued to outperform the S&P 500 since.

To achieve further insight into the relationship between Starbucks and the overall market, it is also useful to view the Performance graph in absolute terms. As we can see from the below graph, Starbucks tends to move in the same general direction as the broad market, which is to be expected of a retail stock.

Total Return Performance since 09/30/92 and EPS Surprise
SBUX vs. SPAL



SBUX F1 - Sep 2012 Estimate Revisions
Current Estimate: $1.78 Down by -2.20% from Sep 2011



SBUX F2 - Sep 2013 Estimate Revisions
Current Estimate: $2.13 Down by -3.18% from Nov 2011

Also notice that in recent weeks, following a negative Q3 Earnings Surprise (see above), Startbucks has seen a sharp decline in both absolute and relative return, prompting several questions:

1. With the recent sell off, did the market overreact to the negative Earnings Surprise, making now a good time to buy into Starbucks?
2. With the recent sell off, will Starbucks continue to fall, making the stock a value trap?
3. Based on forecasts and current market conditions, what should Starbucks be valued at?

The following commentary and analysis will explain how to uncover these answers and others using Zacks Research System (ZRS) and the Zacks Valuation Model (ZVM).

# Zacks Valuation Model

The Zacks Valuation Model is a visually-oriented, five factor discounted earnings model that first appears in "default" mode. Default model inputs are derived exclusively from data contained within ZRS; no subjective adjustments to the data have been made by the Zacks analyst staff. Default results are objectively set with algorithms that generate the best possible starting point for analysis from which users are expected to provide overrides based on individual knowledge or forecasts of both company specific and macro-economic factors. The Zacks Valuation Model can quantify any combination of:

1. Earnings forecasts
2. Earnings growth forecasts
3. Equity risk premium forecasts
4. Interest rate forecasts
5. Company specific risk issues.



**Chart Design:**

- o  Yellow line – price line
- o  Orange line – operating earnings line (scaled by 10)
- o  Red – Model Earnings Tendency Line

**Chart Components:**

- o  Expected GR MN – Consensus mean growth rate forecast of long term earnings growth, normally 3-5 years
- o  MET GR – Expected GR MN minus 1 standard deviation, also equal to the 'default' slope of the earnings line
- o  Model Return – The Current and 1-year forecast return including dividends. Positive number: trading at a discount to current EPS growth forecast; Negative number: trading at a premium to current EPS growth forecast.
- o  ![MIG] (MIG button) – Sets the Current Model Return to zero. Note that when Current Model Return equals zero the model is in equilibrium; the Model PE equals the Actual PE and the Model Price equals the Actual Price, resulting in a market implied growth rate (MET GR)

The Zacks Valuation Model is not a "Black Box" equity price generating tool, rather it is an exploratory tool through which analytical issues should be raised, researched and evaluated. The model will provide valuable results only when all default criteria has been analyzed, evaluated and overridden where necessary.

## ZVM Analysis:



Zacks Valuation Model ( EPS Lagged 1 – Year )
STARBUCKS CORP (SBUX) Expected GR MN: 18.12% MET GR=15.73%

| Zacks Valuation Model | | | | Zacks Consensus Estimates | | | | Model Earnings Tendency | |
|---|---|---|---|---|---|---|---|---|---|
| | Current | House | 1-Year | | 2012 | 2013 | 2014 | FYE: September | |
| Risk Free Rate (AAA) | 3.41% | 3.41 % | 3.41% | Mean Estimate | 1.78 | 2.13 | 2.59 | 2010 | 1.34 |
| Equity Risk Premium | 6.09% | 6.09 % | 6.09% | Change Y/Y | 17% | 20% | 21% | 2011 | 1.55 |
| Company Specific Risk | 0.00% | 0.00 % | 0.00% | High | 1.80 | 2.21 | 2.71 | 2012 | 1.80 |
| Total Equity Discount Rate | 9.50% | | 9.50% | Low | 1.76 | 2.06 | 2.49 | 2013 | 2.08 |
| Actual PE F12M | 23.56 | | 20.36 | Total | 26 | 26 | 14 | 2014 | 2.41 |
| Model PE F12M | 29.00 | | 29.00 | #Up (4 weeks) | 0 | 1 | 0 | 2015 | 2.79 |
| Model Price | 61.06 | | 70.76 | #Down (4 weeks) | 1 | 0 | 0 | 2016 | 3.22 |
| Model EPS F12M | 2.11 | | 2.44 | | | | | 2017 | 3.73 |
| Model Return | 23.08% | | 44.00% | PE Intraday | 27.8 | 23.1 | 19.1 | 2018 | 4.32 |

