

EXECUTIVE SUMMARY

- Yahoo! [YHOO](#) is spinning off its stake in Chinese Internet retailer Alibaba [BABA](#) in a transaction scheduled to close in 4Q2015.
- Joe Cornell, CFA, of [Spinoff Advisors](#) points out that present market pricing suggests an exploitable inefficiency in this transaction. The implied value of Yahoo!'s core business is less than zero when adjusted for the market capitalization of Yahoo!'s stakes in Alibaba and Yahoo! Japan [YAHQY](#).
- Buying 47 Yahoo! call options for every 23 Alibaba put options purchased and 300 shares of Yahoo! Japan stock sold will isolate investment exposure in Yahoo!'s core business.
- This investment can be implemented using various combinations of long calls and long puts and the investment's characteristics will depend upon strike prices chosen. Examples are given on page 5.
- In the case of spinoffs and other corporate actions, the option exchange resets strike prices on the original company's options and grants options in the SpinCo to holders of the original options.

YAHOO! / ALIBABA SPINOFF

Joe Cornell, CFA, from [Spinoff Advisors](#), sent through an interesting paired investment idea that seems very interesting: Yahoo!'s spinoff of its stake in Alibaba.

Spinoffs are difficult for most investors to analyze and institutional investments in post-spinoff entities are at least partially driven by structural biases (e.g., large funds not being able to hold smaller, post-split entities). As such, spinoffs have historically offered—and continue to offer—potentially lucrative inefficiencies for intelligent investors.

In the case of Yahoo, it looks like the market is adding 1 + 1 + 1 and saying the answer is 2 rather than 3.

This article gives the rationale for the investment, lays out how the strategy might look from an option perspective, and discusses how spinoffs are handled in the option market, as well as providing an appendix focusing in on Yahoo!'s capacity to generate cash.

YAHOO!'S SPINOFF OF ALIBABA

Yahoo! wants to avoid paying capital gains taxes while liquidating its remaining 15% stake in Alibaba. It has announced that it would do so by a tax-free spinoff of a non-core operating unit that will be capitalized by Yahoo!'s remaining 384 million shares of Alibaba. Yahoo! has 988 million shares outstanding at the end of 4Q14, so every holder of Yahoo! shares will receive $(384 / 988 =) 0.3887$ shares of "SpinCo", a new business whose main asset will be shares of the Chinese Internet retailer.¹

¹ You can read Yahoo!'s [press release about the transaction](#) on its Investor Relations page.

Yahoo's value is a function of its stake in Alibaba, the value of its own core business, and the value of its stake in Yahoo! Japan (in which Yahoo! owns a 36% stake).

According to Cornell's Spinoff Research note on the transaction, present valuations indicate the market is treating Yahoo!'s U.S. business as being worth less than nothing:

Implied Valuation of Yahoo! Core business (in \$ million)	
Current Market capitalization	43,014
Less Net cash (end 4Q14)**	5,612
Implied EV	37,402
(-) Value of Alibaba stake (@CMP*:\$90.13; 0% tax)	34,610
(-) Value Yahoo! Japan (@CMP*Yen 403 , 35% tax)	4,502
Implied Enterprise Value of Core Yahoo! Business	(1,710)

* Prices as of 2/2/15, \$1 = 117 Yen; ** net of cash taxes of approx \$3.3 billion related to sale of Alibaba shares in IPO

Figure 1: Source: Spinoff Research report on YHOO (2/3/2015)

Yahoo! is planning to retain its stake in Yahoo! Japan but to spin off its remaining stake in Alibaba in 4Q15, after its year-long lock-up period after Alibaba's IPO ends.

INVESTMENT RATIONALE

Since the U.S. subsidiary is trading for an implied negative enterprise value, there is the opportunity for a low-risk long-short investment. This investment will take the form of isolating the U.S. subsidiary by buying shares in YHOO (which also give an investor a claim on Yahoo!'s net cash balance) while shorting an appropriate amount of BABA and Yahoo! Japan.

Long (+)	Yahoo! Consolidated	Short (-)	Alibaba Yahoo! Japan	=	Targeted investment in Yahoo! Core + Net Cash
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The equity legs balance perfectly, so the strategy hinges upon the value of the net cash balance. As long as Yahoo! does not destroy \$1.7 billion in the value of its core business by the time Alibaba is spun off, the post-spinoff price for Yahoo!'s core business should increase. Even a bankrupt business is worth *nothing*, after all.

How much more valuable depends on how durable the present net cash balance is and whether it has the potential to grow in the future. To get a sense of how much cash Yahoo! is generating, please see Appendix I: Valuation Considerations

[Continued on next page]

OPTION INVESTMENT STRUCTURE

An investor can replicate the hedged structure laid out in the [Investment Rationale section](#) above using calls and puts, respectively, to replace long and short stock investments.

