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**Developing the Securities Lending and Borrowing Market
in India**

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Abstract

This paper examines the securities lending and borrowing market (SLBM) in India in order to understand its deficiencies and the possible areas for improvement. The securities lending market is a crucial piece in any securities market system. In India, however, the securities lending market has been conspicuous by its absence for a long time. This paper looks at the SLBM from various perspectives to understand what changes could foster a stronger SLBM. The paper also compares the SLBM across other successful securities markets around the world. The comparison and other analysis suggest that the SLBM in India has a huge scope of growth. Certain features can be modified to make SLBM more attractive for participants.

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Developing the Securities Lending and Borrowing Market in India

I. Introduction

The securities lending market is a market where a participant can borrow a security or lend a security to fulfil his/her obligations. It is a facilitating tool for secondary trading in securities. It increases the efficiency of the securities market by providing participants who do not own securities an avenue to get hold of securities. Securities can be borrowed for various reasons, such as the smoothening of settlement or short selling. The initial motivation for the development of securities lending markets was to support the delivery of securities. Over time, it has been used for executing short positions in the market. Due to the demand for borrowing of securities, investors can derive additional income on certain portfolios, which has further boosted activity in this market.

Securities lending is an activity regulated by securities regulators across the world; the features of the securities lending market varies from economy to economy, based on the need of the market, and also on regulatory control. Internationally, securities lending is an over-the-counter (OTC) activity, and therefore, no clear market size can be estimated. However, according to a study conducted in 2007, the global balance of securities on loan exceeded USD 1.5 trillion (Faulkner & King, 2005).

In India, the securities lending market is known as the securities lending and borrowing market (SLBM). For the purpose of this paper, the terms SLBM and securities lending market are used synonymously. The underlying securities market is designated as cash market.

The securities lending market has been considered a vital part of securities markets in India, given its immense utility (Varma, 2004; IOSCO, 2009; SEBI, 2005). The SLBM helps the securities market attain efficiency, liquidity, and stability. The SLBM has mainly been used for shorting securities in the cash market, settling open short positions, and arbitrage between cash and derivatives. Other minor uses include acquiring voting rights and doing tax arbitrage. Details of the uses of the SLBM are provided in Appendix I. A detailed example of the functioning of arbitrage trade in the Indian context is included in Appendix II.

The aim of this paper is to identify an ideal environment that would constructively boost the SLBM in India. Given the differences in market structure in India and in other international economies, it may not make sense to blindly follow some other economy's SLBM structure. The current status of the Indian SBLM has to be critically analysed on a standalone basis as well as on a comparative basis with other countries. Section II of this paper briefly describes the current SLBM setup in India. Section III presents a critical analysis of the current market in terms of its structure, volumes, and linkages with other markets (viz., the underlying securities market and the derivatives market). Section IV includes a comparative analysis of the Indian SLBM with the securities lending markets in other countries where the market has been a success. In Section V, recommendations are made to the various stakeholders regarding the changes that can be effected in the Indian context in order to make the SLBM a more vibrant market.

II. Indian SLB Market

A. History

The securities lending and borrowing market (SLBM) in India was introduced in its current form by the National Securities Clearing Corporation Ltd (NSCCL) on April 21, 2008. The NSCCL acted as an Approved Intermediary, and the framework was introduced by the Securities Exchanges Board of India (SEBI). Trading was done on price/time priority basis. Lenders and borrowers put their ask and bid rates in the platform, and the best match was executed.

Since trading on this platform did not pick up, the SEBI changed its framework to enhance the volumes in the SLBM. The first amendment was introduced in October 2008. This incorporated two key changes—the borrowing and lending tenure was extended to 30 days from seven days, and trading hours were extended from one hour to normal trading hours. This amendment was introduced to account for corporate actions such as dividends and stock split. Prior to the amendment, trading on the SLBM was not allowed when corporate actions were taking place. However, even after the amendments, the volumes in the SLBM did not pick up and remained below expectations.

On January 6, 2010, the SEBI once again came up with new guidelines to infuse life into the SLBM, as it had failed to attract participants. Despite the existence of the SLBM, people continued to take short positions only in the derivatives market. This was the SEBI's third attempt to enhance liquidity in the

SLBM (first two attempts being introduction of SLBM in April 2008 and amendments in October 2008). The significant changes included:

- Tenure of the SLBM contracts was extended up to a maximum of 12 months.
- Early recall and repayment were allowed. Guidelines on how early recall and repayments should work were incorporated.
- Margin obligation management guidelines were introduced.

A detailed description of the current contract specification is given in Appendix III.

Next, we discuss the current features of the SLBM in India.

B. Current Product Features

Currently, only exchange-traded SLBM is allowed in India. It is important to understand the salient features of the current market before we critically analyse the SLBM in the next section.

- **Eligible securities:** All the securities listed in the Futures & Options (F&O) segment can be traded in the SLBM. Each security has 12 series, each corresponding to a month of the year.¹
- **Trading:** Since the SLBM in India is exchange-traded, the electronic platforms of the exchange can be used for trade matching. Currently, an automated screen-based trading platform with online matching of trades based on price/time priority is used by the National Stock Exchange of India (NSE) and the Bombay Stock Exchange (BSE). Some countries have an OTC market for SLB that is meant for institutional investors, in addition to the exchange-traded SLB.
- **Tenure:** The tenure of lending and borrowing is for a period up to 12 months. The exchange determines the stock return date (also called the reverse leg date). On the NSE, the reverse leg date is the first Thursday of every month. This feature is again in line with the arbitrage trades between cash and exchange-traded futures.
- **Early recall:** A facility for placing an early recall request for the securities lent is provided to the lender. A lender can put in a request for an early recall order to get his/her security back in the SLBM. The lender can ask for a full or a partial recall of the lent quantity, specifying how much lending fee he is willing to forgo for the remaining period. When a match is found, the lender is given back his securities. During the process of matching, priority is given to the

¹ The list of eligible securities are provided on the Website of the National Stock Exchange (http://www.nseindia.com/content/slbs/slb_elg_sec.csv).

original borrowers who want to repay their securities in advance. If a match is not found, early recall is not guaranteed.

- **Early repayment:** There is a facility for the borrower to make an early repayment of the borrowed securities. A borrower can put in an early return order in the SLBM. He/she has to enter the specification of the contract, the lending fee, and the number of shares that are to be repaid. The orders are then matched and the lent shares are taken back. During the process of matching, an original lender who wishes to recall his/her securities is given priority. Successful execution cancels the original borrowing position, and the collateral and the margin are returned.
- **Collateral:** The exchange takes collateral from the borrower to protect itself from any defaults on the part of the borrower. On the NSE, the collateral collected is 100% of the value of the securities being borrowed as at the previous day's closing. The collateral does not change over the period of the contract. The collateral can be either cash or cash equivalents (i.e., fixed deposits and bank guarantees). This is a constraint for some players who prefer to give securities as collateral. The collateral has to be posted on T+1 day (one business day after the transaction).
- **Margin for lender:** The margin is the amount taken by the exchange from both the parties involved in order to mitigate the risk of default. On the day of the transaction, the lender puts in 25% of the value of the underlying security as margin. This margin is returned to the lender on T+1 day if he/she delivers the stock.
- **Margin for borrower:** Apart from the collateral, the borrower has to post a margin as well. This margin is intended to protect the exchange from any adverse movements in the underlying price and any defaults. The margin consists of the Value at Risk margin, the Extreme Loss Margin, and the Mark to Market margin. These margins are similar to those applicable in the capital market. The mark to market margin depends on the movement of the underlying security. The margins are collected at the gross open position level of the participant, and they are adjusted against his/her collateral. The minimum margin requirement would be 12.5% (7.5% for VaR, and 5% for extreme loss).² In reality, the margins can be much higher. The average margin for securities in the SLB segment could be around 30%.

² Source: Risk Management for SLBM, <http://www.nseindia.com/products/content/equities/equities/margins.htm>

It can be observed that most of the features of the SLBM are quite conducive to arbitrage between cash and futures. Arbitrage is one of the purposes for which SLB is used internationally. The other important utilities include:

1. Short selling securities with a view that the price would go down;
2. Helping trade settlements (for open short positions and also for option assignments);
3. Other minor purposes, such as dividend stripping, voting rights, etc.

Hence, while having SLB as a tool for arbitrage is necessary, the scope for the use of SLB can be much bigger. This can happen when the SLB market is conducive for short sellers and liquidity providers.

Given the sophisticated nature of the securities lending market, understanding the market requires familiarity with several key terminologies. A detailed description of the terminologies involved in the discussions of the securities lending market is given in Appendix I.

Next, the regulatory aspects pertaining to the SLBM in the Indian context are discussed.

C. Regulatory Aspects

Market Participants

The regulations related to participation in the SLBM can be divided into regulations on lending and regulations on borrowing.