Save Model    Calculate    User Model

The above graph illustrates the basic model inputs (risk free rate, equity risk premium, company specific risk, EPS F12M and consensus growth rate mean) and both Current and 1-Year outputs (Model PE F12M, Model Return, Model Price and Model EPS F12M) from ZVM. Assuming default model inputs including a long term earnings growth forecast of 15.73%, we can see that Starbucks might be undervalued by virtue of its current Model Return of 23.08%.

Assuming a default forward 12 month EPS of 2.11 and a current Model Return of 23.08%, what level of earnings growth are investors pricing Starbucks at today? The current Model Return of 23.08% is effectively signaling that the investment community is not paying 15.73% 3-5 year forecast growth, but rather something much less. The ZVM can be used to calculate the market-implied earnings growth rate.

As one of the inputs into ZVM, the Model Earnings Trend Growth Rate (MET GR) is the slope of the Model Earnings Trend Line. As stated previously, the default growth rate input is calculated from the long-term consensus growth rate estimate minus the standard deviation of the growth rate estimates amongst analysis. So in essence, the Model Earnings Trend Growth Rate is a conservative estimate of analysts' estimates.

So instead of using the default growth rate input, let's assume the market is currently efficient. By clicking the MIG (MIG) button, all other inputs are held constant and the Model Earnings Trend Growth Rate is adjusted to a Current Model Return of 0%. This will allow us to view the market's earnings growth rate expectations based on the stock's current price. (See below)

Zacks Valuation Model ( EPS Lagged 1 – Year )
STARBUCKS CORP (SBUX)  Expected GR MN: 18.12%  MET GR=13.36%

| Zacks Valuation Model | | | | Zacks Consensus Estimates | | | | Model Earnings Tendency | |
|---|---|---|---|---|---|---|---|---|---|
| | Current | House | 1-Year | | 2012 | 2013 | 2014 | FYE: September | |
| Risk Free Rate (AAA) | 3.41% | 3.41 % | 3.41% | Mean Estimate | 1.78 | 2.13 | 2.59 | 2010 | 1.44 |
| Equity Risk Premium | 6.09% | 6.09 % | 6.09% | Change Y/Y | 17% | 20% | 21% | 2011 | 1.63 |
| Company Specific Risk | 0.00% | 0.00 % | 0.00% | High | 1.80 | 2.21 | 2.71 | 2012 | 1.84 |
| Total Equity Discount Rate | 9.50% | | 9.50% | Low | 1.76 | 2.06 | 2.49 | 2013 | 2.09 |
| Actual PE F12M | 23.56 | | 20.78 | Total | 26 | 26 | 14 | 2014 | 2.37 |
| Model PE F12M | 23.56 | | 23.56 | #Up (4 weeks) | 0 | 1 | 0 | 2015 | 2.69 |
| Model Price | 49.61 | | 56.31 | #Down (4 weeks) | 1 | 0 | 0 | 2016 | 3.05 |
| Model EPS F12M | 2.11 | | 2.39 | | | | | 2017 | 3.45 |
| Model Return | 0.00% | | 14.87% | PE Intraday | 27.8 | 23.1 | 19.1 | 2018 | 3.91 |

Save Model    Calculate    User Model

Note that when the current Model Return is zero, the Model PE equals the Actual PE and the Model Price equals the Actual Price, resulting in a market implied growth rate (MET GR). In essence, MET GR now represents the 3-5 year growth rate at which the market (investment community) is currently paying for the stock.