Stock	Option	B/S	Notes
Yahoo! YHOO	Call	Buy	Very liquid listed options available in the U.S. market
Alibaba BABA	Put	Buy	Listed options available in the U.S. market
Yahoo! Japan YAHYOY	NA	NA	Listed options not available on the U.S. market. Institutional investors can enter into “Listed Look-Alike” OTC contracts or transact on the Japanese market. Individual investors can short the stock directly

Using the Spinoff Advisor’s calculations from figure 1, the ratio of the value of Yahoo!’s stake in Alibaba (\$34,610) versus that of Yahoo! Japan (\$4,502) is roughly 7.7:1 or 23.0:3. As such, a hybrid option-stock strategy would buy 23 contracts of Alibaba puts and sell 300 shares of Yahoo! Japan stock. The notional value of one At-the-Money (ATM) Alibaba contract is \$8,500; the value of 100 shares of Yahoo! Japan stock is \$717. Transacting in a 23:3 ratio implies a minimum notional value of the “short” side of the trade of (\$195,500 worth of BABA options + \$2,151 worth of YAHYOY stock =) \$197,651.

These shorts would be balanced by an investment in Yahoo! call options with a notional value equal to that of the short side of the investment. With a notional value of \$4,200 for one contract of Yahoo!’s ATM call options, we would balance the above bearish investment with the purchase of 47 of Yahoo!’s call option contracts.

Expiration

Because the spinoff transaction is scheduled to take place in 4Q14, we should select Yahoo! and Alibaba options expiring after that. There are two LEAPS available for both stocks: January 15, 2016 and January 20, 2017.

The number of expirations will increase as time passes (i.e., there will be intermediary expirations between the two listed above), so waiting until later in the year to enter into this structure will decrease the risk of the transaction occurring after the option expiration.

On the other hand, if the market moves to correct this mispricing before the transaction closes, not entering into the transaction at present would mean one misses the investment opportunity.

To balance these risks, one can enter into the structure over time—making one-third or one-half of the desired allocation now with the expirations presently available, and the remainder later in the year when more expiration choices exist.

Strike Prices

The amount of leverage in an option investment varies by the strike price of the option selected. In-the-Money (ITM) options have a lower leverage than ATM options, which in turn have lower leverage than Out-of-the-Money options.

Higher leverage means a lower up-front cost and higher percentage returns. Lower leverage means a higher up-front cost and higher dollar returns. We can see this clearly in the example below:

Underlying	YHOO	
Stock Price	\$42.94	
Option	Call	
Expiration	JAN '16	
Strike	(OTM) \$47.00	(ITM) \$37.00
Per Contract Cost (Ask)	\$380.00	\$900.00
Time Value Per Contract	\$380.00	\$306.00
47 Contract Cost	\$17,860.00	\$42,300.00
Stock Price (30% rise)	\$55.82	\$55.82
Per Contract Gross Profit	\$882.20	\$1,882.20
47 Contract Gross Profit	\$41,463.40	\$88,463.40
Net Percentage Return	132%	109%
Net Dollar Return	\$23,603.40	\$46,163.40

Note also the difference between Time Value per Contract between the two options. Time value represents a sunk, unrecoverable cost, and should be considered a realized loss as soon as it is paid. Obviously, realizing losses is not a path to investment success, so intelligent investors should always minimize the amount of money spent on time value.

Time value as a proportion of contract cost becomes progressively lower the deeper the strike is ITM and is 100% for any ATM or OTM options. Since ATM options are the most expensive ones and since all of that expense is time value, we advise to avoid buying them.

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Example Structures

With these principles in mind, we look at several scenarios using strategies of different moneyness for the call and put sides.

YHOO rises by 30% | BABA and YAHOOY rise by 20%

Profit from Yahoo ITM	\$46,163.40
Profit from Yahoo OTM	\$23,603.40
Loss from Alibaba ITM	(\$37,720.00)
Loss from Alibaba OTM	(\$13,340.00)
Loss from Y!J Short	(\$430.20)

YHOO falls by 20% | BABA and YAHOOY fall by 30%

Loss from Yahoo ITM	(\$42,300.00)
Loss from Yahoo OTM	(\$17,860.00)
Profit from Alibaba ITM	\$42,835.20
Profit from Alibaba OTM	\$21,215.20
Profit from Y!J Short	\$645.30

For example, in the case where Yahoo! rises by 30% (left-hand table), net profit from 47 purchased ITM call options (struck at \$37) would amount to \$46,163.40. However, if Yahoo! were instead to fall by 20% (right-hand table), the position would lose \$42,300.00.

