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A NEWSLETTER OF THE FINANCE LAB

June 2020, Volume 6, Issue 1



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Note: The views expressed by the authors are personal and do not necessarily represent the views of FRTL or IIM Calcutta.

Editorial

In these unprecedented times, I hope you are staying safe and adapting well. The last couple of months will be remembered in India for more than one reason: the spread of COVID-19, the complete shutdown, the flattening of the economy, the struggle of businesses and individuals to stay afloat, and the start of the unlocking process. The COVID-19 pandemic has affected us both personally and professionally as well as financially and emotionally, forcing us to shift priorities and resources as we respond to the abrupt changes around us. Still, the pandemic cannot flatten our resolve to learn, grow, and contribute today for a better tomorrow.

The June 2020 edition (Volume 6 Issue 1) has four articles, of which the first two discuss the impact of COVID-19. In the *first* article, the author explains how the stringent lockdown measures have given a dual shock to the Indian economy: a decline in demand as well as a fall in supply across several sectors of India's domestic economy. The article mentions the steps taken to enhance the liquidity in the system and emphasizes the need to bring the focus of policy measures to overcome the supply chain disruptions and stimulate the demand. The *second* piece talks about the challenges that banks will face on their key performance, asset quality, and solvency parameters as the economy reels under the impact of the COVID-19 pandemic and witnesses the second wave of corporate bankruptcy and liquidation. The *third* article is an operational guide to covered calls. It covers the key concepts, including accounting and tax treatment, which helps understand and use this option strategy. In the *fourth* piece, the author introduces the idea of degree of total leverage and describes its use to forecast earnings. The article illustrates how to use the information on Income statements to compute contribution and leverage measure and use it to predict profit before taxes.

Aṛtha is undergoing a transition. In April 2020, Prof. Ashok Banerjee stepped down as its Chief Editor. We acknowledge his contribution both as the founding editor and as a prolific author of fifty articles over eight years.

We will celebrate the eight-anniversary of Aṛtha in August 2020. Please send us your article for the anniversary issue (by July 31, 2020), your feedback on this issue, and suggestions for future issues to artha@iimcal.ac.in.

Happy reading!

Sudhir S. Jaiswall

It Takes Two to Tango: The Demand Boost versus Supply Push Conundrum

Arnab Bhattacharya*



Arnab Bhattacharya is an Assistant Professor in the Finance and Control Group at IIM Calcutta. He is B.Tech. (Hons.) in Mechanical Engineering from IIT Kharagpur and MBA from IIM Ahmedabad. He has a Fellowship in Finance and Control Area from IIM Calcutta. Prior to joining IIM Calcutta, he was at IIM Indore as an Assistant Professor. Prior to joining academics, he has worked at UBS Securities as an Associate in the Investment Banking Division, and at Tata-Hitachi Construction Machinery as a Production Engineer in their Assembly Operations Unit.

The world economy is going through an unprecedented crisis today as the Covid19 pandemic is crippling the economic activities of all nations, both developed and emerging ones, and putting both human lives and livelihoods at a significant risk. In India, we witnessed the domestic economy suffer the dual shock of decline in demand and supply as both individuals and corporations got impacted by the stringent lockdown measures adopted by the state and central government during the past 2 months in order to control the spread of Covid19 infections.

The biggest impact of Covid19 to the domestic economy has been felt in the steep decline of private consumption which constitutes 60% of domestic demand, as consumers curtailed their discretionary expenses both as a safeguard mechanism in the prevailing economic uncertainty and associated labour market distresses as well as supply chain disruption issues owing to the lockdown measures initiated by the governments. The economic situation was further worsened by steep declines in the merchandise exports and imports by India. The steep fall in domestic demand during the recent months since the onset of Covid19 infections in India is best captured by the sharp decline in electricity and petroleum product consumptions across both urban and rural areas.

In the given scenario, there is hardly any sector which seems immune to the pain and distress that the broad economy is going through at this moment. In particular, sectors that are dependent on discretionary expenses of consumers such as hotels and restaurants, travel and tourism, real estate and constructions, consumer durables and luxury products appear to be hit particularly hard in terms of a drastic fall in their current and expected revenue and cash flow generations. Only a few sectors which cater to non-discretionary needs of consumers such as pharma and FMCG products and those which are able to provide technology enabled solutions in the prevailing lockdown situations such as internet and mobile based delivery platforms, e-commerce players

and e-learning solution providers appear relatively less impacted or even marginally better off given the sudden shift in nature of demand of consumers.

Given the circumstances, the government and the policy makers are facing the dilemma of whether to focus its immediate attention on boosting consumer demand through fiscal stimulus or take urgent actions to address liquidity related supply concerns from the side of corporations and manufacturers. Proponents of direct demand stimulus measures tend to argue that the impact of Covid19 has been drastic on a huge segment of the population who have either lost their jobs and employment opportunities and facing starvation in the absence of any stable source of income and consequently are forced to migrate with family from work locations to their domicile states for food, security and shelter. Even many among those who may not have lost their jobs yet are also severely curtailing their discretionary expenses fearing an imminent job loss or a salary cut in the impending economic downturn. Hence, a direct boost to the consumer demand through direct cash transfers, subsidy schemes or income tax cuts could be the most effective way to revive the economy and kick start the financial system.

On the other hand, the proponents of supply side measures tend to argue that the financial system is facing acute liquidity distress due to lack of revenue generation opportunities while being stuck with fixed cash outflow obligations such as salary expenses, utility charges, operational obligations as well as near term interest and debt repayment obligations. In the absence of immediate attention and urgent action, the liquidity distress is likely to snowball into mass layoffs, massive defaults on financial and operational obligations and credit rating downgrades with consequent adverse impact on the banking and financial services industry. This in turn is likely to cause a negative feedback effect on the real economy eventually leading to a systemic failure of the entire financial sector.