At this point, given the model input assumptions, one can assume that the broad market has placed a fair value on Starbucks at a 13.36% annual forecasted long term earnings growth rate.

By taking the view that the market is efficient, we assume that all information and expectations are accurately reflected in stock prices. As we can see, there is a perceived difference between how the "street" (sell side) is currently pricing Starbucks stock versus implied valuations from the investment community as quantified by the Zacks Valuation Model (ZVM) market implied growth rate.

So prior to making any buy or sell decisions based solely on the output provided by Zacks Valuation Model, we must ask ourselves if the consensus forecast earnings growth of 15.73% is sustainable and supportable? And is the market implied earnings growth rate of 13.36% sustainable and supportable? To figure this out we must delve further into the ZRS platform.

## ZRS Analysis:

To determine the accuracy of the valuations, its inputs and earnings growth forecasts, we need to first start by looking at a chart of historical forward P/E's for Starbucks. For Starbucks to be truly valued as a 15.73% growth stock it must attain a Model PE F12M of 29X.



If we look at historic PE multiples, it is clear that in the past Starbucks has achieved multiples in excess of 29.00. This tells us that ZVM's Model PE of 29.00 – based on default inputs – is very plausible.

Though, historic PE multiples alone do not confirm the accuracy of ZVM's prediction, it does however provide us with a basis from which to compare current multiples and market conditions to historic multiples and market conditions.

To further confirm the accuracy of the ZVM prediction, we need to put the valuation ratios into context. Essentially, we need to examine how Starbucks PE multiples were affected by macroeconomic trends. We can do this by creating a custom 1-4 Panel chart within ZRS. The following four-panel chart (from top to bottom) has PE F12M, Equity Risk Premium, Price Close and EPS BNRI.

STARBUCKS CORP (SBUX), Price: $49.51

P/E F12M
HI 81.80
LO 10.88
MD 33.92
CU 23.56

Equity Risk Premium
HI 6.89
LO 0.52
MD 3.63
CU 6.09

Price Close
HI 57.37
LO 3.95
MD 17.60
CU 49.61

EPS BNRI
HI 1.70
LO 0.09
MD 0.54
CU 1.70

As we can see from the four-panel chart above, the equity risk premium has steadily increased over the past decade due to heightened risk aversion coupled with a decrease in interest rates. You'll also notice that the ERP and PE multiples have a strong inverse relationship, ie as ERP increases PE decreases.

We can see that, based on forward earnings multiple history, 29X multiples are in fact attainable but not at current Equity Risk Premium levels north of 6%. Since 2007, forward earnings multiples of 29X were only attainable at Equity Risk Premium Levels between 4% and 5%. We can accurately conclude from this analysis that based on current levels of Equity Risk Premium, a valuation of 15.73% long term growth is simply not attainable until Equity Risk Premium levels decline.

Next, we need to drill down and look at company-specific metrics to further examine whether Starbucks valuation and forecasted earnings growth are sustainable and supportable. This can easily be done using the customized Margins View charts within ZRS. The following four-panel chart (from top to bottom) shows Revenue TTM, Capital Expenditures, Gross Margin TTM and EBIT Margin TTM.