We can then look at various combinations of moneyness for each leg to see what profit and loss would be generated for different structures (in all of the structures below, P/L from the Yahoo! Japan short is included). In the tables below, "Capital at Risk" equals the amount of money spent on option premium for both long and short legs of the investment, plus the notional value of the short position in Yahoo! Japan.

YHOO rises by 30% | BABA and YAHOOY rise by 20%

Strategy	P/L	Capital @ Risk	Pct Return
YHOO ITM BABA ITM	\$8,013.20	\$82,171.00	9.8%
YHOO ITM BABA OTM	\$32,393.20	\$57,791.00	56.1%
YHOO OTM BABA OTM	\$9,833.20	\$33,351.00	29.5%
YHOO OTM BABA ITM	(\$14,546.80)	\$57,731.00	-25.2%

YHOO falls by 20% | BABA and YAHOOY fall by 30%

Strategy	P/L	Capital @ Risk	Return
YHOO ITM BABA ITM	\$1,180.50	\$82,171.00	1.4%
YHOO ITM BABA OTM	(\$20,439.50)	\$57,791.00	-35.4%
YHOO OTM BABA OTM	\$4,000.50	\$33,351.00	12.0%
YHOO OTM BABA ITM	\$25,620.50	\$57,731.00	44.4%

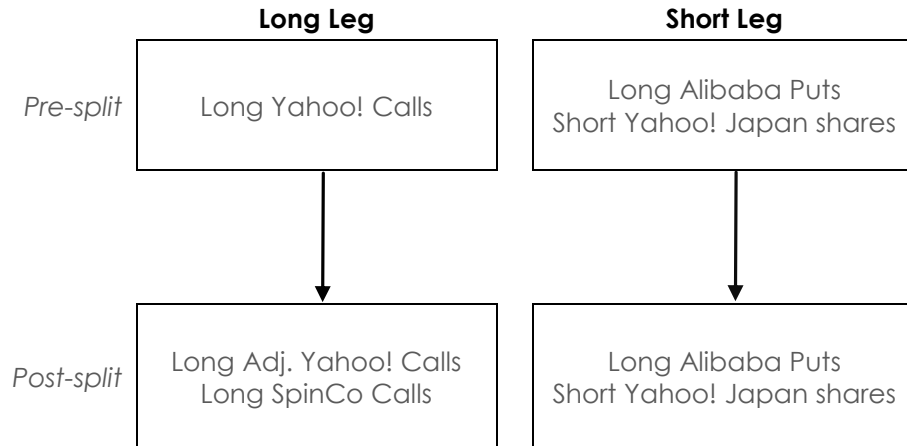
Combining an ITM on one leg with an OTM on the other leaves one exposed to a directional bet. If the stocks move in the direction beneficial to the ITM leg, the overall structure is very profitable, but if the market moves against the ITM position, the losses are the most severe.

The combination of OTM legs on both the long and the short sides generates the best looking overall risk / return profile, but buying OTM options mean paying a proportionally larger up-front sunk cost and the position will perform worse if the underlying stocks do not move very much.

Note that all these scenarios calculate on the basis of pre-split stock-price movements. For post-split effects, see the following section.

OPTION ADJUSTMENTS

When a spinoff occurs, the option exchange does two things: adjusts the strike price of the stub (Yahoo!'s core business in this case) and grants options in the new SpinCo to holders of the pre-spin options. These adjustments are engineered in such a way to allow the option holder's economics to remain the same pre- and post-split. In other words, if your option contract in a pre-spin company are worth \$1,000 / share, your options in the post-split entities will aggregate to the same \$1,000.



Once the shares split, the investor can liquidate the SpinCo options to retain the original investment or can continue to hold the SpinCo options.

APPENDIX I: VALUATION CONSIDERATIONS

The graph below shows how Yahoo's Owners' Cash Profits (OCP²) has varied over the last 10 years.