The recent measures announced and initiated by the government on the monetary and fiscal policy fronts appear to suggest that the government has put higher weight on the liquidity distress related concerns of corporates, Micro, Small and Medium Enterprises (MSMEs) and banking and financial services firms including the Non-Banking Financial Companies (NBFCs), Housing Finance Companies (HFCs) and Micro Finance Institutions (MFIs) to avoid a larger contagion effect that may trigger a collapse of the fragile financial market. However, subsequent initiatives in the coming days are likely to bring the focus of policy measures back to direct demand stimulus actions once the supply chain disruptions are overcome as the lockdown restrictions get relaxed. After all, it takes two to tango!

**The article was received from the author on 30th May, 2020.*

ALUMNI CORNER**Covid-19 impact, will some banks fail?****Balachandran R**

Balachandran R is an alumnus of IIM Calcutta (1987-89) with extensive experience in corporate banking, investment banking and product management.

As the economy reels under the impact of the coronavirus pandemic, banks are bracing themselves for the multiple challenges they face.

Capital adequacy and asset quality

Banks need capital as a buffer for bad loans. The Basel norms require banks to set aside 10.5% of their risk weighted assets as capital including capital conservation buffer of 2.5%, while the Reserve Bank of India mandates a slightly higher figure of 11.5% (end state). Thanks to massive capital infusion into public sector banks by the government through recapitalisation bonds and direct equity after the NPA crisis, most banks were scoring well on this front, pre Covid-19 outbreak.

With the economy just emerging from a prolonged lockdown on account of the pandemic, banks face mounting losses on their exposure to the MSME segment, unsecured consumer loans, weak NBFC's and Micro Finance Institutions, direct lending to the micro finance segment, real estate financing etc. In addition, while most of the hidden skeletons in the large corporate segment surfaced during the last NPA crisis, the large/mid-sized corporate segment could again pose some shocks to banks.

The Reserve Bank of India, in its last Financial Stability Report, had projected bank NPA's to rise to 10.5 % in a severe stress scenario by September 2020. Such a scenario would not have included the current extreme stress faced by the economy, on account of the lockdown. Even with the lockdown being lifted in stages, exporters face ruin on account of cancelled orders, no new order flows and payment defaults for previous shipments. In addition to demand destruction in both the export and domestic segments, supply chain will take a while to come back to normalcy.

To top it all, there has been a humanitarian crisis, with migrant workers stuck in work places far away from home without salaries and living on food handouts. . Despite attempted acts of medieval cruelty by certain states in stopping their transport back home at the urging of the business lobby, a mass reverse migration has taken place

from cities to villages, cutting off a workforce which has sustained manufacturing, service and construction industries.

To provide relief to stressed borrowers reeling under the Covid-19 impact, RBI has permitted banks to provide a three-month moratorium on loan payments, which has been extended by a further period of three months. In line with this, asset classification has been put on standstill during the moratorium period, but with a caveat from RBI that additional provisioning of 10% has to be made for loans under moratorium. Though the moratorium may be justified from the stressed borrowers' perspective, it merely postpones the day of reckoning for banks. While it is difficult to forecast if the pre Covid NPA level of 9.3% will increase by 50%, 100% or more post Covid, it is almost certain that the accompanying provisions will lead to a massive erosion of bank capital. RBI's projected gross NPA figure of 10.5% by September 2020 in a "severe stress" scenario now appears embarrassingly optimistic in the medium term, unless we see a comeback of the "extend and pretend" culture.

With GST collections hit and possible impact on direct taxes too, and rising expenditure requirement to manage the crisis, the government may struggle to find money for fresh public sector bank capital infusion.

The private sector too may find the going tough despite a comfortable capital adequacy position pre covid-19. A capital issue may arise at Yes Bank which is now a quasi PSU bank, and a common problem child for the banking sector with many private sector banks having participated in its recent SBI led rescue. Yes Bank's capital adequacy ratio of 8.5% on 31 March 2020 is way below the regulatory requirement.

While all is quiet on the small finance bank front, this may just be the calm before the storm. Many of them have reinvented themselves from micro finance companies into banks. The well-oiled collection mechanism that the industry had out in place has ground to a halt, significantly denting recoveries. With their borrowers like daily wage earners and self-help groups in a severe crisis, NPA levels and capital requirement may increase. Whether some of their deep pocketed investors will pump in more capital to protect their existing investments, is to be seen.

Liquidity

With RBI reducing Cash reserve Ratio by 1%, multiple long-term repo operations (LTRO, TLTRO 1 and TLTRO 2.0), and huge increase in government borrowing from RBI through ways and means advances, banking system liquidity has zoomed with Rs 8 lakh crore surplus being parked by banks with RBI. Some bankers claim that with the downturn in business of their industrial borrowers, demand for credit has come down.

Small finance banks would have offered moratorium to their borrowers for six months in line with RBI's approval to do so. This would have hurt their collections with consequent impact on liquidity. It is not clear if the liquidity overhang of the banking system in general, extends to small finance banks as well.

Profitability

With both lending and deposit rates drastically down, the jury is out on the pandemic's impact on net profit margins. However, expect many banks to go into the red, on account of increased provisions for bad loans.

Credit growth and risk aversion

The meltdown at Franklin Templeton's debt mutual fund schemes has seen a dramatic flight to safety in the entire segment with investors exiting credit risk funds in droves.

A similar risk aversion at banks will crimp lending and business growth. A classic example, is the near "boycott" by banks of RBI's TLTRO 2.0 auction meant to provide funds to banks at cheap rates to on lend to smaller MFI's/NBFC's. Banks have been in no mood to lend to weak/small entities, to avoid NPA's down the line, preferring the safety of large, well known corporates. The new package for MSME's announced on May 13, addresses this issue to an extent, with the government guaranteeing Rs 3 lakh crore of incremental lending by banks to MSME's. This is a collateral free and seemingly "no questions asked" facility, though details are awaited. Whether the borrowers will pay back loans on such easy terms or will this contingent liability to the government/tax payer fructify down the line, remains to be seen. The US government has been much more forthright in its fiscal package by stating upfront that the loan will be forgiven provided beneficiary businesses don't lay off employees. It is possible that India's fiscal package too may be such a giveaway, though it postpones the issue down the line, when the government's finances are in a better position to absorb the fiscal impact.