STARBUCKS CORP (SBUX), Price: $49.80
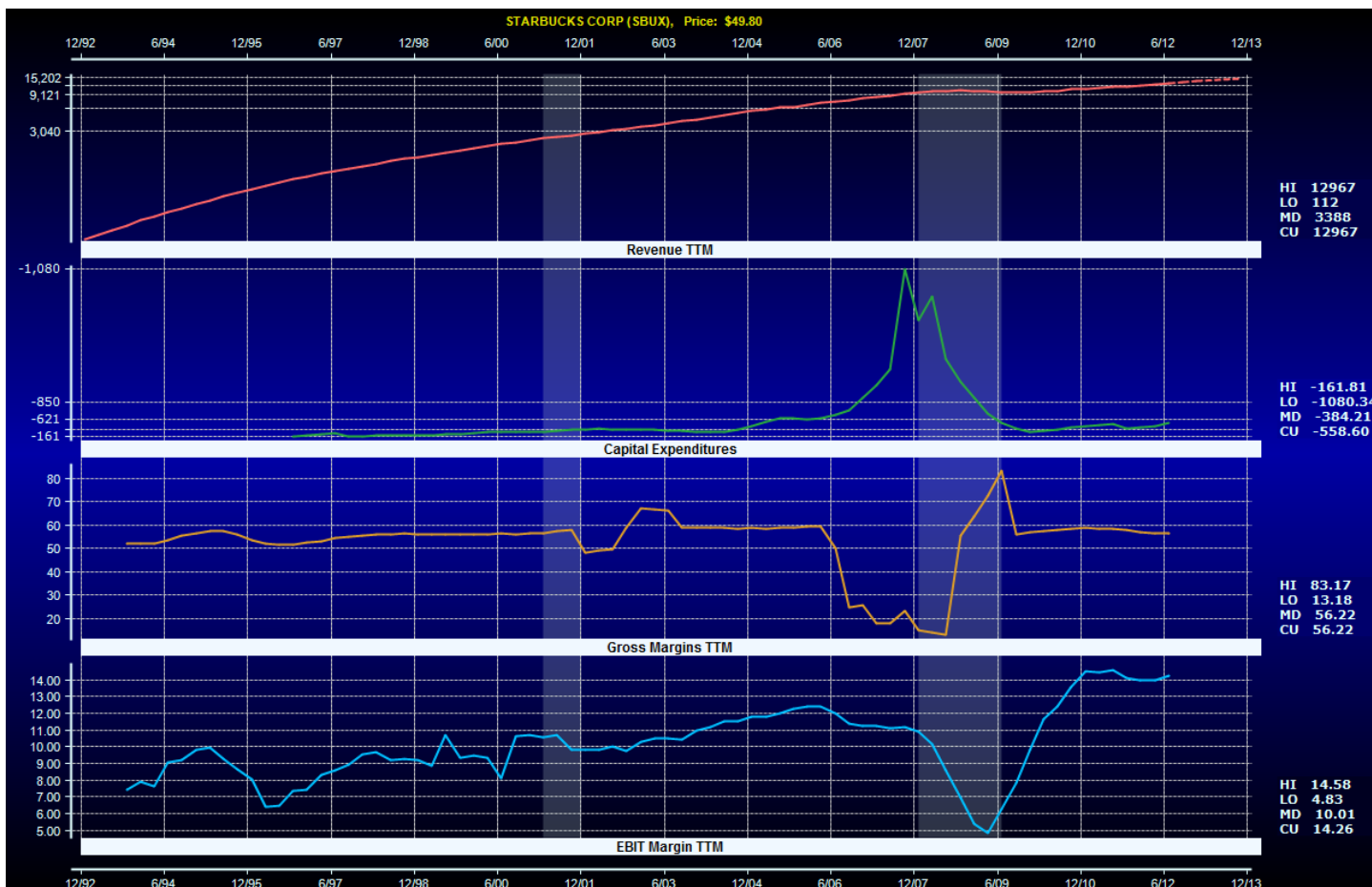
Since margins tend to be cyclical over the long-term, most analysis of these trends should be done by viewing at least 20 years of data. As you can see from the above margin charts, Starbucks is a little unique in that their margins are not as cyclical as one may expect.

A quick look at the chart shows that historically, the two margins (i.e. Gross Margin and EBIT Margin) have been pretty flat up until 2006, at which point they started to trend downward until they finally bottomed out in late 2008, at which point they rebounded sharply. Since revenue has increased over that same time period, we can conclude that the increase in margins is attributed to the company's top line growth and operating efficiencies (i.e. costs), in particular Capital Expenditures. Upon further investigation into the Comparative Sell Side Models provided in ZRS (see below), we see that Starbucks spent a lot of money on new stores from 2006-2008 which may have contributed to the sharp decline in margins. Then, you'll notice in 2008-2009 they actually closed – most likely their least profitable stores, leading to a rebound in total margins. Finally, you'll also notice analysts project Starbucks to increase Total Stores in the upcoming years. (More discussion on this later)