- The Securities Exchanges Board of India (SEBI) allows all retail, high-net-worth individuals (HNI), banks, Foreign Institutional Investors (FIIs), and brokers to borrow and lend securities.
- Mutual funds can only lend securities in the SLB market, and only up to a certain proportion of their total assets under management (AUM).
- The SEBI allows insurance companies to act as lenders in the market. The trading activities of insurance companies are also regulated by the Insurance Regulatory and Development Authority (IRDA). Regulatory ambiguities from the IRDA might have kept insurance companies away from the market (Rukhaiyar & Shah, 2011).
- Similarly, the trading activities of banks are also regulated by the Reserve Bank of India (RBI).

Position Limits on different Categories of Investors and Stocks³

The SEBI has imposed position limits on various participants and clients. The position limits are set at market-wide levels and individual levels:

- Market-wide limit: The market-wide position limits for SLB transactions is set at 10% of the free-float capitalisation on the security in terms of the number of shares.
- Participant limit: No participant should have an open position of more than 10% of the market-wide position limits or INR 50 crore (base value), whichever is lower.
- Special restrictions: For an FII/mutual fund, the position limits are the same as those for a participant.
- Client limit: The client-level position limits should not be more than 1% of the market-wide position limits.

No position limits are applicable to early recall/repayment transactions. However, position limits are applicable to the original transaction until the successful settlement of the early recall/repayment transaction.

Taxation

There are no clear guidelines on taxation for the income gained and expenses incurred from SLBM transactions. However, as per the clarification from the Income Tax Department of India, the transactions done in the SLBM shall not be regarded as transfer.⁴ Currently, there are no transaction charges or securities transaction tax levied on SLB transactions.

In the following section, various aspects of the Indian SLB market are analysed.

III. Critical Analysis of Indian SLB Market

A. Current Market Structure and Arbitrage

The following features highlight the fact that the current market structure is very much in tune with the requirements of arbitragers:

1. The SLB market is allowed only for securities with F&O

³Details of the Risk Management of Securities Lending and Borrowing Scheme are available on NSE's Website (http://www.nseindia.com/products/content/equities/slbs/risk_management.htm).

⁴ For further details, please refer Circular No. 2/2008, dated 22-2-2008 of the Income Tax Department of India.

2. The SLBM delivery cycle is matched to the cycle of the futures market
3. The option of early recall for lenders, although available, may not necessarily help the lender when the market is not liquid
4. Due to the holding period and low liquidity constraints, short selling is still easier in derivatives than through SLB.
5. On the borrowing side, the product is also marketed towards proprietary trading groups, who are more interested in arbitrage than in expressing short views.
6. Automatic borrowing facility is not available; thus, the SLBM may not be used for covering open short positions easily.

These features enable efficient arbitrage; however, these same features could turn out to be constraints when we look at using the SLBM for a wider objective. Some of these features, including trading volumes and yield profile, are discussed in the next sections.

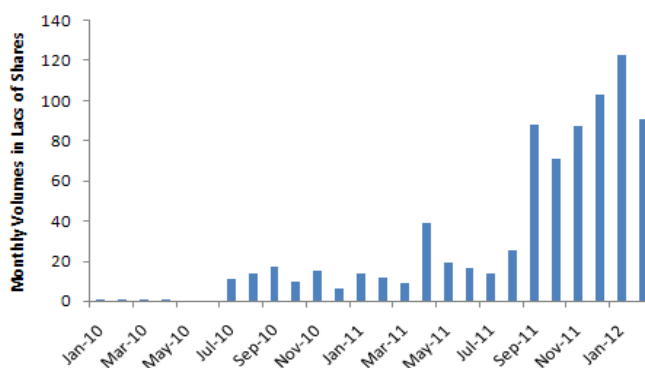
B. Market Status

Trading Volumes

After the launch of the revised scheme in January 2010, volumes have picked up; however, the volumes in India are still far below the volumes being traded in developed countries and other developing Asian countries. The average volumes in India on the National Stock Exchange are currently around USD 250 million per annum, while the volumes are around USD70 billion in South Korea, USD 500 billion in Hong Kong, USD 950 billion in Japan, and USD 400 billion in Australia (Komo, 2008).

Figure 1 shows the recent trends in SLB volumes on the NSE.

Fig. 1: Securities Lending and Borrowing Volumes on the NSE

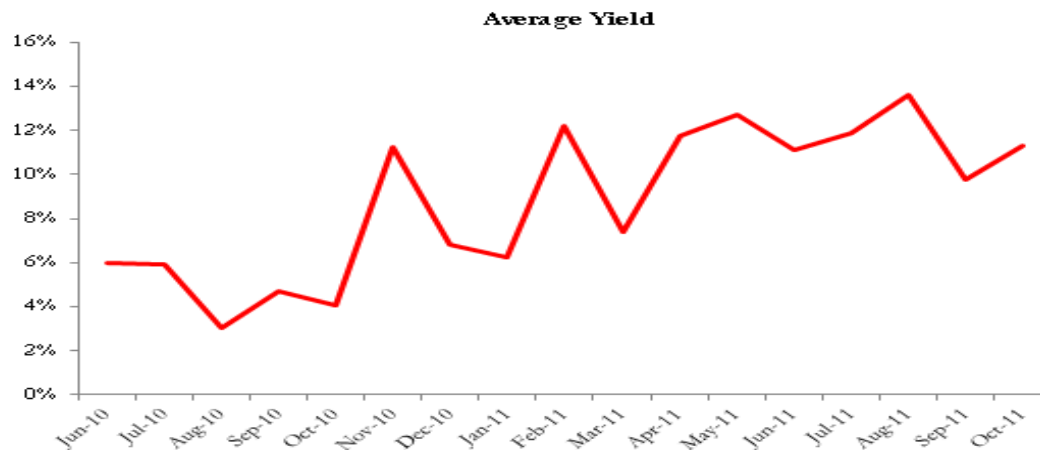


Yield Profile

For the purpose of the current analysis, we look at lending fee as a percentage of the underlying security value (annualised). This can be taken as the yield on lending. The average yield earned through SLB transactions is significant, at the moment. This is primarily because most of these transactions are incited by arbitragers who are exploiting the difference between the cash and the futures market. For those securities where the futures market is trading at a significant discount compared to the cash market, the arbitrageur makes money by buying in the futures market, selling in the cash market, and borrowing from the SLBM. Part of the difference in the cash and the futures prices would be paid out as a borrowing fee. The higher the difference between cash and futures, the bigger the arbitrage opportunity, and hence, the more the lending fee/yield.

Figure 2 shows the average yield for the transactions done on the NSE in the SLB market since June 2010. Such high yields in the Indian market suggest that the cash markets and the futures markets are not fully efficient yet.

Fig. 2: Average Yield on SLB Transactions on the NSE since June 2010



Source: National Stock Exchange of India

It can be observed from the data in Table 1 that certain transactions happen with a much higher yield than the average yield. This usually happens in cases where the futures are trading at a steep discount relative to the cash market.

Table 1: Yield Distribution from June 2010 to October 2011 for trades on the NSE

Yield range	Number of transactions
< 5%	1260
5–8%	927
8–12%	1308
12–16%	722
above 16%	578

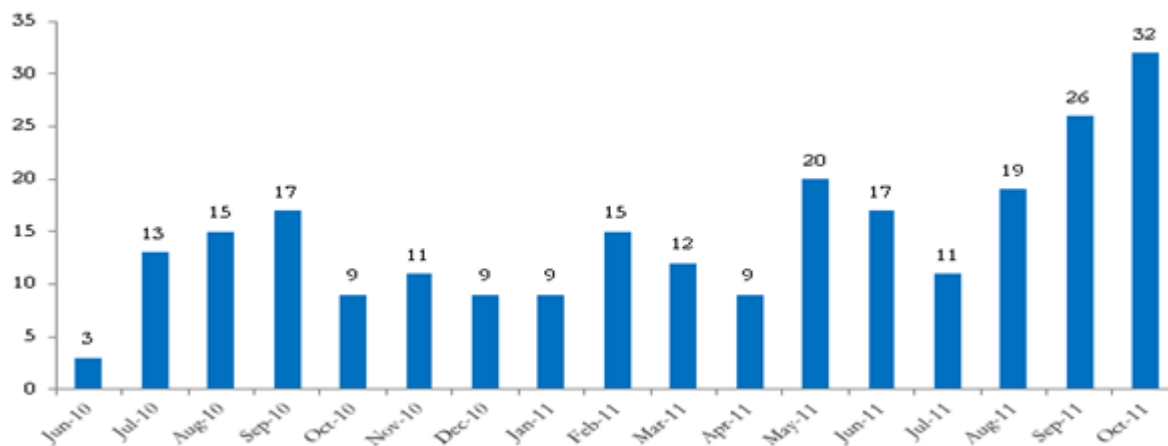
Source: National Stock Exchange of India

Volumes in various Stocks

Although the yield profiles look attractive for lenders, the liquidity in the SLB market is not significant yet. Of the 220 stocks for which lending/borrowing is allowed, very few stocks are actually lent or borrowed in the market.

The graph in Figure 3 shows the number of securities that have been traded each month on the NSE. A total of 32 securities were traded in October 2011.