RBI has put in place an elaborate early warning system for banks to identify potential NPA's at an early stage. The front-line relationship management staff and risk management teams of banks must be working overtime to identify such accounts, though applying the criteria strictly would see the bulk of their asset book, flagged under the "early warning" category.

Recoveries

The Insolvency and Bankruptcy Code (IBC) has been effectively suspended for a year, with no new cases to be filed for defaults during this period, which will lead to delays in resolution/recoveries. Of more significance, most potential corporate buyers are stressed and in a cash conserving mode, and therefore unlikely to participate in large scale bidding wars for IBC cases, as witnessed during Essar Steel's insolvency process. Recoveries on corporate loans may therefore be muted for the immediate future.

Prognosis: will some banks fail?

Banks face challenges on most of their key performance parameters, capital adequacy, asset quality and earnings. With the recent SBI led rescue of Yes Bank pre covid-19, despite its dismal corporate governance standards and horrendous asset quality, the government seems to be reluctant to allow banks to fail and create panic among depositors through a contagion effect. That said, Yes Bank's peers (i.e. private sector players apart from the big four, HDFC bank, Kotak Mahindra Bank, ICICI Bank and Axis bank) will be closely watched by the financial

markets for signs of stress. Some of their share prices have seen drastic fall and volatility increase in recent times, along with flight of deposits. Even more concerning and therefore meriting careful watch would be the recently launched small finance banks with exposure to some of the most stressed segments of the economy. Their balance sheet size is too small to pose contagion risk like Yes Bank, potentially tempting RBI to give them a pass and let their depositors take the DICGC route, in case they reach the threshold of failure.

A number of corporate bankruptcies in the US including well-known names like Neiman Marcus is already impacting lenders, despite a very large fiscal and monetary support to the economy. Indian banks too have to brace themselves, for a second wave of corporate bankruptcy cases under the Insolvency and Bankruptcy code once its opened up after a year, which unlike the bidding wars seen earlier, may see more liquidations than resolution, unless foreign distressed asset buyers step in.

ALUMNI CORNER

Operational Guide to Covered Call Writing

Varsha V. Pawar



Varsha V. Pawar is an alumna of IIM Calcutta Executive Education (2016-17, EAPAF – Batch XI) and a Chartered Accountant. She has various Finance certifications to her credit over the years. She started her career with Tata Group after completing her CA. She is associated with the Group for approx. 18 years now. She has vast experience in the Treasury and Finance field, varying from Fund management and Fund placement- cash and liquidity, fixed income investments, Fund raising through IPO/ Rights issuances/ private placements/ Borrowings etc. and writing covered calls. She was a core team member for Tata Consultancy Services Limited, IPO in 2004.

This article would help as an operational guide to covered calls. It covers basic concepts which help understand one of the option strategies (a rather complex subject). Further, it covers accounting of covered calls in books of the company and also briefly touches upon the tax treatment.

Normally, covered calls are advised at times when equity markets are high to earn better premium. However, during current situation also one can benefit from writing calls. If one evaluates equity market in the Covid-19 lockdown period, it can be observed, that the markets are devoid of any logic and economics and are more sentiment driven. On 1st Jun 2020, the Nifty50 index rose substantially, reasons “first phase of lifting the lockdown” (Ref news brief on Investing.com).

But unfortunately, markets fail to understand that the manufacturing activities have been shut for past almost 2 months now. One need to evaluate whether the corporate activities, demand, jobs, etc. would support the earnings of the companies to sustain the share price movement on day to day basis.

What are covered calls:

Every corporate holding equity shares would like to have these investments generate additional income than just dividend income. How does one do that – through covered calls. It is an option strategy, where the holder of the stock writes call options (right to purchase the underlying) at a particular strike. The call option is called covered because the writer of the call options holds the stock. Companies should avoid writing calls on stocks which are part of the trade investments, lest the company has to deliver the stock on exercise.

On exercise, the holder will have to deliver the stock at the strike price or if the call expires, the seller of the call option earns the premium. A holder of the call option would exercise the right to buy the stock when the stock price is above the strike. So, the holder is able to buy the stock, in a way at a discounted price.

The income for the writer of an option is the premium earned on the calls written. It is advisable that the charges payable on call writing are well negotiated with the broker.

Various aspects of covered calls:

The holder of the stock sells a call option (popularly known as the writer of the option) which is out of the money (OTM). OTM means the strike price is above the current stock price. An in the money (ITM) call option earns a higher premium than an OTM option.

In the current scenario, it is advisable to write options deep out of the money, to avoid delivery of stock in case of exercise of the option. In case the company has decided to sell a particular at the predetermined price and is also ready to hold the stock for some more time, then the company may write calls at the proposed selling price. This will enable the company to earn the targeted selling price and also earn a little extra income by way of premiums. However, the downside to this is, the calls may be written but the stock price may fall below the intended selling price (till the time open position is held) and the company may lose the intended sale price for the little extra income (premiums).