| | | 2005A | 2006A | 2007A | 2008A | 2009A | 2010A | 2011A | 2012E | 2013E | 2014E |
|---|---|---|---|---|---|---|---|---|---|---|---|
| High number in Range | | FY | FY | FY | FY | FY | FY | FY | FY | FY | FY |
| Low number in Range | | | | | | | | | | | |
| FY ends: September 30 | Data as of | Sep-05 | Sep-06 | Sep-07 | Sep-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 |
| Total Stores | | 10208 | 12408 | 14977 | 16645 | 16616 | 16848 | 16984 | 17965 | 19164 | 20308 |
| Reserved | | | | | | | | | | | |
| Year over Year Growth | | | 21.6% | 20.7% | 11.1% | -0.2% | 1.4% | 0.8% | 5.7% | 6.7% | 6.0% |

We can also conclude – since both margins rebounded at a much higher rate than revenue – that the increase in margins is primarily due to cost cutting measures (operating efficiency) as opposed to revenue growth (top line).

To further analyze the model's prediction, let's take a closer look at ZVM's predicted growth rate relative to historic growth rates. We can do this by using Zack's unique Growth & Margin page within the Financials tab in ZRS:

# Growth and Margin

| Quarter | REV Actual | REV Y-1 | Q-T-Q REV % | Year Over Year Percent Change | | | | EPS Actual | EPS Y-1 | Q-T-Q EPS % | Net Mgn BNRI % | EPS Surprise % | Shares - Diluted | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | REV | RPS | EARN | EPS | | | | | | Mil | Y-O-Y % |
| Sep 10 * | 2,838 | 2,422 | 8.7 | 17 | 17 | 51 | 54 | 0.37 | 0.24 | 27.6 | 9.8 | 15.6 | 761 | 0.4 |
| Dec 10 | 2,951 | 2,723 | 4.0 | 8 | 8 | 36 | 36 | 0.45 | 0.33 | 21.6 | 11.7 | 15.4 | 767 | 0.5 |
| Mar 11 | 2,786 | 2,535 | -5.6 | 10 | 9 | 17 | 17 | 0.34 | 0.29 | -24.4 | 9.4 | 0.0 | 772 | 0.6 |
| Jun 11 | 2,932 | 2,612 | 5.3 | 12 | 12 | 26 | 24 | 0.36 | 0.29 | 5.9 | 9.5 | 5.9 | 772 | 0.7 |
| Sep 11 * | 3,032 | 2,838 | 3.4 | 7 | 6 | 1 | 0 | 0.37 | 0.37 | 2.8 | 9.3 | 2.8 | 769 | 1.0 |
| Dec 11 | 3,436 | 2,951 | 13.3 | 16 | 16 | 10 | 11 | 0.50 | 0.45 | 35.1 | 11.1 | 2.0 | 769 | 0.2 |
| Mar 12 | 3,196 | 2,786 | -7.0 | 15 | 15 | 18 | 18 | 0.40 | 0.34 | -20.0 | 9.7 | 2.6 | 773 | 0.2 |
| Jun 12 | 3,304 | 2,932 | 3.4 | 13 | 12 | 19 | 19 | 0.43 | 0.36 | 7.5 | 10.1 | -4.4 | 777 | 0.6 |
| TTM | 12,967 | 11,507 | 2.9 | 13 | 12 | 12 | 12 | 1.70 | 1.52 | 4.29 | 10.08 | | | |
| Sep 12 E * | 3,390 | 3,032 | 2.6 | 12 | 11 | 22 | 21 | 0.45 | 0.37 | 4.0 | 10.2 | | 777 | 1.1 |
| Dec 12 E | 3,811 | 3,436 | 12.4 | 11 | 10 | 13 | 12 | 0.56 | 0.50 | 25.2 | 11.4 | | 777 | 1.1 |
| Mar 13 E | 3,553 | 3,196 | -6.8 | 11 | 11 | 20 | 20 | 0.48 | 0.40 | -14.6 | 10.4 | | 777 | 0.5 |
| Jun 13 E | 3,701 | 3,304 | 4.1 | 12 | 12 | 24 | 24 | 0.53 | 0.43 | 11.7 | 11.2 | | 777 | 0.0 |
| F4Q E | 14,455 | 12,968 | 2.8 | 11 | 11 | 19 | 19 | 2.02 | 1.70 | 5.4 | 10.8 | | | |