Fig. 3: Number of Securities Traded on the NSE since June 2010



Source: National Stock Exchange of India

Participation

The participation profile for any market is an important tool for understanding the application of the market instruments. For the SLBM in the Indian context, most of the trades on the borrowing side are executed by the exchange members for their proprietary trading activities. On the other hand, lenders come from diverse participant groups. For instance, 11% of the contribution to turnover has been from FIIs and MFs (This is based on interactions with market participants). Based on this evidence and from the yield profiles, we believe that most of the borrowers are motivated by arbitrage opportunities. Unlike in other markets, we do not see any borrowers using the SLBM for either expressing short views or easing the settlement process.

Next, we discuss the cash market and the derivative market in the context of the SLB market in India.

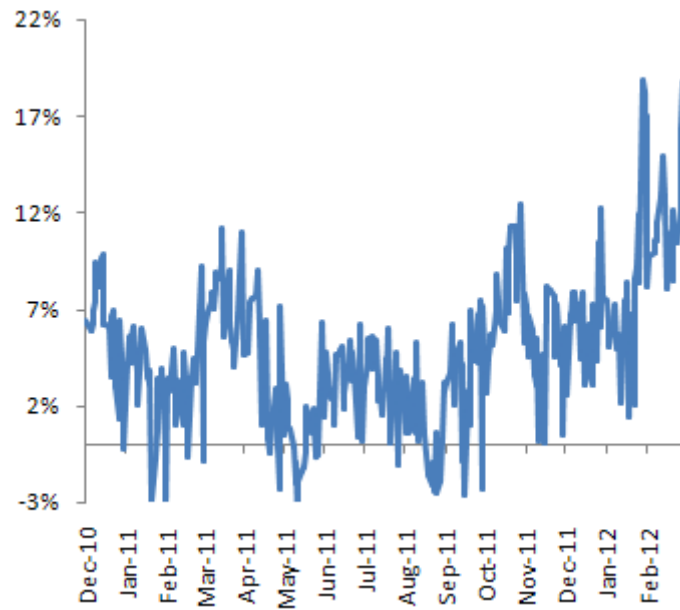
C. SLBM: Link between Cash and Derivatives

The derivatives volumes in India have been on a continuous rise over the last couple of years, but this increased liquidity in derivatives has not transferred to the cash segment. The link between the two is not yet well developed. Active derivatives markets can help securities markets in two ways—price discovery, and the flow of liquidity from derivatives to cash. However, both these functionalities can be achieved only if the derivatives prices (especially the futures prices) are linked to the cash prices through some mechanism. The critical link between the cash market and the derivatives market is the ability to short in the cash market through the arbitrage mechanism that was described earlier. The lack of a liquid and efficient SLB market can be seen as one reason for a disconnect between the cash market and the derivatives market. This point is further illustrated through the disconnect between the pricing and the trading volume that is discussed below.

Pricing Disconnect

The chart in Figure 4 shows the premium at which the Nifty futures traded relative to the Nifty spot value over the past one year. We took the first-month futures until the 15th of every month; after that, we took the second-month futures. The premium is expressed as a percentage of the spot value, and is annualised based on the number of days till expiry.

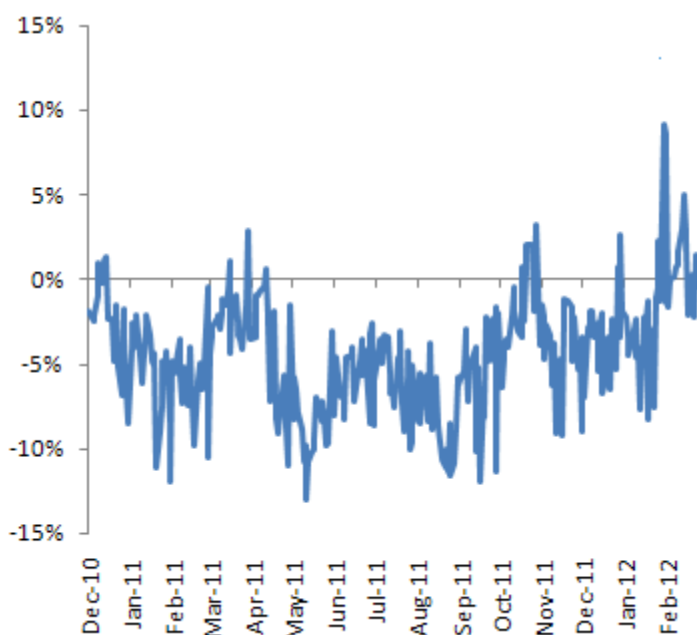
Fig. 4: Nifty Futures Premium



Source: National Stock Exchange Website (www.nseindia.com)

The premium becomes interesting once it is adjusted for risk-free return. Once we subtract the risk-free rate (using one month MIBOR as a proxy for risk-free rate), we get the adjusted premium as shown in Figure 5.

Fig. 5: Nifty Futures Premium (Adjusting for Risk-Free Rate)



After adjusting for risk-free return, the premiums should be close to zero (assuming a low dividend yield). However, as shown in Table 2, the premium fluctuates quite a lot over time. This suggests that the link between the futures market and the cash market is not established efficiently, which in turn leads to mispricing.

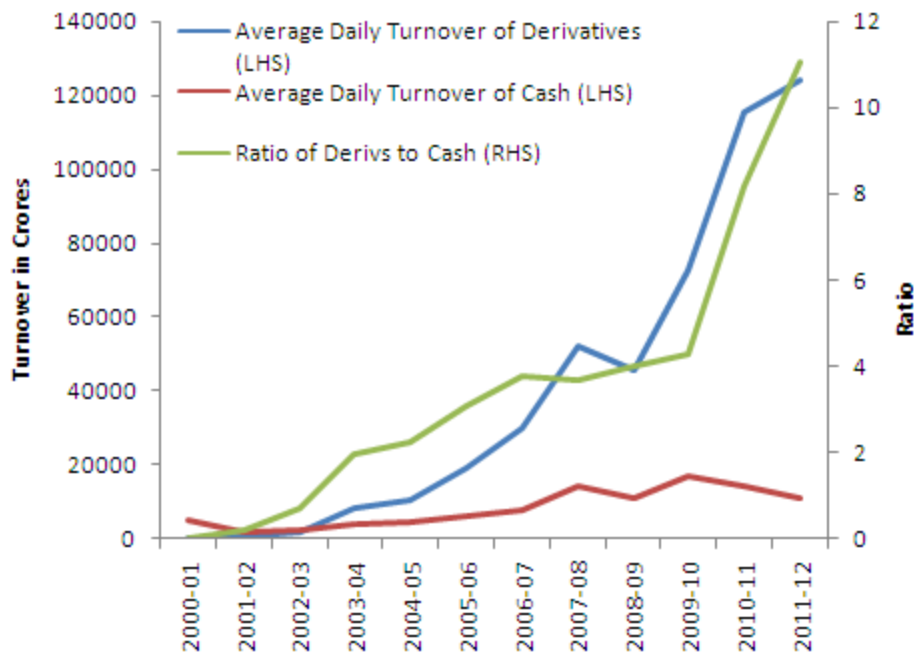
Table 2: Statistics of Nifty Futures Premium (Adjusting for Risk-Free Rate)

Average	-4.2%
Standard Deviation	3.7%
Minimum	-13.0%
Maximum	9.1%

Disconnect in Trading Volumes

Another disconnect that can be seen in both the markets is in terms of trading volumes. There has been significant growth in the exchange-traded derivatives market over the last one decade in India. However, this has not translated into similar growth in the cash segment. Figure 6 presents the trading volumes in the derivatives and the cash segment on the National Stock Exchange.

Fig. 6: Trading Volumes on the NSE—Derivatives Segment and Cash Segment



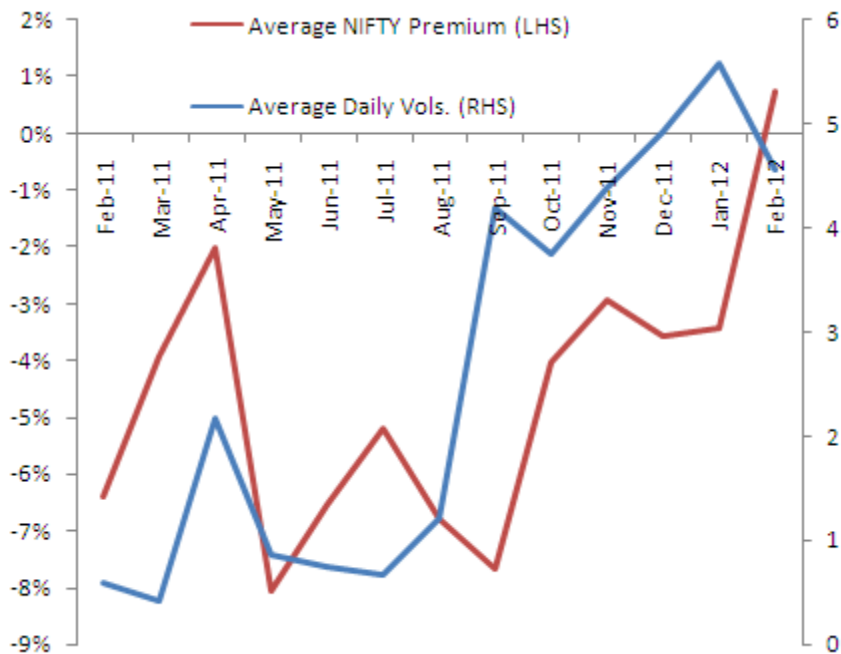
Source: National Stock Exchange Website (www.nseindia.com)

The gap between the growth in volumes in the derivatives segment and in the cash segment needs to be bridged for a healthy capital market setup. High volume in derivatives vis-à-vis the cash segment is not a bad thing in itself, as long as the liquidity and price discovery in derivatives is flowing back into the cash market. This can happen once the liquidity flows from the derivatives segment to the cash segment via arbitragers using the SLB market. In addition to helping liquidity and price discovery to flow seamlessly between the cash and the derivatives markets, the SLB market can also help to create more liquidity in the cash market by providing an avenue to short the securities.