An ITM call option premium is significantly higher than an OTM call option premium

Illustration: Source NSE 29-5-2020, 3.30 pm

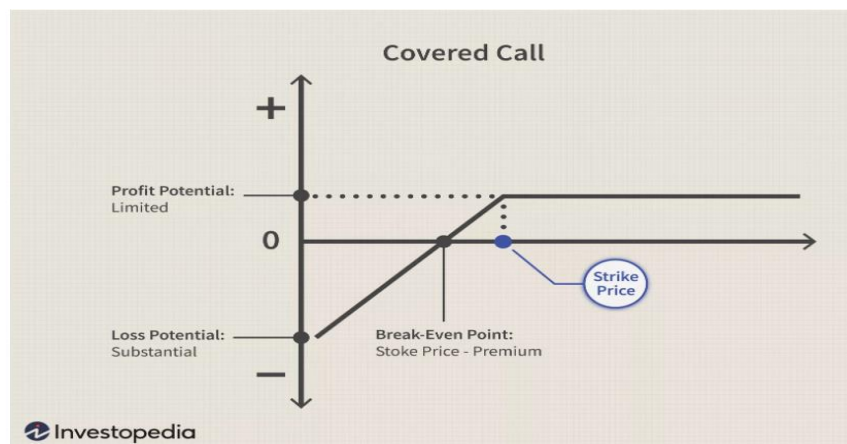
HDFC Limited: Stock price Rs 1667

Jun expiry 1660 strike: Call premium CMP is Rs 71.50

Jun expiry 2000 strike: Call premium CMP is Rs 4.20

At 1660 strike, the option is in the money and hence the premium earned is high, whereas at 2000 strike it is deep OTM, hence the premium earned is a very small amount.

Payoff of a covered call



(Source: Investopedia)

One may now analyse, the profit/ loss under various scenarios with movement in stock price.

Profit or loss under various scenarios:

Particulars	Price	Premium Amount
Stock Price	100	
Sell Call Strike	110	5
Profit/loss under various scenarios		
Stock Price	Sell Call	
80	5	
100	5	
105	5	
110	5	
111	4	
112	3	
113	2	
114	1	
115	0	
116	-1	
120	-5	
130	-15	
150	-35	

One can evaluate from the above, if the strike is 110, so long as the stock price is below the strike price there is no change in the premium earned. Stock price at 115 acts as the break-even point, i.e., (strike + premium earned), any movement above this level, the writer starts making loss.

How is the premium decided on call option:

The most popular model - the Black Scholes pricing model is used to determine the premium on a call. It is advisable to check the premium before writing call options, lest the writer is caught on the wrong foot.

Call premium is a function of underlying stock price, the date of writing the calls, days to expiry, the volatility, risk free rate of return and the strike. All inputs are easily available on the NSE website.

Option Chain (Equity Derivatives)

Underlying Stock: **HDFC 1817.00** As on Jun 02, 2020 15:30:30 IST View Options Contracts for: OR Search for an underlying stock: Filter by: Expiry Date [Futures contracts](#)

CALLS													PUTS									
Chart	OI	Chng in OI	Volume	IV	LTP	Net Chng	Bid Qty	Bid Price	Ask Price	Ask Qty	Strike Price	Bid Qty	Bid Price	Ask Price	Ask Qty	Net Chng	LTP	IV	Volume	Chng in OI	OI	Chart
	220,000	31,750	1,895	41.71	46.95	24.30	250	45.05	46.50	250	1900.00	1,250	121.80	138.70	5,750	-51.25	130.75	49.00	23	500	14,750	
	-	-	-	-	-	-	250	36.30	43.30	250	1920.00	1,500	138.05	157.65	2,750	-	-	-	-	-	-	
	2,000	2,000	9	36.50	26.80	-28.90	3,750	29.70	40.55	4,000	1940.00	2,000	151.60	169.05	2,750	-	-	-	-	-	-	
	10,500	7,750	100	39.54	29.00	12.80	1,750	29.50	32.50	500	1950.00	2,750	153.80	176.10	2,750	-	-	-	-	-	-	

Source: NSE

Writing calls when the volatility is high helps to earn a higher premium.

Call writing process can be divided into 3 stages

Prior to writing calls, holding the open position and closing an open position

Prior to writing calls -

- If the intent of writing a call option is to earn a little additional income on the stocks held, then one may write the calls with a strike of around 10% - 15% above the current market price. This may not hold true in the current scenario where one may witness huge volatility in the stock. The safest option would be to write calls deep OTM, though the premium is low, the chances of delivery of stock are bleak. This will help only when the quantity of calls written is large at that particular strike and premium.
- However, in the current scenario also the option writer has huge opportunity to write premiums and square up positions in a day or so also.
- Typically, in a normal market scenario, option writer may check the 52-week high-low and 3 months high-low. It would decide the optimal entry level depending upon the market trend, sector and stock specific news, 52-week/3-month high-low.
- Avoid writing calls at low.
- It helps to check the liquidity at the intended strike and then take open positions.
- Ideally, the one may prefer writing calls where the current market price is above the cost price, but this would be considering the market situations at a given point of time.
- Strikes with higher Implied volatility (IV) fetch higher premiums. Corporate announcements as these also affect IV.

Carrying an open position

It can be quite stressful when you are carrying an open position, post writing the call the stock price rises and suddenly you would realize, one is carrying a market to market loss (MTM).

Let's analyse: Pidilite Industries Limited

Stock price as on 2.6.2020 4.00 pm Rs 1493.95

Last 7 days historical data

View historical price data: For past: 7 Days [More than 3 months Data? Click Here](#)

[Get Data](#)

[Download file in csv format](#)

Date	Symbol	Series	Open	High	Low	LTP	Close	Volume	Turnover (in Lakhs)
02-Jun-2020	PIDILITIND	EQ	1,483.70	1,510.00	1,471.80	1493.95	1,490.80	7,31,527	10,941.77
01-Jun-2020	PIDILITIND	EQ	1,488.00	1,504.00	1,466.45	1475.00	1,473.15	9,24,436	13,758.35
29-May-2020	PIDILITIND	EQ	1,426.00	1,485.85	1,417.40	1469.00	1,468.40	15,74,181	22,807.12
28-May-2020	PIDILITIND	EQ	1,406.00	1,434.95	1,402.80	1432.00	1,425.35	9,15,640	13,006.96
27-May-2020	PIDILITIND	EQ	1,406.55	1,427.85	1,395.00	1402.45	1,402.80	5,71,770	8,079.59
26-May-2020	PIDILITIND	EQ	1,405.00	1,439.00	1,400.50	1402.00	1,412.45	7,93,658	11,283.33

Now if the writer has written a call on 29th May 2020, in the morning when the price is Rs 1426, the position is in a loss as of 2nd June 2020 (within 4 days).