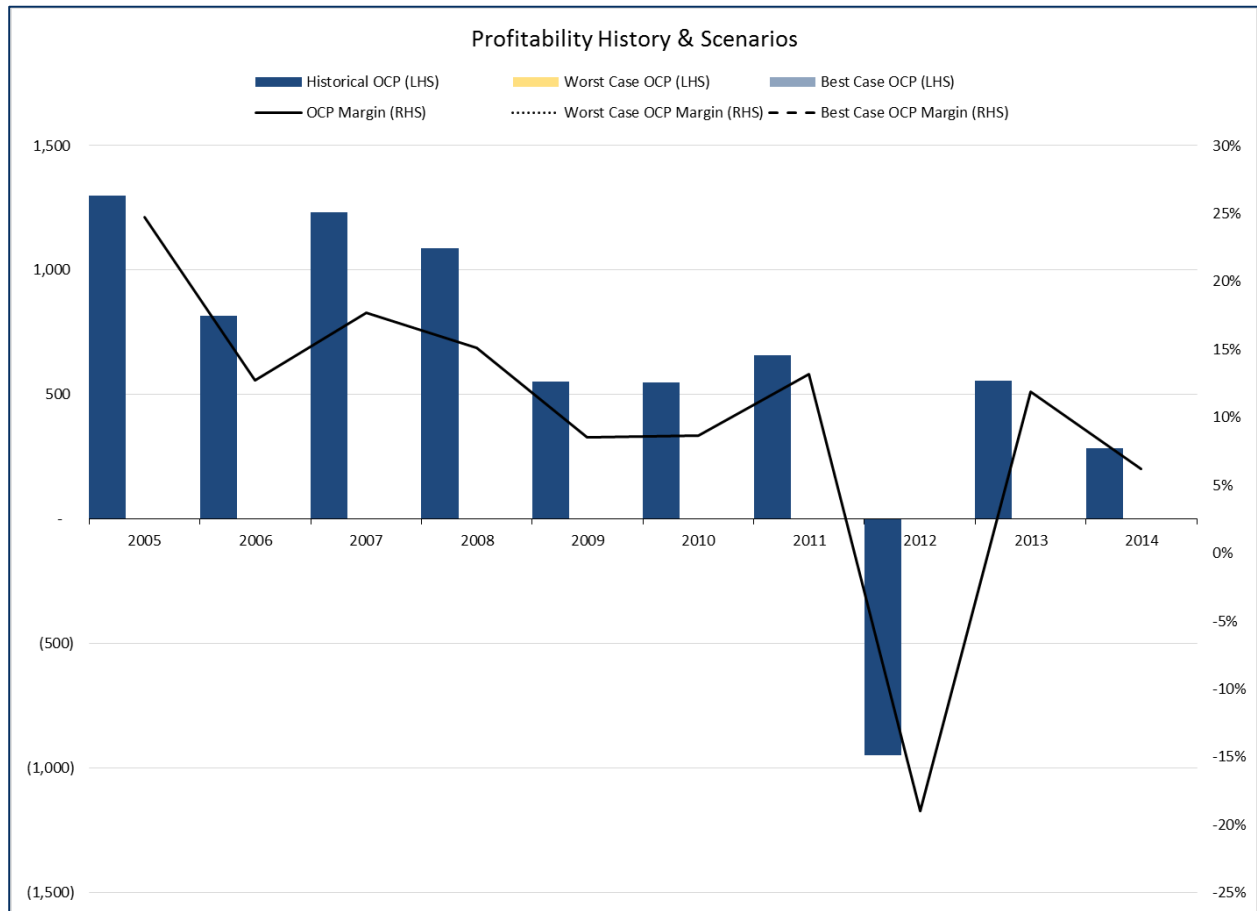


Figure 2. Source: Company statements, IOI analysis

Since around 2008, Yahoo!'s OCP has typically come in around \$500 million per year, representing an OCP margin (OCP as a percentage of revenues) of roughly 10%. The notable dip in 2012 was influenced by the sale of a portion of Yahoo!'s stake in Alibaba. Reversing out these effects, it does look like Yahoo! operated at a loss on an OCP basis, though probably³ not as great as the one shown here.

² Please see the [Methodology and Glossary section](#) of this report for a definition of OCP

³ "Probably" because cash flow from deferred taxation would be affected, and it is difficult to tell how large an effect that line item would be if Yahoo! did not realize a large gain on Alibaba shares that year.

From this analysis, it is clear that Yahoo! has been generating cash profits over its recent history, though its ability to convert revenues to profits looks like it's on a downward trend (judging by the generally shrinking margins).⁴

Let's now turn to Net Expansionary Cash Flows (Net ECF) and Free Cash Flows to Owners (FCFO) and see what proportion of profits the company has been spending on expanding the business.⁵

Figure 3 below shows our estimates for Net ECF over the last few years. The chart is difficult to read because of two large cash inflows resulting from sales of Alibaba stock. However, if we look past outlier years and take an average of Yahoo!'s Net ECF as a percentage of OCP during the years 2006-2011 (when spending was more normalized), we find a rate of 98%.

In essence, then, Yahoo! is generating roughly \$0.10 of profits for each dollar of revenues and spending over \$0.09 on expansionary outflows of various types.