Figure 7 shows that the SLBM could have an effect on the Nifty Futures Cash premium. The graphs show that over the last one year, as volumes in the SLBM picked up, the premium of Nifty futures over

cash (after adjusting for risk-free rate) rose from the negative to the positive territories. This would happen when arbitragers start using SLB to sell in the cash market and buy in the futures market.

Fig. 7: Evolution of NIFTY Futures Premiums and SLBM Volumes



Source: National Stock Exchange Website (www.nseindia.com)

The correlation between the two time series is around 0.4. This becomes significant if the relationship persists over time. At present, because of the lack of significant time series data, we cannot conclusively claim that the SLBM is the sole or primary cause of the improved pricing of futures. Further, even if the pricing on Nifty futures improves, it cannot be assumed that the pricing on individual stock futures would also improve. However, it can be concluded that the high discount at which various stock prices were trading in the past was one of the reasons why borrowers were attracted to the market. As the futures' premium over cash increases, the SLBM might become less lucrative for arbitragers (especially given the greater than 100% margins in the Indian context). In such a scenario, it needs to be seen how the SLBM can sustain itself and act as a bridge between the cash and the derivatives markets.

The following discussion is related to the role of short selling in the SLB market.

D. SLBM and Shorting

According to Professor Lamont, Yale University “The short sellers have been the heroes of the past few years, alerting the public and authorities to corporate fraud. And it has been the hedge funds which have simultaneously preserved the investors’ capital and corrected mispricing.”⁵

Short selling is a necessary activity in markets, which participants indulge in both for speculative purposes as well as for creating liquidity. The interplay of different views makes the market effective in valuing a security. If the ability to short sell is limited, one side of argument would be missing. Short selling is a useful tool for controlling bubbles and illiquidity-driven mispricing. It is considered a legitimate financial activity supporting efficient regulators across the world. To quote the Financial Service Authority, U. K.:

Economic theory and empirical studies support the view that short selling normally contributes to the efficient functioning of the market. We share that view and have made it consistently clear that we regard short selling as a legitimate investment technique in normal market conditions. (FSA, 2002)

Following the 2008 economic crisis, there were discussions on the effect of short selling on the volatility of markets. However, the International Organization of Securities Commissions (IOSCO) Technical Committee in its Consultation Report reiterated its belief “that short selling plays an important role in the market for a variety of reasons, such as providing more efficient price discovery, mitigating market bubbles, increasing market liquidity, facilitating hedging and other risk management activities” (IOSCO, 2009). The report states that in order to maintain market efficiency, short selling should be allowed, subject to principles-based regulations. The principles stated in the report include sufficient controls, reporting, compliance controls, and the need for flexibility on the part of the regulator(s) to implement short selling guidelines.

Although short selling is an integral part of any efficient securities market, it has been practically non-existent in Indian equities ever since *badla* and ALBM were prohibited in 2001. The current features of the SLBM are more tuned towards arbitrage between the cash and the equity markets than towards short selling per se. Securities borrowing in India is primarily used for arbitrage between cash and equity, while the most important function of the SLBM internationally is to provide a way to short a

⁵ Owen Lamont Testifies in Senate Judiciary Hearing on Hedge Funds, Yale School of Management News Letter, New Haven, Conn., June 28, 2006. Available online at: http://mba.yale.edu/news_events/CMS/Articles/5696.shtml

security. Arbitrage is a secondary utility of the SLB market in such economies. Moreover, only the securities on the derivatives segment can be borrowed in the SLBM in India. This is quite contrary to the situation in the securities borrowing market in the U.S., where most stocks (84% by number, and 99% by value) can be borrowed (D' Avolio, 2002). The design of stock borrowing in the U.S. is also more amenable for short selling (as the period of borrowing is not fixed to suit the derivatives market features).

Relative Value Trading

Short selling in securities markets is deployed not only for expressing an outright view on a particular security but can also be used for expressing relative value views across various assets. A simple relative trade could be to go long on a stock in one sector and to go short on another stock in the same sector. This kind of trade is typically used by hedge funds to exploit opportunities involving mispricing or a view on relative value difference. Another relative value trade would be to take position on the bond/debenture issued by a company and take contrary position on the equity of the company. Such trades are possible either through derivatives or through the SLBM market via the short selling mechanism.

In the next section, the SLB market in India is compared to the SLB markets in other economies.

IV. Comparative Analysis of SLBM

In this section, we compare the Indian SLBM with the securities lending markets in other economies. Although the Indian market is still in the nascent stage, some comparisons might give indications about the conditions of the securities lending markets in other economies. These insights could lead us towards recommendations regarding the SLB market in India that might help to improve the market further. We use the U.S., Brazil, and South Korea as basic reference economies. The U.S. was chosen in order to obtain an indication about the conditions in a developed economy. Brazil and South Korea were chosen because both of them have some characteristics similar to those of the Indian market (viz. high growth economies with positive inflow of capital); however, the SLB markets in these economies are much stronger than that of India. This comparative analysis is organised according to the various features that were compared. The data came from various sources; where reliable data was not available, that part of the comparison was skipped.

A. Country Experience

United States

The development of the securities lending market around the world has taken different routes in different economies. For example, the U.S. had a very long history of securities lending, starting in nineteenth century. The market developed as a means to facilitate settlement. The first regulations on short sale were adopted by the U.S. Securities and Exchange Commission (SEC) in 1938. Over time, pension funds and insurance companies became big players on the lending side. In the 1990s, with the growth of the hedge fund industry and the increased use of information systems, the securities lending market got a further boost. Investors started using the securities lending market for speculation and not merely for guaranteeing settlement. Post 2000, there was further growth in the market because of specialised agents trading.⁶ Following the 2008 crisis, there was some debate about the merits/demerits of short selling; however, most regulators, including the SEC, agreed that short selling is a necessary piece of the securities market. The SEC allowed short selling except in abusive cases.

Securities lending continues to be an active and vibrant market in the U.S. Due to the rich history of securities lending in the U.S., it has developed into a complex and sophisticated OTC market (CACEIS, 2010).

On the other hand, the development of securities lending in South Korea and Brazil has been relatively recent.

South Korea

The South Korean SLB market started in 1996, and picked up momentum post 2000. There were significant regulatory changes around 2000, such as the introduction of customised transactions, the decision to allow securities companies to act as intermediaries, the decision to allow a range of collaterals, etc. Since then, the SLB market in South Korea has been undergoing continuous change; owing to such reforms, over 250 million shares are transacted in the market every day (Lee, 2008).

Brazil

⁶ More details regarding the role of specialised agents are described in the section on third part agents.

The development of the SLB market in Brazil followed a different path. Although SLB was introduced in Brazil in the first decade of the twenty-first century, significant growth was not witnessed until almost a decade later. The number of transactions in 2010 jumped by 80% compared to that in the previous year. This change came about following the introduction of foreign lenders in the market (Rodrigues, 2011). There was a further growth of 57% in 2011. The market has become quite mature because of long/short equity fund participation.⁷

The model of the Brazilian SLB market is quite relevant to the Indian context, since Brazil was also a late entrant in the SLB market, like India. Further, Brazil also has an exchange-traded platform for securities lending.

B. Exchange Facilitation

OTC vs. Exchange

In India, only the exchange-traded SLB market is allowed, whereas globally, securities lending usually happens on an OTC platform. Most of the countries have similar facilities; the major difference is that in some countries (such as the U.S. and Malaysia), the additional facility of negotiating the trade over the counter as well as reporting on the exchange is allowed.

C. Automatic Borrowing Facility

The automatic borrowing facility reduces the chances of naked shorting/settlement failure. Under this system, an automatic borrowing transaction is initiated whenever the system detects a naked short position by a client that has not been closed out. A naked short position can be created when a trader sells the security but does not hold the security for delivery. A naked short can also be created when an American put option is exercised, and the writer is assigned a short position. Brazil and the U.S. have this type of facility.

D. Central Counterparty

The current structure of the SLBM in India involves central counterparties for managing and settling securities lending contracts. A central counterparty (CCP) ensures ease of settlement, proper risk

⁷ Securities Lending Times, "As Brazil's investment community adopts more complex trading strategies, securities lending demand is booming," Securities Lending Times, Brazil Country Profile: http://www.securitieslendingtimes.com/countryfocus/country.php?country_id=56

management, and collateral management. In some cases, a CCP also guarantees settlement of the reverse leg of the lending transactions. In the Indian context, although the CCPs do not guarantee settlement, they work on the basis of best efforts. In this setup the CCP would try to obtain the security from the market and provide the security to the lender. There is no explicit guarantee from the CCP in case it is not able to obtain the security. In such cases there could be some cash compensation for the lender. Table 3 summarises the presence and role of CCPs in various global markets.