Let us analyse call option movement:

Quote As on Jun 02, 2020 15:30:30 IST [Get Underlying Quote](#) | [Option Chain](#)

Pidilite Industries Limited - PIDILITIND

Index Derivatives Stock Derivatives Currency

Instrument Type: Symbol: Expiry Date: Option Type: Strike Price: [Get Data](#)

	Prev. Close	Open	High	Low	Close
46.10 ▲ 4.05 9.63%	42.05	42.35	60.00	42.25	48.15

Fundamentals | **Historical Data**

Historical price data for PIDILITIND-FO for the last week [Download this data](#)

High Low [For more Details Click Here](#)

View historical price data: For past: 7 Days [Get Data](#)

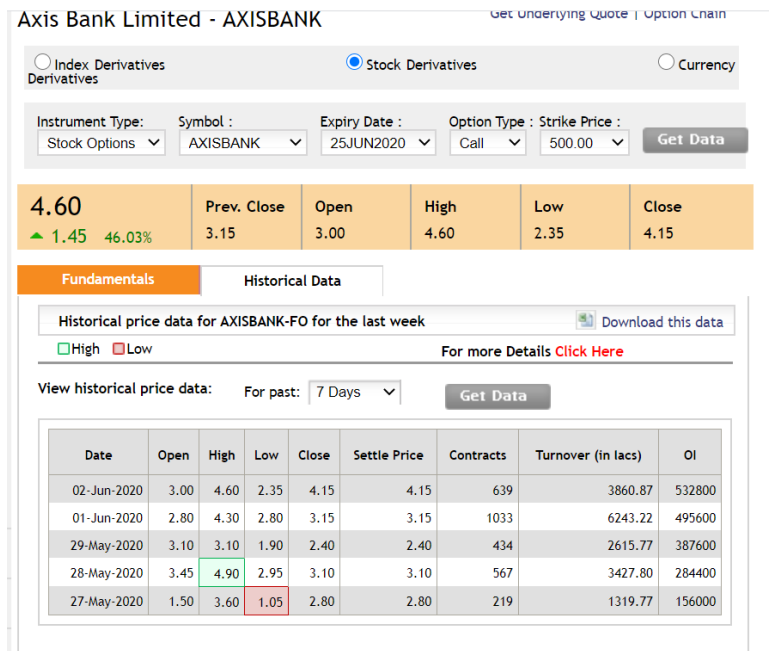
Date	Open	High	Low	Close	Settle Price	Contracts	Turnover (in lacs)	OI
02-Jun-2020	42.35	60.00	42.25	48.15	48.15	342	2657.70	133500
01-Jun-2020	41.50	51.00	39.40	42.05	42.05	643	4970.44	132000
29-May-2020	34.00	38.70	30.10	37.05	37.05	557	4275.89	127500
28-May-2020	24.95	34.50	24.20	31.60	31.60	41	313.63	12500
27-May-2020	30.35	31.00	25.70	25.70	36.80	6	45.89	3500

Strike 1500; June expiry.

Premium received on 28th May around Rs 24.95, the current market price of the same call in 3 days is Rs 60. Why did this happen, Nifty rose, and the underlying stock price moved from 1426 to 1493?

It is necessary to continuously monitor of the stock price and premium movement. Though the above share movement didn't give any opportunity to curtail loss on the 1500 strike Pidilite Industries.

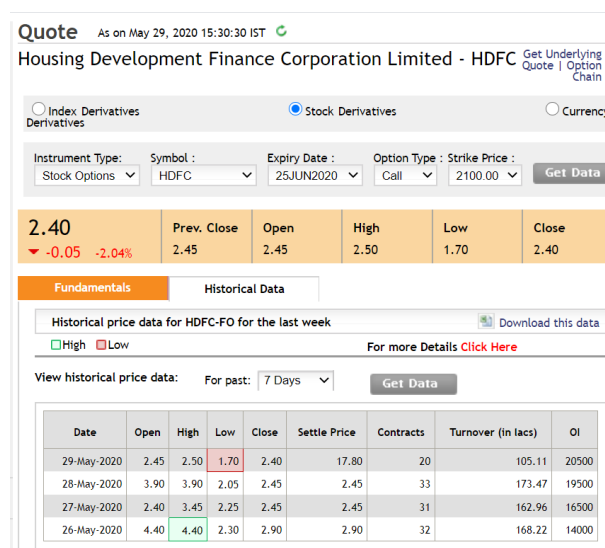
Now let us do the analysis of Axis Bank 500 call June expiry:



Source: NSE website

Axis bank 500 strike gave the writer to square the open position written on 28th May at two instances, one on 29th May 2020 at a premium of 1.90 and on 2nd Jun 2020 at a premium of Rs 2.35. Thus, there was phenomenal gains to be made in a day's time or even over 3 days.

Now let us evaluate HDFC Limited



(NSE extracts) 29th May 2020

HDFC Limited: Strike 2100
 CMP on 26th May 2020, Rs 4.40
 CMP on 29th May 2020, Rs 1.70

Date of writing	Expiry	Strike	Qty written	Prem recd pu	Total prem
26-05-2020	25-Jun-20	2100	5,00,000	4.4	22,00,000
29-05-2020	25-Jun-20	2100	5,00,000	-1.7	-8,50,000
		Net profit		2.7	13,50,000
		Profit % , in 4 day period			61%