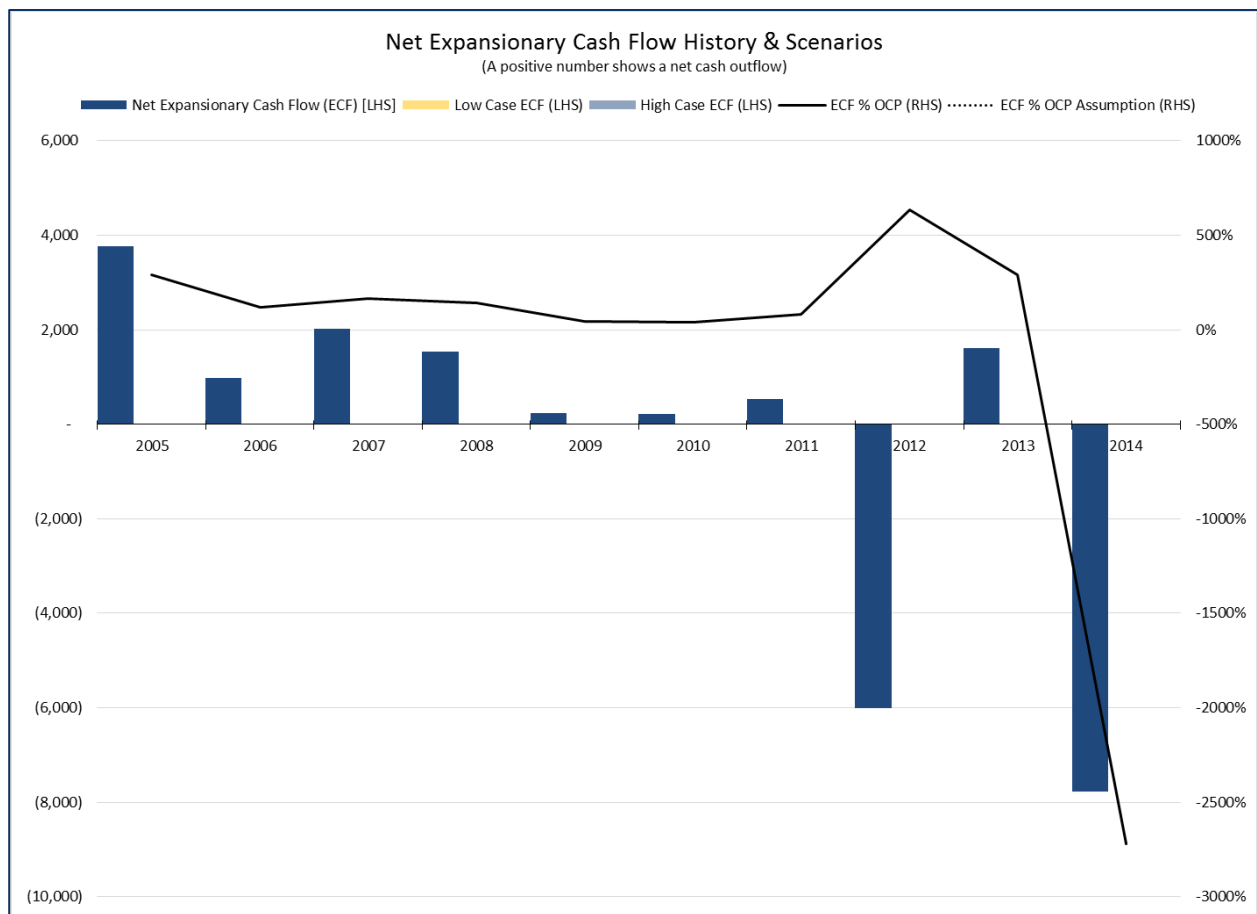


Figure 3. Source: Company statements, IOI analysis

⁴ It's worth noting that revenue growth—one of the most important valuation drivers from IOI's perspective—has also been poor at the company. Yahoo!'s revenue has declined or remained flat in six out of the last eight years.

⁵ See the [Methodology and Glossary section](#) of this report for an explanation of Net ECF and FCFO.

The next thing to look at is what projects Yahoo!'s management is investing in. This graph is shown on the next page.