| Years | Least Square Growth Rates (%) | | | | Point to Point Growth Rates (%) | | | | Zacks Long Term Growth Rate Estimates (%) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | REV | RPS | EARN | EPS | REV | RPS | EARN | EPS | | |
| 1 | 15 | 14 | 15 | 16 | 13 | 12 | 12 | 12 | 18.1 | Mean Growth Rate Estimate |
| 3 | 11 | 10 | 48 | 28 | 10 | 8 | 40 | 38 | 11 | Number of Estimates |
| 5 | 6 | 5 | 38 | 22 | 5 | 4 | 16 | 15 | 2.4 | Standard Deviation |
| 10 | 14 | 15 | 15 | 18 | 15 | 16 | 20 | 20 | | |
| 15 | 19 | 19 | 21 | 22 | 20 | 19 | 24 | 23 | 15.7 | Default Growth Rate Estimate |
| 20 | 26 | 23 | 28 | 24 | | | 35 | | 13.36 | Analyst Growth Rate Estimate |

Zacks Growth and Margin view allows one to focus in on short term and long term diluted vs. aggregate growth in earnings and revenues. Incorporated into this view are year over year quarterly growth rates as well as sequential quarter-to-quarter growth rates in conjunction with EPS Surprise, Net Margins and year over year quarterly share changes.

Upon first glance at the table, it's apparent that the 13.36% earnings growth, currently priced into the market, seems accurate relative to the lower of the top line (revenue) versus bottom line (earnings) growth. Although, considering what we learned from the Margins View, Earnings growth has been driven primarily by operating efficiencies as can seen by the steep rise in EBIT margins. Therefore, assuming Starbucks has 'trimmed all the fat' so to speak and they can actually maintain record high EBIT Margin levels, their future Earnings growth will be dependent on primarily revenue growth. In other words, margins held equal, Starbucks Earnings Growth should translate to 1:1 to Revenue growth.

So with that in mind, and given that Starbucks near term revenue growth is projected at 11%, it would seem that 13.36% Earnings Growth might be a little steep or that the market may be pricing in an acceleration in revenue growth post the next 4 quarters.

Having drilled further into Starbucks fundamentals, we have uncovered evidence that the current market may have overvalued the firm. On the other hand, there is some support on the behalf that Starbucks is fairly valued, and perhaps even undervalued assuming Starbucks can maintain their operating margins and continue to grow revenues.

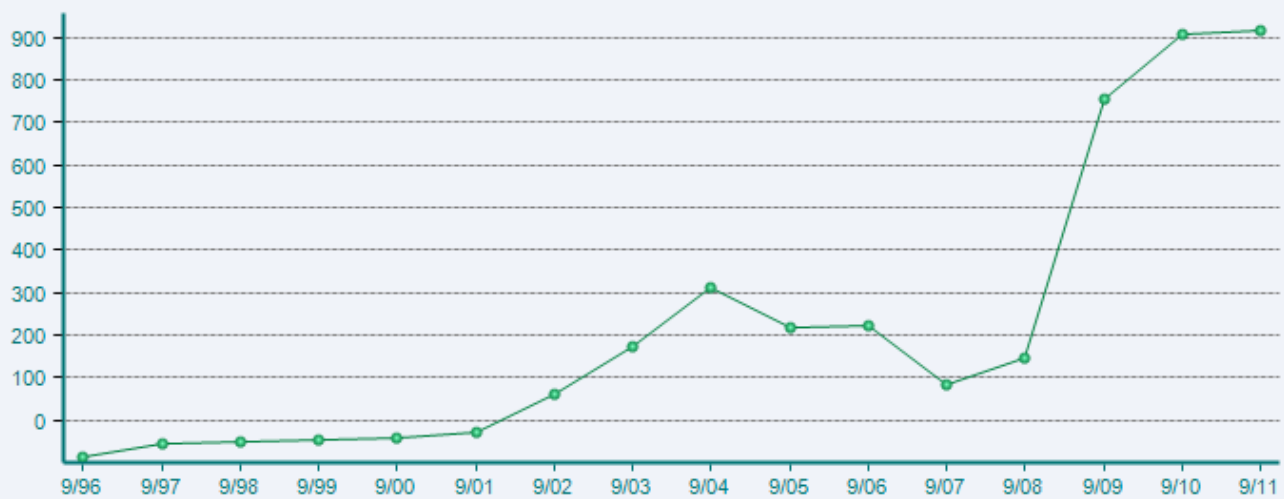But let's not stop there; let's take a look at how Starbucks has been managing their Cash Flow:

# Cash & Equivalents ($Mil) - Starbucks Corp
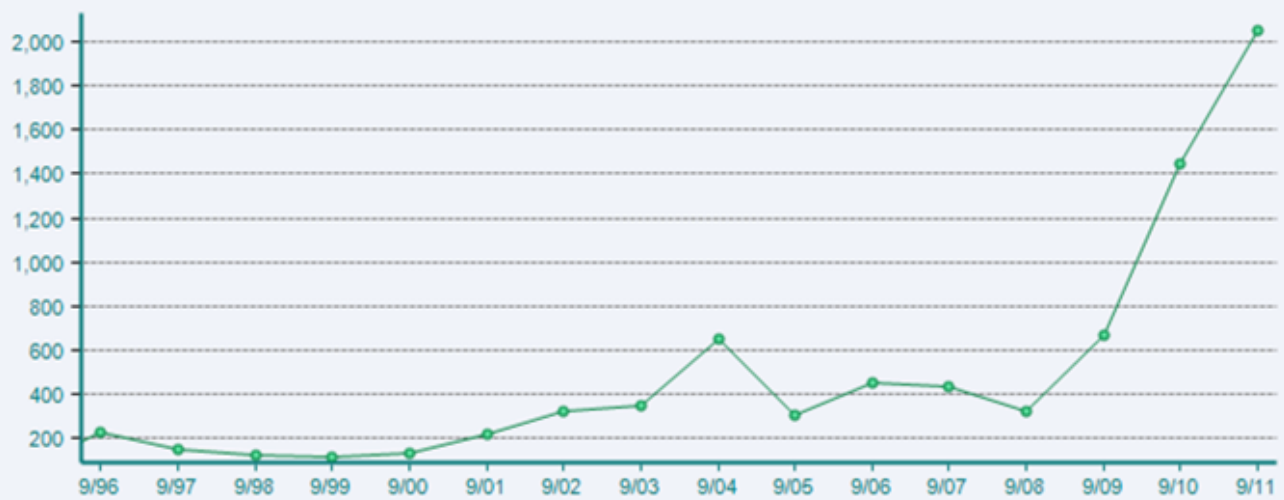


# Free Cash Flow Adjusted - Starbucks Corp
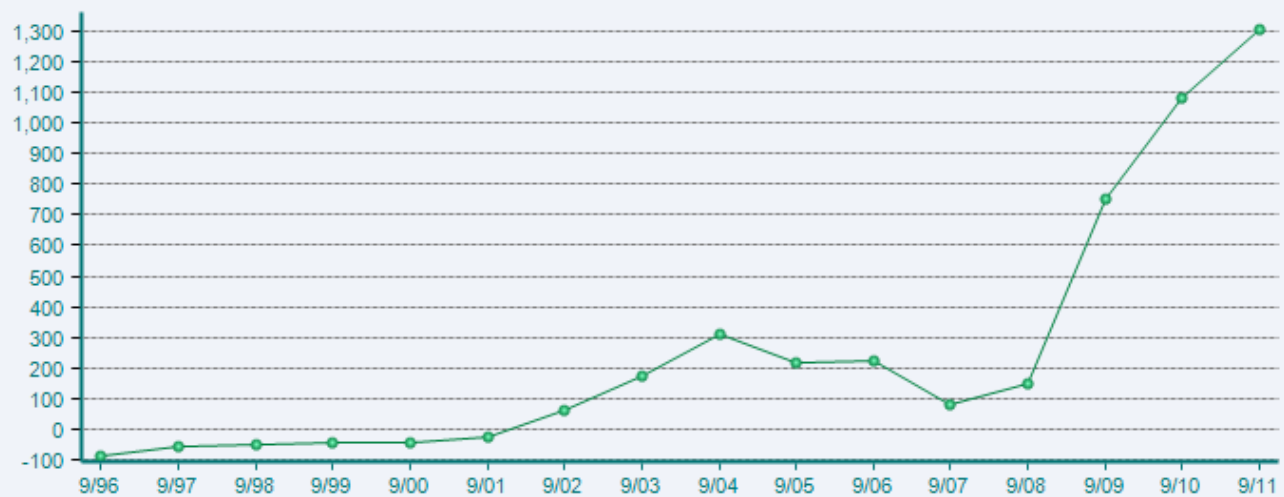


# Free Cash Flow Adjusted After Divs - Starbucks Corp

We can see that Starbucks – especially in recent history – has been effectively managing its cash flows. They continue to return capital to their investors via dividend disbursements, while simultaneously increasing their cash balance in absolute terms. In particular, since 2007 Starbucks has seen an adjusted Free Cash Flow increase of over 1200%. This excess cash gives Starbucks the discretion to use it in a number of ways. They can return capital to investors through a stock buyback program or by increasing their current dividend, or – in an attempt to grow their top line – they could increase capital expenditures in the form of new domestic or international stores.

In summary, let us recall some of the fundamental data and trends previously expounded relative to Starbucks:

1. Relative cumulative outperformance over the past 5 year periods versus the S&P 500.
2. Relative cumulative outperformance over the past 5 and 10 years versus its relative industry peer composite.
3. Steady top-line revenue growth over the last 10 years.
4. Strong bottom-line margin growth over the last 5 years.
5. Effective cash flow management: quarterly dividend while growing a robust cash balance.

Now, these facts can be added to the other information that was found using ZVM and ZRS:

6. Analysts' consensus estimate of the 3-5 year earnings growth rate is expected to be 18.12%, which deviates slightly from the conservative default estimate of 15.73% used in the valuation.