Table 3: Comparison of the Counterparty Risk Management Framework of various Countries

Country	Existence of CCP	Role	Comments
India	Two CCPs are in place (NSCCL and BOI Shareholding Ltd).	All securities lending trades have to be cleared and settled by one of the CCPs.	The CCP provides guarantee in case an early recall is executed on exchange. If there is no liquidity early recall may not go through.
U.S.	No CCP for securities lending.	None; all SLB transactions are cleared and settled mutually.	Credit risk and settlement failure risk remain with individual parties.
Brazil	One CCP is used (Brazilian Clearing and Depository Corporation).	All securities lending trades have to be cleared and settled by the CCP.	Like in India, the CCP does not offer full guarantee of return of securities in case of early recall.
South Korea	CCP is used.	All securities lending trades have to be cleared and settled by the CCP.	The CCP guarantees settlement of the reverse leg in early recall; if the borrower does not return the securities, the CCP takes the risk on its books. For this purpose, the CCP takes a guarantee fee.
Hong Kong	CCP is used.	All securities lending trades have to be cleared and settled by the CCPs.	The CCP guarantees settlement of the reverse leg in early recall by forcing the borrower to return securities.

Sources: Websites of the BM&FBOVESPA,⁸ the Korean Securities Depository,⁹ and the National Stock Exchange of India¹⁰

⁸ <http://www.bmfbovespa.com.br/BancoTitulosBTC/Estatisticas.aspx?Idioma=en-us>

⁹ <http://www.ksd.or.kr/eng/main.home>

¹⁰ <http://www.nseindia.com/products/content/equities/slbs/slbs.htm>

As shown in Table 3, varied forms of counterparty risk management are used in different countries.

E. Market Volumes and Yields

Table 4 summarises the average yield on securities lending transactions, the utilisation of lendable assets, and the traded volumes. It can be observed that the yields in the Indian market are very high while the volumes are very low. This a clear sign of inefficiency. The utilisation column in Table 4 shows the proportion of lendable securities that have actually been lent. In the U.S., approximately 7% of all the securities are lent in the securities market. This value is close to zero in India. Similarly, the trading volumes in the U.S. are close to 5% of the trading volumes in the underlying cash market. Again, for India, this figure is low; one reason for this could be the unavailability of several securities for trading.

Table 4: Summary of average yield on securities lending transactions, utilisation of lendable assets

Country	Average yield	Utilisation of Lendable Assets
India	12.50%	Not available/Miniscule
U.S.	0.41%	7.18%
Australia	0.269%	10.40%
Hong Kong	0.891%	7.82%
Japan	0.531%	5.90%

Sources: Data Explorers (2010), and the National Stock Exchange of India

F. Maturity

Different countries have different minimum and maximum contract periods. In India, the contracts that are being traded have a minimum maturity of one month, and the maturity can go up to one year. In Brazil, the minimum maturity period is one day, and no maximum maturity period has been defined. In the U.S., where trading mostly happens over the counter, the maturity periods are structured according to the mutual agreement of the participants.

G. Collateral

Collateral is required by the exchange from a borrower to control the risk of default. Exchanges in different countries accept different collaterals such as cash, equities, exchange-traded funds (ETFs),

domestic bonds, gold, foreign securities, etc. The collateral rules in India are rigid, and currently, only cash and cash equivalents such as bank guarantees and Fixed Deposit Receipts (FDR) are accepted. Table 5 shows the different types of collaterals accepted in different countries.

Table 5: Comparison of Collaterals accepted by intermediaries for SLB markets in different Countries

Country	Collateral Allowed
India	<ol style="list-style-type: none"> 1. Bank Guarantees 2. FDRs 3. Cash
U.S.	<ol style="list-style-type: none"> 1. Equity 2. Bonds 3. Cash
South Korea	<ol style="list-style-type: none"> 1. KRX-listed stocks 2. Bonds (BBB or higher) 3. ETFs 4. Cash 5. T-Bills 6. T-Notes 7. T-Bonds 8. Foreign currency* <p>* Foreign securities and currencies are allowed only for foreign investors</p>
Brazil	<ol style="list-style-type: none"> 1. Brazilian federal securities 2. ETF quotas 3. Private sector securities 4. Bank letters of credit 5. Profits from forward contract trading 6. Financial gold 7. Equities of companies listed on the BM&FBOVESPA, held in the BM&FBOVESPA Central Depository 8. Securities traded in the international markets (only for non-resident

- investors)
- 9. Equity dividends
- 10. Other assets or financial instruments

Sources: Websites of the BM&FBOVESPA, the Korean Securities Depository, and the National Stock Exchange of India

In India, the exchanges require collateral to the tune of 100% as well as an additional margin. The margin required is around 30% of the underlying value. The margin is collected by the exchanges to mitigate the risk of adverse movements of the underlying security’s price. In India and Brazil, another margin is collected in addition to the 100% of the collateral value. However, in some other countries such as the U.S., Japan, and South Korea, a margin is not taken separately, while collateral is taken on the reduced value of the actual market price of the collateral. Table 6 shows the varying amounts of collaterals and margins in different countries.

Table 6: Comparison of the Collaterals and Margins in different Markets

Country	Amount of Collateral and Margin required
India	100% cash or cash equivalents + margin
U.S.	<ul style="list-style-type: none"> • Different amounts for different collaterals: <ul style="list-style-type: none"> ○ 102% (J.P. Morgan) for government bonds ○ 108% (Citibank) for government bonds ○ 150% (Citibank) for equities • No separate margin
South Korea	<ul style="list-style-type: none"> • Collateral is 100%, but the collateral value is treated at a reduced value for different collaterals. The reductions are: <ul style="list-style-type: none"> ○ KRX-listed stocks: 70–80% ○ Bonds (BBB or higher): 80–100% ○ ETFs: 80% ○ Cash: 100% ○ T-Bills, T-Notes, T-Bonds, and U.S. Dollar: 90–100% • No separate margin

Brazil	<ul style="list-style-type: none"> • Collateral is 100%; however, the collateral value is treated at a reduced value for different collaterals. The reductions are very less (close to 1% of the collateral value). • A margin will be locked in addition to the 100% collateral. This margin would vary according to the volatility of the underlying;(what underlying—please specify) on average, the value would be around 50%.
Japan	<ul style="list-style-type: none"> • Collateral is 100%, but the collateral value is treated at a reduced value for different collaterals. The reductions are: <ul style="list-style-type: none"> ○ Equities: At most 70% ○ Government bonds: At most 95% ○ Bank Guarantees: Within 100%

Source: Komo (2008)

Table 6 shows that close to 130% of the capital would be locked for borrowing in the SLB market in India, whereas in the U.S. and South Korea, it ranges around 102–110%. Although Brazil has a higher margin, there is reprieve for borrowers as stocks and bonds can be provided as collateral. In India, only cash and cash equivalents are allowed to be used as collateral.

Table 7 presents the distribution of collateral in Brazil. Bonds form 53% of the collateral, while stocks account for nearly 25% of the total collateral.

Table 7: Distribution of Collateral in Brazil

Distribution of Collateral
Brazilian government bonds: 52.6%
Stocks: 24.8%
Stocks security lending: 16.94%
International bonds: 3.46%
Cash: 0.86%
Bank CD: 0.81%

Source: BM&FBOVESPA Website¹¹

H. Market Players

The major market players in any securities markets are retail investors, banks, funds, and other financial institutions. Exchanges and regulatory bodies do not allow everyone to trade freely in the securities lending market. For example, in India, insurance companies are restricted by the insurance regulators from entering into the SLBM.

Table 8 lists the types of market players that are permitted to trade in the SLBM in different countries. The Indian SLB market is mostly a borrower-driven market as there are only a few lenders, but the scenario is not the same in other countries.

Table 8: Permitted Lenders and Borrowers in various SLB Markets

Country	Permitted Lenders	Permitted Borrowers
India	Retail HNIs Brokers/Proprietary groups Banks Insurance firms and Pension funds are not allowed, while Mutual funds can only lend	Retail HNIs Brokers/Proprietary groups Banks
U.S.	Pension funds Mutual funds Insurance companies Endowments and foundations Central banks Sovereign wealth funds Other asset managers	Mutual funds Hedge funds Proprietary traders Banks Prime brokers Broker/Dealers Tax arbitrage funds
South Korea	Banks	Foreign investors,

¹¹<http://www.bmfbovespa.com.br/BancoTitulosBTC/Estatisticas.aspx?Idioma=en-us>

Foreign investors Institutional investors Investment-trust companies Insurance companies Mutual funds Pension funds	Securities companies, etc. Retail investors are not allowed
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Sources: Lee (2008) and NSE Website (http://www.nseindia.com/content/nscl/nscl_slbssettlement.htm)

In India, proprietary groups (exchange members) are involved in the maximum borrowing, whereas in other markets, the borrowing side is well distributed. The lending side is also well diversified in these other markets; Brazil is a good example of a well-diversified market. Lender and borrower diversity is very important for increased utility and proper functioning of a market. However, such diversity is currently absent in the Indian SLBM. Table 9 shows the distribution of borrowers and lenders in the SLB market of different economies.