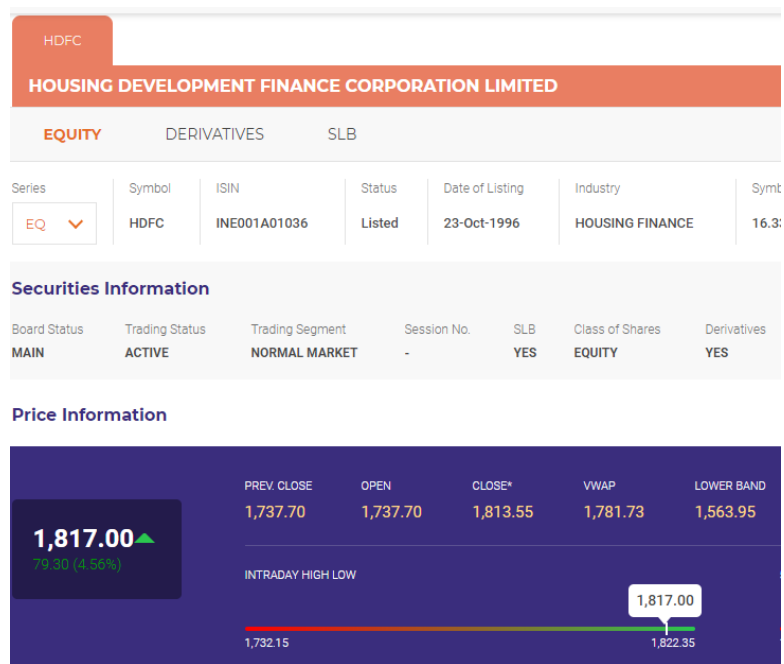
The writer would have to wait through the remaining time (till expiry) to achieve the balance 40% profit potential. While we are discussing the opportunities to close out earlier, one should not forget that the stock may fall further, and the call writer is giving up some profits.

The above takes us to the next step in call writing, while carrying an open position

- After the calls are written, it is very important to continuously monitor of the stock price and premium movement. Writer is the best judge whether he can square at 25%, 40% or even wait till 90%.

How does he do this – in a normal scenario watch underlying share price movement.

During the Covid-19 lockdown period, the above rule may not help as the stocks are witnessing intraday movement is as large as 5%, watch HDFC Limited on 2nd Jun 2020



(Source: NSE website)

- If a particular open position reaches in the money, the call writer may rollover the position at the same/higher strike, else may also decide the delivery in situations when the strike price meets his expected sale price.

How does the writer exit the open position:

- Call expires: If the stock price has remained at the same level, the writer may let the open position expire. The call expires with nil value. This generally works well in case of PSU stocks.
- Call is exercised and stock is delivered (i.e. fulfil the obligation on the call): In this case the writer initially gets the premium. Further on expiry, the writer receives (Stock price * number of calls written). It helps to hold the underlying in the same demat account through which calls are written. This saves on last minute rush.
- Square up the position: This will help if the writer wishes to hold the stock and not deliver it. Here the writer buys back the call, when he does not intend deliver the stock. Here there are chances where the writer has to buyback the call at huge premium and book a loss.
- Rolling out calls: This involves a rollout of the call to the next month at the same strike price. "Rolling out" refers to the process of closing the open position and selling a new call with the same strike in a subsequent month. Alternatively, one can Rollout to the next month and move the strike up or down. One can also close out early to avoid earnings volatility.

Track earnings announcement date. Track the stock price just say 4 to 6 days before Earnings announcement date

Accounting Entries for covered calls in case of call writer (a company)

- When the option is squared off

A. Bank

To Derivative liability

(When the covered call is sold, entry for premium received)

B. Derivative liability

To Bank

To P&L

(When the covered call is bought, entry for premium paid)

Net of A and B is the income to the call writer.

- **When option is sold, and the stock is physically delivered on expiry**

A. Bank

To Derivative liability

(When the covered call is sold, entry for premium received)

B. Bank (Strike price * number of options written)

To Investment

To Other Comprehensive income

(When the shares are physically delivered).

C. Derivative liability

To Option income

(Recognising the income and writing off the liability, which was created when the option was sold)

At end of each quarter, the liability is marked to mark to recognise the gain or loss on options written

Tax implications

As mentioned above, the overall profit/ (loss) of the writer will comprise of premium income earned by the writer for writing the call option and gain/ (loss) arising on settlement where the call option is exercised by the Option Holder, i.e., there will be two specific events viz. creation of a call option and subsequent settlement thereof.

The net income would be grouped as business income:

- As per section 28(i) of the Income Tax Act, profits and gains of any 'business' shall be chargeable to income-tax as business income.
- Section 2(13) of the Income Tax Act defines the term 'business' to includes any trade, commerce or manufacture or any 'adventure or concern' in the nature of trade, commerce or manufacture.

To summarise, covered calls can be a good strategy to make equity shares held in the portfolio, earn an extra income (along with dividends). Further large holdings held, and calls written against 75% of the holding would also fetch decent premiums. It is also about quantum of calls written.

+ All share price data is from NSE website
 + News references are from Investing.com
 + Charts are from investopedia.com

Leverage to Profit

Sudhir S. Jaiswall



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This article describes how to use the degree of total leverage (DTL) to forecast earnings. Although both DTL and forecasted earnings are accounting constructs, they get covered under different fields of accounting in the MBA curriculum. DTL is a useful concept in Cost, Volume, and Profit (CVP) analysis, which is covered in Managerial Accounting. Forecasting of earnings is an essential outcome of Financial Statement Analysis, and forecasted earnings are an integral input in valuation. Often, the learnings from managerial accounting are kept aside while doing financial statement analysis, generating earnings forecast, and valuing a firm, which happens because of a lack of exposure to how various fields of accounting are related. This short article aims to bridge this gap and remind forecasters how they can use the CVP analysis insights in forecasting profits.

An essential assumption of CVP analysis is that only the quantity of output can change in the short run. Thus, total fixed costs would remain the same within a relevant range, whereas variable costs would change as output quantity changes. This assumption allows us to plot the amount of revenue, cost, and profit (on the y-axis) for various levels of sales quantity (on the x-axis). In this graph, the slope of the profit line is constant and represents contribution per unit.