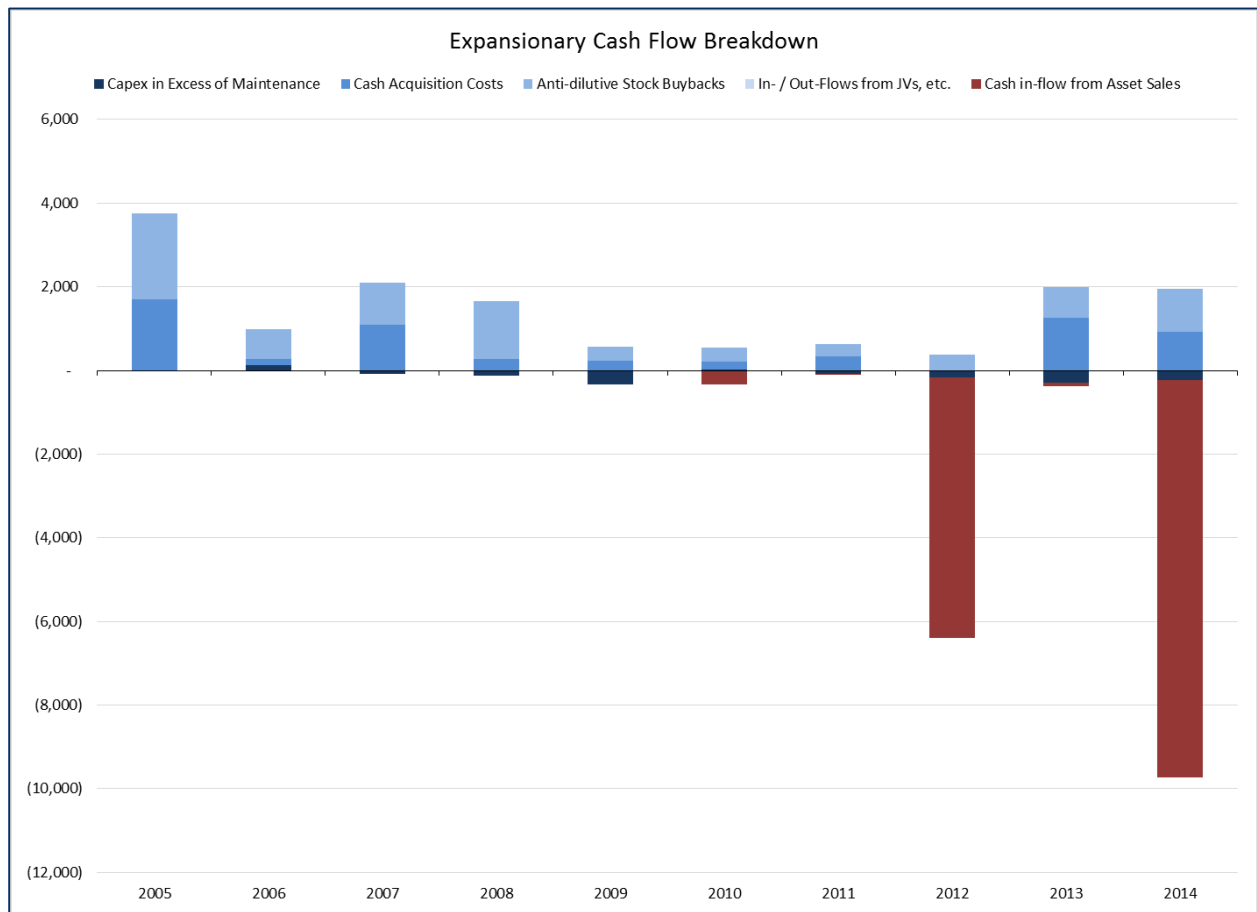


Figure 4. Source: Company statements, IOI analysis

This graphic shows that most of Yahoo!'s expansionary cash flows have taken the form of acquisitions and what we call "Anti-dilutive Stock Buybacks." The average amount spent in these two buckets during the aforementioned 2006-2011 period was \$240 million and \$675 million respectively.

To sum up our cash flow analysis, Yahoo! is generating roughly \$1 billion in cash profits per year and spending a little over \$900 million of that on investments, of which issuing stock to employees makes up a prominent portion.⁶

If the company can maintain this cash flow profile (i.e., generating profits and spending most but not all of them on expansionary projects), the net cash balance Yahoo! holds will be a durable

⁶ Especially in the Tech world, stock-based compensation is an important sweetener for key employees, so the firm likely cannot spend much less than it already is without weakening morale. Similarly, acquisitions fulfill an important role in maintaining a Tech company's productive capacity and helping it to remain relevant in the future.

source of value for the firm. Either the market is making a mistake with its calculation of Yahoo!'s core business's worth or it is saying that it believes Yahoo! will squander its present cash hoard on value-destructive investments *before* the Alibaba spinoff occurs. The former seems more likely than the latter.

METHODOLOGY AND GLOSSARY

OWNERS' CASH PROFITS

This is a measure of profitability similar to Buffett's Shareholder Earnings.

Given the emphasis we have placed on the importance of cash and the flow of cash, it makes sense that we will find most of the information essential to valuing a company by analyzing the Statement of Cash Flows (SCF).