Table 9: Distribution of Borrowers and Lenders in various SLB Markets

Country	Borrower Distribution	Lender Distribution
India	Brokers/Proprietary Groups: Close to 100%	Funds and FIIs: Close to 11% Retail and other investors: Close to 89%
Brazil	Individuals: 3.78% Foreign Investors: 23.7% Funds: 67.75% Corporations: 0.4% Banks: 1.94% Others: 2.35%	Individuals: 26% Foreign Investors: 37% Mutual funds: 28% Pension funds: 2% Corporations: 2.6% Banks: 0.74% Others: 2.7%
South Korea	Asset Management Funds: 0.2% Security Companies: 8.6% Banks: 0.5%	Pension Funds: 6.4% Asset Management: 5.6% Security Firms: 1.3%

	Foreign Investors: 90%	Banks: 0.1%
		Others: 0.2%
		Foreign Investors: 86.4%

Sources: Websites of the BM&FBOVESPA,¹² the Korean Securities Depository,¹³ and the Interviews

In Brazil and South Korea, the involvement of funds and foreign investors is significant, as shown in Table 9. In India, mutual funds are not allowed to short in the market. South Korea gives a tax advantage to foreign investors, and also allows foreign securities such as T-bonds and foreign currency to be used as collateral; hence, it has succeeded in attracting heavy participation from foreign investors in its securities lending market.

I. Eligible Securities

As was discussed earlier, the SLB market in India is available only for the equities listed in the F&O segment. In other countries, the exchanges facilitate SLBM trading on several securities such as government bonds, corporate bonds, exchange-traded funds (ETFs), etc.

Table 10: Securities traded in the SLB segment in various markets

Country	Securities on which SLBM is facilitated
India	Equities present in the F&O segment
USA	<ul style="list-style-type: none"> • US Treasuries • Corporate bonds • Municipal bonds • U.S. & International Equity • Euro-bonds • Sovereign Bonds • Fixed Asset backed securities
BRAZIL	<ul style="list-style-type: none"> • Equities • Corporate bonds
South Korea	<ul style="list-style-type: none"> • Equities (KRX-listed stocks)

¹²<http://www.bmfbovespa.com.br/BancoTitulosBTC/Estatisticas.aspx?Idioma=en-us>

¹³<http://www.ksd.or.kr/eng/main.home>

- | | |
|--|---|
| | <ul style="list-style-type: none">• Government bonds• Corporate bonds• Special bonds• Municipal bonds• ETFs• Equity-Linked Warrants (ELWs) |
|--|---|

Sources: Websites of the BM&FBOVESPA,¹⁴ the Korean Securities Depository,¹⁵ and the NSE (http://www.nseindia.com/content/slbs/slb_elg_sec.csv)

In the following section, we propose some changes that would make the Indian trading environment more favourable for SLB.

V. Recommendations

This section presents the changes that we propose in order to make the trading environment in India more conducive to SLB. The recommendations have been divided into several categories based on the area that they impact—product features, market structure, and other regulations. The recommendations given in this section follow from the critical and comparative analyses in the previous sections.

A. Product Features

Currently, the SLB market in India is designed to help arbitrageurs execute cash futures arbitrage. Other categories of participants (market makers, short sellers, etc) do not participate on the borrowing side, as the features are not favourable for them. We think some minor changes to the product features could have a significant impact on liquidity.

(i) Contracts with shorter duration: Allowing for contracts with durations shorter than one month could help market makers and short sellers to use the SLB market effectively. It is preferable, at least from a regulatory standpoint, to allow as low tenures as possible (even up to one day). The Brazilian SLB market has significantly benefited because of the option of borrowing securities overnight.

¹⁴<http://www.bmfbovespa.com.br/BancoTitulosBTC/Estatisticas.aspx?Idioma=en-us>

¹⁵<http://www.ksd.or.kr/eng/main.home>

The minimum maturity period has to be reduced to attract more lenders as well as borrowers for the following reasons.

1. Institutional lenders need to relocate their funds time to time; therefore, they would not want to lock in their securities for longer periods.
2. If the prices start to fall, lenders would like to sell their securities instead of lending. The current repurchase option may not work in a falling market, as the borrower would not like to give back a security whose price is falling significantly. Therefore, it is important to have the option of smaller period maturity to attract more lenders.
3. Market makers can use it to square off naked short positions if the minimum maturity period is small.

(ii) More eligible securities: As was discussed earlier, the eligible securities in other economies include equities, bonds, and funds. In India, however, only F&O securities are currently allowed in the SLB market. As futures are already popular instruments for expressing short positions, SLB may not be useful for short sellers. On the other hand, those securities for which the F&O market does not exist can benefit from the introduction of SLB, as this would boost the liquidity by opening up short sellers also to the market. This is also particularly true for exchange-traded funds (ETFs). Gold ETFs and Index ETFs could be the primary candidates for immediate introduction to the SLB market.

B. Market Structure

Currently, only the exchange-traded market is allowed for SLB in India, with a central counterparty to manage the collateral. We believe that an OTC market, where participants can mutually manage credit exposure, would add significant value, as this would allow the participants to design contracts according to their needs. Globally, SLB has been successful on OTC markets. Some markets such as Brazil also allow OTC in parallel to the exchange; the exchanges can facilitate clearing and settlement, and can also be used for reporting purposes.

Having an OTC setup helps the participants in several ways:

1. Counterparties with high credit rating would not be required to maintain high collaterals. Consequently, this would enable them to utilise their funds in an efficient manner, and hence, the participation of institutions with good credit ratings would increase.
2. Customised features can help participants to use the borrowing facility for purposes other than pure arbitrage between cash and futures. Two other uses of security borrowing would be to enable short selling and to help settlement issues. The current structure of the SLBM in India does not support these, as the borrowing periods could be very long.
3. The collateral deposited by the borrower can be used by the lender for his/her own purposes, according to his/her preference. The nature of the collateral can also be decided by the two parties to suit their requirements.
4. The lender can decide to whom he/she would want to open a lending offer, based on the credit rating and exposure of different borrowers. This will help in reducing the collateral required to be posted by the borrower as lender can put specific limits on borrowers and reduce the exposure.
5. The lending fee can be received by the lender in instalments rather than as an upfront fee, which would attract more borrowers.

Now that liquidity is picking up in the exchange-traded SLBM in India, an OTC SLBM could be developed in parallel. This would augment the existing setup, and we believe it would definitely help improve liquidity in the cash market. An OTC framework would apply only for institutions, since the collateral management of retail clients would be very tough. However, retail clients can be allowed to access the OTC platform through third-party agents, as it happens in the U.S.¹⁶

Collateral: The choice of collateral is very limited in India. If bonds and other instruments are allowed as collateral, it would be helpful not only to the SLBM but also to the cash market of those securities that can be used as collateral. Managing a wide range of collaterals is not difficult for the central counterparties (CCP). For example, the derivatives segment of the exchanges accepts a variety of collaterals, including equities and funds. Of course, some haircut mechanism would need to be in place, which can be developed along the lines of derivatives margining.

¹⁶ Having dedicated third parties with a power to lend securities on its client's behalf would be a significant push for the market. At present brokers and PMS service providers can act as third party agents for institutions and retail client. Clients can leave standing instructions to brokers for lending their stock. This is not a complete outsourcing but might be exploited by some smart clients.

Margins: The margins should be rationalised according to the true default risk. Currently, a very high portion of the capital would be locked away for borrowing securities. This is viable as long as the arbitrage opportunities are significant. However, once the arbitrage opportunities dry up, the higher margins would be a deterrent for participants entering into the SLBM, especially for short sellers and market makers. On the other hand, if an OTC market is developed, then margining would be the responsibility of the individual counterparties. In such a scenario, the level of the margins would be determined by market dynamics, and would reflect the true credit risk of the counterparties.

Exchanges/CCPs in India do not guarantee the repayment of securities. Hence, in certain cases, financial institutions who want to participate on the lending side might want stricter risk management rules. These institutions would not be willing to enter the current market. One possible solution for this would be to allow these institutions to put their own risk-related requirements, which have to be more stringent than the requirements set by the exchanges. For instance, a lender can ask for extra collateral or he/she can only allow those borrowers who have good rating. In order to be market competent, he/she can offer the securities at a lower lending fee. The microstructure of implementing this concept needs to be thought through.

Trading Times: Currently, the SLB market in India closes at 3:30 p.m., along with the cash market. It would be helpful if the SLB trading hours were extended to facilitate borrowing by participants who were unable to close out their position during trading hours. This would also encourage the market makers who access SLB market. The introduction of this facility can attract market makers in illiquid stocks who are looking to provide liquidity. In scenarios where the market makers are not able to close out their position before the close of the cash market, they can use the SLB market for settling their trades. The liquidity providers in the market would be benefited from an active borrowing market that extends the market hours, as they can cover their short position without incurring huge losses.