7. Currently, the market is pricing an implied earnings growth rate of 13.36%, which is slightly lower than the analysts' consensus estimate and ZVM's default earnings growth rate of 18.12% and 15.73%.
8. Based on the Growth and Margin view analysis, 13.36% implied growth appears to be factoring in revenue acceleration beyond what is being quantified in the next 4 quarter consensus revenue forecast.
9. Margins peaked and now appear to be flattening, indicating that future earnings will be mostly dependent on top line growth.
10. Despite ultra low interest rates and increasing equity premium over the past 5 years, its PE multiples have been quite stable due to Starbucks' margin growth during that period.

Given the evidence collected, it seems plausible that the investment community is in fact pricing in a return to revenue growth and that Starbucks could be undervalued if revenue growth were to actually accelerate. What we do know is that – due to the leveling out of margins – EBIT Margins must be at least maintained at current levels while Starbuck's expands top line revenue growth. Starbucks has done an impressive job of managing free cash flow, growing a substantial cash balance over the last 5 years. This gives Starbucks the necessary resources to continue their expansion into Europe and China (see Sell Side Model below) and continue re-investing in other product lines they see fit.

| High number in Range | 2010A | 2011A | 2012E | 2013E | 2014E | 2015E |
|---|---|---|---|---|---|---|
| Low number in Range | FY | FY | FY | FY | FY | FY |
| FY ends: September 30 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 |
| Company-operated stores-China/Asia-Pacific (CAP) | 439 | 512 | 640 | 801 | 983 | 1062 |
| *Reserved* | | | | | | |
| *Year over Year Growth* | *7.3%* | *16.6%* | *25.1%* | *25.1%* | *22.6%* | *8.1%* |