In fact, for our calculations of OCP, we need not look much further than the very first section of the SCF—the section entitled Cash Flow from Operations (CFO). The precise definition of Owners' Cash Profit is:

$$OCP = CFO - Maintenance\ Capex$$

$$Maintenance\ Capex = [(1 + inflation\ rate\ assumption) \times Depreciation\ Expense]$$

Even though these are pretty simple equations, there are a few things to be said about each of the terms that make up "Maintenance Capex". However, before delving into that, please realize that whenever we are calculating ranges, we are dealing less with hard numbers and more with estimates and educated guesses. It is vital not to get hung up on the exact numerical value being calculated and to conceive of the calculations as an estimate and a starting place to understand true profitability.

There are two facts to economic life that the OCP calculation attempt to quantify:

1. Equipment, buildings, and other physical assets essential for generating revenues break or wear out.
2. Generally, prices for things increase over time.

The OCP equation uses the accounting line item "Depreciation" to represent the first fact. Depreciation is meant to formalize the assumption we made about our taxi driver's business—that he would need to set some money aside each year to buy a new car when the first one had come to the end of its economic life.

Depreciation expense is a fiction codified by accounting convention. I will not go into all of the different ways depreciation might be calculated—I can think of three right offhand and there are probably more—since those details would only add confusion. You will notice that the OCP equation takes that accounting fiction and multiplies it by a fiction of economics—the inflation rate (which I usually simply take as the rate for Consumer Price Inflation published by the U.S. government). I have read fascinating articles about how the present method for calculating inflation probably ignores things that it shouldn't and why these omissions have taken place over time. I know that inflation is a fiction and it is not representative of the actual rise in cost that the company will need to pay to repair its machinery or spruce up its offices, but still I add inflation to keep in mind that prices usually increase over time.

The main point is that depreciation is about the best estimate we can get for the amount of capital expenses needed to maintain the business as a going concern. Keeping in mind that all

of what we are dealing with when analyzing companies are estimates and that no one will ever know exactly how much money is needed for maintenance capex at a given company ahead of time, the estimate we are using seems plausible and directionally right. That's good enough.

EXPANSIONARY CASH FLOW

The proportion of excess profits a company invests in order to enjoy greater than trend growth in the future.

Because the purpose of these investments is to expand either the revenues or profits of at a faster rate than the economy in which it operates, we call these investments "Expansionary Cash Flows." We start with OCP and define Expansionary Cash Flows like this:

Deduct	Expenditures for Property Plant & Equipment over and above maintenance capex as defined in OCP ("Growth Capex")
Deduct	Cash spent on acquisitions
Deduct (Add Back)	Cash paid to (received from) JV partners (loans or investments)
Deduct	Cash spent anti-dilutionary stock repurchases
Add Back	Cash received from sale of assets / divisions
Equals	Expansionary Cash Flows

Let's take a look at the actual numbers for each of these items for Oracle over the most recent five years and understand each component one by one.

<i>Fiscal Year Ending</i>	2009	2010	2011	2012	2013
Estimated Growth Capex	(258)	77	(71)	(147)	(88)
(Acquisitions)	(1,159)	(5,606)	(1,847)	(4,702)	(3,305)
(Investments in) Payments from JVs, etc.	-	-	-	-	-
(Antidilutionary Share Buybacks)	(1,464)	(1,422)	(2,311)	(1,274)	(2,780)
Asset Sales & Disposals	-	-	105	-	-
Net Expansionary Cash In- (Out-) Flows	(2,881)	(6,951)	(4,124)	(6,123)	(6,172)

Estimated Growth Capex

In our calculation of OCP, we already made an estimate of the amount of money that is needed to maintain the company as a going concern—maintenance capex. Keeping that number in mind, we can also look in the "Cash Flow from Investing" section of the Statement of Cash Flows and find a line item related to spending on "Property Plant & Equipment (PP&E)" This is what analysts usually look for as a measure of capital expenditures.

The first line in our calculation of Expansionary Cash Flows is simply the amount of money spent on PP&E less the amount of money we have already estimated as necessary for maintenance capex. Usually, PP&E will be greater than inflation-adjusted Depreciation, but in the case of Oracle, we

can see that this is not always the case—note the cash inflow of \$77 in 2010 associated with expansionary capex. This simply means that the company has temporarily “underinvested” in maintenance capex. For a company like Oracle, which mainly derives revenues from its intellectual property rather than from manufacturing and selling physical goods, this is not strange. For a manufacturing company, though, if one sees that one’s estimates for maintenance capex are consistently higher than the amount the company is actually spending on PP&E, one needs to do some further investigation to figure out why. The company might be outsourcing more of its manufacturing—which is not necessarily a bad thing—but the company might also simply be underspending on maintaining its productive assets—which is always a bad thing.