Third-Party Agents: Another important feature of international markets that is absent in the current Indian scenario is the presence of agents for lending (CACEIS, 2010). Due to the complexity of securities lending transactions and the narrow margins, the SLBM requires efficient specialised players. This has resulted in the emergence of lending agents who pool securities across different investors, and then lend those securities in the market on OTC platforms. Agents and owners then split the revenues that arise from the lending activity. These agents include asset managers and custodian banks. There could also be specialised third-party agents. Currently, lending by third-party agents is not allowed in India without explicit client's request; however a way around this could be to use portfolio

management services and standing instructions given to brokers. It needs to be studied how effectively are these being used by retail investors and institutions. Internationally, only very large funds enter into the OTC lending market on their own (Bank of England, 2010).

The measure characteristics of third-party agents include:

- **Specialisation:** Different third-party agents are specialised in different products, such as international equities, bonds, and domestic equities.
- **Customisation:** Third-party agents work closely with their clients, and generate lending/borrowing strategies according to their specific investment portfolio. They also customise the collateral investment strategy with a lending strategy that can result in higher returns.
- **Market Knowledge:** Third-party agents have extensive market knowledge about the demand for securities on the part of different market participants, as they work closely with brokers/dealers/banks. They use this information in placing their securities, and thus, get better returns.

In India, SLB is allowed only in the equity segment, and collaterals are managed by a clearing corporation. All of the trade happens in the NSE or the BSE, which reduces the need for third-party agents. Third-party agents could play a pivot role in making the market competitive and efficient when the regulations will allow trading in the OTC market.

Automatic Borrowing: Certain clearing institutions and custodians, such as in Brazil (see BM&FBOVESPA,¹⁷ EuroClear Website¹⁸) for instance, provide the facility of automated borrowing. Here, lenders are pooled together, and the securities would be lent automatically to those borrowers who have an unsettled short position. This market developed in response to the need for helping settlement issues when liquidity in the market used to be low. Even today, a lot of borrowing activity happens in order to support the settlement of illiquid securities. This feature can be introduced in India once the volumes in the SLBM become significant. This feature will help the market in several ways:

- Help settlements, especially of illiquid securities;
- Market makers can use it for the settlement of open short positions;

¹⁷ Securities Lending Service at BM&FBOVESPA, <http://www.bmfbovespa.com.br/en-us/services/securities-lending-program/securities-lending-program.aspx?idioma=en-us>

¹⁸ Securities borrowing at EuroClear, https://www.euroclear.com/site/publishedFile/MA051+Sec+Borrowing_tcm86-168153.pdf?title=Securities+Lending+and+Borrowing+-+Borrowers

- Physical settlements in derivatives can also be possible once the automatic borrowing facility is active.

Risk of no return: Lenders who want to take advantage of the positive market movement by selling their loaned securities in the cash market might consider the risk of no return as a hindrance. Lenders, like mutual funds and insurance, would also need to restructure their assets due to government regulations or fund flows. This might create the need for a recall of their securities. Hence, the lack of a contractual obligation on the part of borrower to return the securities when demanded might deter some segments of lenders from entering this market.

A possible solution for this could be to impose an obligation to return the security by the borrower if the lender is not able to get it back by recall from the market. This is what happens in the Hong Kong security lending and borrowing market. However, this is not good from the borrowers' perspective. Therefore, to overcome this problem, the lender might specify a minimum period in which he/she will not forcefully recall the securities. The lender may charge more for a higher no recall period. This will be a win-win situation for both, as the borrower will know until when he/she does not need to return the security and can take his/her decision accordingly. In Taiwan, a lender may recall the loaned securities by giving a 1-day, 3-day, or 10-day prior notice period.

Another alternative is to compensate the lender monetarily in case of no returns from the borrower. This is being practised in South Korea. For funding such compensation, the central counterparty can charge a fee.

In the international OTC space, there are certain third-party agents who provide an explicit guarantee. These agents return the securities to the lender, provided the securities can be obtained in the market, or compensate the lender with a cash equivalent. This concept can be implemented in India as well. For this, the necessary powers and responsibilities have to be assigned to the third-party guarantor. Typically, the custodians who hold the securities of their clients can become such agents.

C. Other Regulations

Currently, the SLB market in India is a borrower-driven market. Lenders—who are usually big financial institutions or funds—are absent in this market because of various regulatory reasons. Some of the following recommendations can address this issue.

Position Limits: From discussions with market participants, we understood that the market-wide position limits are fairly high, hence, this is not a concern currently. However, the client-wise position limit of 1% of the market-wide position limit is too small, especially for some HNIs who want to take big positions. Further, once other stocks and securities are introduced in the SLBM, it would be worthwhile to consider different position limits on different securities. For example, non-F&O stocks can have a lower position limit than F&O stocks.

Participation by Institutions: Insurance regulators and bank regulators do not have clear guidelines regarding the involvement of insurance companies and banks in the SLB market. At present, there is ambiguity on this front in the Indian context.

If there is more clarity from the regulatory bodies in charge of banks and insurance companies, there may be more participation on the lending side of the SLB market. Typically, financial institutions have significant holdings of securities that are not traded actively; these securities can be put to additional use in the SLBM. Similarly, third-party entities (brokers, dealers, custodians, etc.) should be allowed to lend securities on behalf of their clients. This would further enhance the supply side of the market. Further, the demand side could pick up if leveraged collective investment schemes (i.e., hedge funds) are allowed to trade in these markets.

Also more supply on the lending side can be generated if custodians are allowed to lend the securities that they hold on behalf of their clients. If the clients give a mandate to their custodians to lend their securities and take a cut in the fee, the participation on the lending side could improve significantly. This is because custodians hold a pool of diversified securities and have the necessary expertise in managing the settlement of transactions. This concept can be implemented both in the exchange-traded platform and also in OTC platform (if an OTC SLBM is developed in India).

Taxation: Taxation should be rationalised for SLB transactions, especially for financial institutions and foreign institutions. It must be possible to net off the profits/losses in the SLBM with profits/losses from other investments. This would boost the participation of financial institutions and FIIs on the lending side of the market in India. Brazil and South Korea give special tax benefits to foreign investors and financial institutions that trade in the securities lending markets. This could be the reason for the high participation of these entities in their corresponding securities lending markets.

D. Awareness

Currently, members of the exchange are well aware of the SLB market. Members are usually on the borrowing side of the market. Awareness should be built to bring in more lenders as well as market makers and short sellers into the SLB market. Increased investor and retail participation is vital for sustenance of this market. Lack of awareness might be preventing some of these participants from entering into the SLB market. Moreover, borrowing in the SLBM is usually associated with arbitrage transactions exclusively. This misconception might have led market makers and short sellers to stay away from the market on the borrowing side. Usually, these players are less price-sensitive, and may enter the market as borrowers even when arbitragers shy away. Thus, it is important to increase the diversity of borrowers and lenders in the Indian market. Awareness can be created through client presentations, online notes, and education/training modules.

The recommendations are summarized in the Table 11 below.

Table 11: Summary of Recommendations

High Priority Recommendations		
Recommendation	Implementing Authority	Comments
Introduction of contracts with shorter duration also	Exchange	This is will help institutional lenders
More eligible securities (non-FnO stocks, ETFs, bonds)	SEBI	It will draw more liquidity into these securities as well
Accepting wide range of collaterals so that borrowers can use their cash in effective manner	SEBI and Exchanges	This will require complex collateral management system from exchange side
There should be clarity on the guidelines given to insurance	IRDA and RBI	This will get more supply to the market

companies and banks		
Build awareness on lending side and non-prop borrowing side	Exchanges, members	This will bring diversification to borrowers and lenders
Long-term Recommendations		
Parallel OTC market	SEBI	For institutions to design contracts based on their needs
Increased trading times	SEBI, Exchanges	This will allow SLBM to be used for settlement purposes
Make options physically settled	SEBI, Exchanges	This will integrate options market, cash market and SLBM thus improving liquidity in all. It needs to be done once SLBM liquidity stabilizes
Allowing outsourcing of lending/borrowing activities to Third party agents	SEBI, Brokers and Custodians	This will help pool securities. PMS is a standardized way of managing retail investments. Institutions can outsource lending activity through standing instructions but they may not be able to completely outsource.

VI. Conclusion

The securities lending and borrowing market has significant potential in creating liquidity and volumes in the Indian market. A strong SLBM market would help boost liquidity and price discovery in cash and derivatives markets. It also gives market participants an alternative tool to express views (outright short positions or relative value shorts against some other assets). However, because of rigid regulatory

regimes and a lack of awareness, the market is still in nascent stages in India. Some improvements in various aspects of this market and an increased awareness among the participants can give a huge boost to liquidity in the market.