The concept of contribution is fundamental to CVP analysis and represents the amount provided by sales (after paying for variable costs) to cover the fixed costs of a firm. When contribution and fixed costs (both operating and financial) are equal, the firm breaks even. When the contribution is less than the fixed costs, the firm has incurred a loss. By contrast, when the contribution exceeds the fixed costs, a firm generates a profit (before taxes). It is mainly the operating and financial fixed costs and non-operating incomes that separates profit from contribution. The higher the total fixed cost, the lower is the profit holding everything else constant. A firm's business model and its operating, investing, and financial decisions affect fixed costs.

The degree of total leverage (DTL) measures the percent change in profit before taxes (PBT) for a one-percent change in contribution. Contribution varies directly with sales revenue given the constant selling price and unit variable cost assumptions in CVP analysis. Therefore, we can also say that DTL measures the percent

change in PBT for a 1 percent change in sales revenue. Consequently, DTL is a summary statistic to showcase how profits will fluctuate with sales. It highlights the risks to profitability inherent in a firm's business model.

To compute DTL, we take the ratio of two performance measures: contribution and PBT. Thus, using the contribution and PBT, we can obtain the DTL. Furthermore, using the PBT for the current year (for example, 2018) and the predicted DTL and revenue growth rate for the next year (2019), we can predict the PBT in the following year (2019).

An important question is how to estimate DTL for Indian companies using their reported Statement of Profit and Loss (Income Statement) and its notes/schedules. The issue is vital because income statements disclose PBT but not report contribution. Whether in India or elsewhere, companies do not separately disclose variable and fixed costs in their publicly available financial reports. That is why it is necessary to scrutinize items in a company's Income Statement and notes to ascertain which expenses are likely to be variable and what proportion of their total is genuinely variable.¹ Once we have measured total variable cost, we can deduct it from net sales/service revenue (revenue from operations in the examples that follow in this article) to ascertain contribution. With the estimated Contribution and the reported PBT, we can compute DTL.

I illustrate the estimation of Variable Cost, Contribution, and Degree of Total Leverage first and after that, the forecasting of PBT using the information in standalone Income Statement (included in annual reports available on the website of respective companies) for four financial years (2016 through 2019) of two companies: SAIL and Hindalco.² It is essential to scrutinize the items included under Expenses on the standalone Income Statement and those under the note for Other Expenses (in the 2019 annual report) to identify which ones are variable costs.

SAIL's 2019 Income statement and Note 40 have nine items that appear more likely to be variable costs. Three are on the Income Statement: Cost of material consumed, Changes in inventories of finished goods (FG) and work in progress (WIP), and Excise duty.³ The rest are in Note 40 (the 2019 Other Expenses): Power & fuel, Freight outward, Handling expenses for raw material & scrap recovery, Handling expenses for finished goods, Conversion charges, and Commission to selling agents.

¹ To keep the article focused on the use of DTL to forecast earnings, I assume that an expense is either fully variable or fully fixed, i.e. I do not segregate the variable and fixed components of an item of expense in this article although such a separation is vital to enhance accuracy. Furthermore, I do not incorporate trends in variable cost and fixed cost to adjust DTL, which would enhance the accuracy of forecasted earnings. I would do so in a future article.

² I could have also used the figures in their consolidated financial statements. I avoid using 2015 or a prior year data because from the fiscal year 2016 onwards companies started reporting as per the new Companies Act format. Using 2016 onwards data keeps things simple enough to allow us to focus on the topic of assessing DTL and forecasting PBT, and thereby avoids addressing harmonization issues.

³ Note that Excise duty has been abolished and has declined to zero value in 2019. Furthermore, although not truly variable, changes in finished goods, work in progress, and stock-in-trade inventory are included as variable costs. The reason is that the change in these inventories are used to determine cost of goods sold, which does not appear on income statements of Indian companies but varies with sales/service revenue.

SAIL Variable Cost: Rs. crore	2016	2017	2018	2019
Cost of materials consumed	17,155	21,126	26,679	32,291
Changes in inventories of FG & WIP	541	121	1,135	(2,717)
Excise Duty	4,823	5,315	1,404	0
Power and fuel	5,334	5,234	5,810	6,053
Freight outward	1,131	1,162	2,242	2,611
Handling expenses	633	626	708	813
Handling expenses - FG	181	157	186	174
Conversion charges	413	454	306	306
Commission to selling agents	7	7	7	14
Total Variable Costs (Estimated)	30,218	34,202	38,477	39,546

Similarly, from Hindalco's 2019 Income statement and Note 40, I compute variable costs using eight items. Of these, four are on the Income Statement: Cost of material consumed, Purchase of Stock-in-Trade, Changes in inventories of finished goods and work in progress, and Excise duty. The rest are in Note 35 (the 2019 Other Expenses): Power & fuel, Freight & forwarding, Cost of own manufactured products capitalized/used, and Premium for coal extraction.

Hindalco Variable Cost: Rs. crore	2016	2017	2018	2019
Cost of materials consumed	19,209	21,018	25,408	27,247
Purchases of Stock-in-Trade (SIT)	1	89	5	235
Changes in Inventories of FG, WIP, & SIT	192	(1,100)	(419)	(382)
Excise Duty	2,442	2,447	637	0
Power and Fuel	6,508	5,899	6,000	6,937
Freight & Forwarding	607	720	774	872
Cost of Own Manufactured Products Capitalized/ Used	(23)	(21)	(29)	(60)
Premium on Coal Extraction	21	661	761	747
Total Variable Costs (Estimated)	28,958	29,713	33,137	35,596

Now that we have estimated variable costs, we can proceed to determine the contribution and Degree of Total Leverage (DTL). For SAIL, DTL fluctuates between -27.0 and 8.2. Given that the PBT is negative in the first three years, DTL is also negative. For example, the DTL is -1.9 in 2016, which indicates that loss will *decrease* (or profits will increase) by 1.9% for every 1% increase in revenue from operations. Thus, if the revenue from operations were to increase by 13.4% between 2016 and 2017, loss before taxes would be expected to decline by 25.46% [= $-1.9 \times 13.4\%$]. By contrast, Hindalco's DTL is positive and relatively stable, ranging between 4.5 and 11.6. Thus, if Hindalco's revenue from operations were to increase by 10.3% between 2017 and 2018, its profit before taxes would be expected to rise by 46.35% [= $4.5 \times 10.3\%$].