Acquisitions

In a 1992 interview with the Harvard Business Review, Phil Knight, co-founder of the sporting goods company Nike, spoke about the decision that company managers face regarding buying or building new product lines. In this quote, Knight is talking about his decision to acquire casual shoe brand Cole-Haan.

“We bought [Cole-Haan] knowing its potential, and we’ve simply turned up the marketing volume. We could have created a brand and got it up to \$60 million in sales, which is where Cole-Haan was when we bought it, but it would have taken millions of dollars and a minimum of five years. We’re further ahead this way. In the four years we’ve owned Cole-Haan, it’s repaid the purchase price and is now at \$150 million in sales.”

From this quote, it is obvious that money spent to acquire a business—which subsequently becomes a division of the acquirer—should be considered as substantively the same as money spent to buy equipment and buildings in order to build up a new division. It is amazing to me that so many analysts and strategists ignore spending on acquisitions as a deduction from free cash flows. Certainly, whether one spends money to buy a business or to build one, that money has been invested and thus cannot be distributed to equity owners.

This reasoning suggests we must include cash spent on acquisitions into the calculation of expansionary cash flows.

Antidilutionary Share Buybacks

Cash outflows associated with anti-dilutionary stock repurchases arise from two situations:

1. Management issues shares to acquire another company
2. Management issues shares to employees and executives

In most cases, company managers issue shares as a form of currency to pay for some strategic project (an acquisition in the first case, encouraging development of greater intellectual property assets in the second). However, company managers are evaluated—both by boards and the equity market—by trends in earnings per share (EPS). Because of this, issuing shares can become dangerous from a career security perspective to CEOs and CFOs—issue too much equity too often, and one’s EPS will be negatively affected.

Enter the corporate hobby of stock repurchases.

Academics have encouraged a belief amongst investing professionals and the public at large that stock buyback programs “create value” for shareholders. Of course, the company’s purchase of shares does make one’s own stake more valuable, so to the extent that buyback programs do increase the concentration of one’s position, they are helpful to long-term shareholders. The problem is that some proportion of these programs do not increase the concentration of ownership interests, but merely limit the dilution of them.

Management teams proudly announce their enormous buyback plans knowing that these massive purchases will swamp the millions of dollars here and there spent to 1) obfuscate the mediocre results of a prior acquisition and / or 2) hide the true extent of stock issuance as a form of employee compensation.

Stock buybacks use owners’ cash in order to boost EPS. It is for this reason that, in most cases, we consider all the stock issued by a company for acquisitions or compensation schemes in a given year as having to be bought back at the average price of shares that year. For instance, the \$1,464 spent by Oracle in 2009 is a result of its purchasing 81 shares at an average price of just over \$18 per share.

Fiscal Year Ending	2009	2010	2011	2012	2013
(Antidilutionary Share Buybacks)	(1,464)	(1,422)	(2,311)	(1,274)	(2,780)

Of course, this is only an estimate of the true value of the cash expended on antidilutionary stock buybacks, but even though it is a fiction, it is a useful one and likely directionally right in terms of the absolute amount spent.

Cash Received From (Paid To) JVs, Internal Software Development, etc.

Investing in JVs does not represent a huge part of the company in this example’s business strategy, but it can be for some firms. For instance, NAND Flash memory producer SanDisk (SNDK) forms JVs with Japanese chipmaker Toshiba and both firms contribute capital to these JVs. The JVs purpose is to build (enormously expensive) chip fabrication facilities, produce chips, and sell them to the owners of the JVs (i.e., SanDisk and Toshiba) at the cost of production. The JVs pay interest to the parent companies, and if there are any excess profits, those profits are divided proportionally between the parents as dividends.

Clearly, this example of a loan made to a JV is exactly the same as money spent to fund a capital project to build a fabrication plant. The cost of funding such a plant is so high that the two partners can spread risk and reduce their annual capex bill.

Clearly these expenditures should be treated as expansionary outflows and any interest or dividends received should be netted out against it.

Cash Inflow from Asset Sales

Clearly, any cash that flows in from a company’s sale of equipment, a division, or a property should be treated as a source of cash that can be used to buy new assets. Oracle, being an asset-lite company, does not have much in the way of asset sales or disposal of divisions, but you can

see that in 2011, it sold something worth \$105 that we have counted as a net inflow against growth capex that year.

FREE CASH FLOW TO OWNERS (FCFO) AND ASSESSING INVESTING EFFICACY

Once we have estimated OCP and understand how much of it the management is spending on expansionary projects, we finally come to the number by which we value the firm—Free Cash Flow to Owners. In equation form:

$$FCFO = OCP - \textit{Expansionary Cash Flows}$$

IOI