SAIL: Rs. crore (except DTL)	2016	2017	2018	2019
Revenue from Operations (Reported)	43,875	49,767	58,962	66,967
Less Total Variable Costs (Estimated)	30,218	34,202	38,477	39,546
Contribution (Estimated) [A]	13,657	15,565	20,485	27,422
Profit Before Taxes (Reported) [B]	(7,008)	(4,851)	(759)	3,338
Degree of Total Leverage [C] [=A/B]	-1.9	-3.2	-27.0	8.2
Hindalco: Rs. crore (except DTL)	2016	2017	2018	2019
Revenue from Operations (Reported)	36,713	39,383	43,446	45,749
Less Total Variable Costs (Estimated)	28,958	29,713	33,137	35,596
Contribution (Estimated) [A]	7,756	9,670	10,309	10,153
Profit Before Taxes (Reported) [B]	651	2,153	2,229	1,810
Degree of Total Leverage [C] [=A/B]	11.9	4.5	4.6	5.6

Now, I illustrate how to forecast PBT using DTL. For this purpose, the forecasted growth rate (in revenue from operations) that I have used is the same as the actual growth rate (to ensure that any difference in predicted & actual PBT is due to DTL and not due to a variation in sales growth rate). Note that the forecasted and the reported PBT, both have the same sign for SAIL and Hindalco in all three years. For 2019, SAIL's forecasted PBT is 2,022 as against its reported PBT of 3,338, whereas Hindalco's is 2,775 as against the reported 1,810. The deviation between forecasted and actual PBT is significant. Still, we can reduce the difference by estimating the variable portion of each expense (rather than assuming that the costs used to compute total variable cost are 100% variable, as noted previously).

SAIL: PBT in Rs. crore	2016	2017	2018	2019
Estimated DTL [D]	-1.9	-3.2	-27.0	8.2
Year-on-year % Change in reported Revenue from Operations [E]	-	13.4%	18.5%	13.6%
Reported PBT [F]	(7,008)	(4,851)	(759)	3,338
Forecasted PBT [G]	-	(5,224)	(1,979)	2,028
Hindalco: PBT in Rs. crore	2016	2017	2018	2019
Estimated DTL [D]	11.9	4.5	4.6	5.6
Year-on-year % Change in reported Revenue from Operations [E]	-	7.3%	10.3%	5.3%
Reported PBT [F]	651	2,153	2,229	1,810
Forecasted PBT [G]	-	1,216	3,151	2,772

Note: Forecasted PBT = last year F * (1 + current year D * current year E); in 2019, Hindalco's Forecasted PBT 2772 $\approx 2772.4302 = 2229 \text{ PBT} * (1 + 4.6 \text{ DTL} * 5.3\% \Delta \text{ Sales})$

There is an alternate approach to obtaining DTL by dividing the percent change in profits by the percent change in revenue (PBT and revenue from operations here; alternatively, one can use PAT and sales/service revenue). The following tables illustrate the computation of DTL using this alternate approach and its use in predicting PBT.

SAIL: PBT in Rs. crore	2016	2017	2018	2019
% Change in reported PBT	-397.1%	30.8%	84.4%	539.8%
% Change in reported Revenue from Operations	-4.1%	13.4%	18.5%	13.6%
Estimated DTL using alternate approach [H]	97.9	2.3	4.6	39.8
Forecasted PBT using H, above	-	(98,921)	(6,908)	(1,230)
Estimated DTL [D], as obtained previously	-1.9	-3.2	-27.0	8.2
Forecasted PBT using D, as obtained previously	-	(5,224)	(1,979)	2,028
Reported PBT	(7,008)	(4,851)	(759)	3,338
Forecast Error for PBT forecasted using H	-	1939%	810%	-137%
Forecast Error for PBT forecasted using D	-	8%	161%	-39%

Hindalco: PBT in Rs. crore	2016	2017	2018	2019
% Change in reported PBT	-47.8%	230.9%	3.5%	-18.8%
% Change in reported Revenue from Operations	-0.4%	7.3%	10.3%	5.3%
Estimated DTL using alternate approach [H]	112.9	31.7	0.3	(3.5)
Forecasted PBT using H, above	-	6,013	9,193	2,269
Estimated DTL [D], as obtained previously	11.9	4.5	4.6	5.6
Forecasted PBT using D, as obtained previously	-	1,216	3,151	2,772
Reported PBT	651	2,153	2,229	1,810
Forecast Error for PBT forecasted using H	-	179%	312%	25%
Forecast Error for PBT forecasted using D	-	-44%	41%	53%

% Change in reported PBT = (Current year's reported PBT – Previous year's reported PBT) ÷ Absolute value of previous year's PBT; Forecast Error for PBT = (Forecasted PBT – Actual PBT) ÷ Actual PBT

We also note that the DTL computed using the alternate approach varies considerably and takes extreme values, which causes SAIL's actual PBT to be farther from forecasted PBT in all three years (two out of three years in the case of Hindalco). The magnitude of forecast error is overall higher with DTL obtained using the alternate approach than DTL computed using contribution and PBT. Therefore, relative to the alternative method, the latter does a better job.

To summarize, DTL is a summary statistic to assess how profits will fluctuate with sales. This article lays out the case for forecasting profits (before taxes) using the degree of total leverage (DTL). It shows how to compute the required inputs for DTL and forecast PBT utilizing the information contained in an Indian company's reported Income Statements and its notes. Analysts should apply their understanding of the relationship between Cost, Volume, and Profits in generating earnings forecast. By carefully segregating the fixed and variable components of each item of expense, they can achieve much higher forecast accuracy.