A comparison of market structure and product features is made between SLBM in India and several other countries. It is noted that the features in India are fairly in tune with international standards with certain minor exceptions. Some differences arise because Indian SLBM is primarily developed with a central counter party whereas SLB in US and certain other markets did not implement a CCP. Also, features of SLBM are primarily aimed at cash-futures arbitrage in India. While internationally, primary development of SLBM has happened to support settlement and short selling. This is the primary difference in the way our market has evolved with respect to the international market. This might have an effect on the involvement of certain participants. In the Indian context, product features also are not very lucrative from the point of view of lenders which might be resulting in a poor show of lenders in Indian SLBM. Based on the comparison of Indian market with other markets and also current dynamics in Indian market we have made certain recommendations aiming towards the development of SLBM in India.

On the product side certain modifications like introduction of more eligible securities viz. bonds, ETFs would definitively help not only the SLB market but the overall securities market. Also allowing shorter duration contracts will open up the market to wider audience. Similarly on the market structure front some changes might be required. Currently the market exists only in the exchange traded form; a parallel OTC market with a CCP or without a CCP can augment this market. Increase in the choices of collateral and rationalization of margins would also be quite helpful for improving liquidity. An expansion of trading times would aid the utility of the market in guaranteeing settlements in securities markets.

Advanced markets also employ several other techniques for building a strong SLB market. Some of these include development of third-party specialist agents supplementing direct trading on exchange, automatic borrowing facility in case of settlement failure in underlying securities, giving custodians the right to lend securities on behalf of clients, mandatory return of securities if recalled etc. Similar features have helped a lot in achieving efficiency in securities lending markets in other countries. These steps can be looked into, in the context of Indian SLBM.

Awareness about SLBM is also a problem in our country especially at the retail level. This can be addressed by having online education or specific investor training programs by the exchanges and their members. One primary concern regarding awareness in the SLBM market is that the SLBM is seen as an exclusive tool for arbitrage between cash and futures, while the other purposes of the SLBM are neglected; this needs to be corrected urgently.

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Appendix I: Basic Product Features and Role of the SLBM

A. Terminology

Borrowing Period: The SLB market involves the transfer of a security from one party (called the lender) to another (the borrower), with an obligation on the part of the borrowing party to return the security in a pre-determined time period. The period of the holding can be fixed at the time of borrowing. Under certain conditions, the lender can recall the security within the period. Some markets do not have this provision of recall.

Lending Fee: As compensation for borrowing the securities, the borrower pays a fee to the lender. The fee is predetermined, and can be a one-time fixed fee or a periodic recurring fee.

Dividends and Other Rights: In some markets, the borrower will pass over any dividends earned from the security (like in Brazil, India, and Korea), whereas in other markets he/she does not (e.g., in the U.S.). The lender also keeps the key financial rights he/she would have had if he/she held the security. However, voting rights are usually passed on to the borrower.

Collateral: To mitigate the credit risk of the borrower, he/she has to keep collateral with the lender. The value of this collateral should be more than the value of the underlying security borrowed. The exact amount would depend upon the individual market. The collateral can be in the form of cash or other securities/guarantees.

B. Nature of the Market

Most countries allow both exchange-traded and over-the-counter (OTC) markets for SLB. Usually, OTC markets are more popular for SLB internationally because of the flexibility they offer the various participants, although trading on the exchange also happens in parallel. In India, only the exchange-traded market is allowed for SLB.

C. Participants

Usually, both institutional and retail participants are active in the SLB market. The exchange-traded platform allows more participation of retail clients. In an OTC framework, the participants usually go through their custodians for lending and borrowing activities. Only very large funds enter into the OTC lending market on their own (Bank of England, 2010). Certain institutions and participants might not be allowed to trade in the SLBM because of various regulatory constraints. For instance, insurance companies may not be allowed to become borrowers in the SLB market.

D. Motivation for using SLBM

The SLB market is used by several kinds of participants for different reasons. The motivations for using the SLBM on the borrowing side include:

- **Settlement:** There could be scenarios where a market maker or a trader had put on a short position, but was not able to unwind it before the end of the day because of either liquidity or price issues. In such a scenario, the trader can take advantage of the SLBM to settle his/her obligation of delivery of the security.
- **Short selling:** Many participants have a short view on the market (i.e., they expect the market or a particular security to go down in value). The SLBM is a necessary tool for shorting securities for longer periods. Although derivatives can also be used for shorting, for some investors, the cash market is a preferred market for various reasons such as low leverage, tax issues.
- **Arbitrage:** The prices in the cash market and the derivatives market (in particular, the futures market) are interlinked. Sometimes, the linkages could break due to supply-demand issues. This is when arbitragers come into play. There could be two ways of doing arbitrage, depending on the price discrepancy: one where the arbitrageur buys in the cash market and sells in the futures market, and the other where the arbitrageur buys in the futures market and sells in the cash market. For successfully executing the second kind of arbitrage, the arbitrageur has to borrow securities for delivery. Thus, the SLBM is vital for this kind of arbitrage. An example of cash-futures arbitrage is given in Appendix II.
- **Other benefits:** In certain markets, the borrower also gets certain advantages like dividends and voting rights. Sometimes, a participant can borrow stock to obtain these benefits without taking the price risk. It should be noted that in some markets, the benefits of a coupon are passed back to the lender. Even if the coupon is not reimbursed to the lender, it is usually priced into the borrowing fee. Thus, these benefits may not be significant enough motivation for borrowing.

Lenders are motivated to enter the SLB market in order to:

- **Improve the returns** on their portfolio, by earning additional income from the fee charged while lending the securities that they hold. Typically, large institutions (like funds) would fall under this category.
- **Do arbitrage**, where they sell in the futures market and buy in the cash market. The SLB market can be used to further improve the arbitrage profits. This would be possible when there

is enough demand in the market for borrowing a security in order to short sell it. Proprietary trading groups would fall under this category.

E. Role of SLB in Markets

Efficiency of Markets

The SLB market provides liquidity to the cash market by facilitating settlement. By providing an avenue to short the securities, it helps improve both liquidity and price discovery in the market. The SLBM helps improve price discovery as it is a key piece in cash-futures arbitrage—a participant wanting to go long in the futures market and short in the cash market can do so with the help of the SLBM. Another important utility of the SLBM is to support relative value trades between different securities (also called pair trading). In relative value or pair trade, the trader goes long in one security and sells another security.

Lower Volatility

During turbulent times there could be situations where the demand for a security could spike up suddenly, and the participants who are short would be forced to close out their position at a significant loss, thus causing a further spike in the prices. These spikes could subside once the demand abates, but they create unnecessary volatility in the market. Such situations are called “short squeezes.” Short squeezes can be attenuated to some extent by the presence of an active SLB market, as short sellers can hold on to their position longer by borrowing the securities. Such short squeezes usually happens when there is very demand for securities either around the time of derivatives expiry or during the times of financial results. In such situations, the SLBM can act as an important source of liquidity.

Increased participation

Several participants can use the SLBM to support their cash market activities. Thus, a fully functional SLBM implies more participation in the cash market also. The broad sources of increased participation in the cash market as a result of the SLBM include:

- **Short sellers**, who can sell securities in the cash market and borrow from the SLBM. This will improve the supply of securities, especially during liquidity squeezes. This supply is especially

useful for those securities where derivatives are not actively traded (e.g., exchange traded funds and debentures).

- **Investors**, who can leverage the SLBM to generate some additional returns on their portfolios. This could improve the demand for securities.
- **Arbitragers**, who can use the SLBM for cash-futures arbitrage. This will also increase participation in the futures market as well as in the cash market. This would increase both demand as well as supply of securities.
- **Market Makers**, who can use the SLBM to settle their short positions. This would improve the supply of securities, especially during low liquidity periods.
- **Collateral Management**, since typically, bonds are used as collateral for securities borrowing. Thus, the SLBM can also help create a demand for bonds in the market.

Appendix II: Example of Cash-Futures Arbitrage Using the SLBM

All stocks that have derivatives (F&O) contracts on them are eligible for being borrowed on the SLBM. This facility allows arbitragers to exploit the differences in the cash and the futures prices of stocks. Let us consider (for purposes of exemplification) that as of December 01, 2011, SBI stock is trading at INR 1825. The futures with a December 2011 expiry date are trading at INR 1800; i.e., the futures are trading at a discount of INR 25. Further, let us say, as on December 01, 2011, the January 2012 series SBI lending rate is trading at INR 10.

In this situation, an arbitrageur tries to capture the spread between the cash and the futures market. In the process, he buys one contract (i.e., 125 shares) of SBI in the futures market at INR 1800, and sells 125 shares of SBI in the cash market at INR 1825. For delivering the shares that he has short sold, the trader borrows one lot of SBI (i.e., 125 shares) from the SLB market. For borrowing the stock, the trader pays the lender INR 1250 (INR 10 per share x 125 shares). On the expiry date of the futures (which is Dec 29, 2011), the trader buys 125 shares of SBI stock at a price close to the closing price of that day. Let us say this price is X. Once the trader gets hold of the stock, he returns them to the lender.

The profit/loss of the trader on the cash segment is given by $(1825 - X) \times 125$. The profit/loss of the trader in the futures segment is $(X - 1800) \times 125$. The profit/loss from the cash and the futures trade is $\text{INR } (1825 - 1800) \times 125 = \text{INR } 3125$. The net profit after the borrowing cost is $\text{INR } 3125 - 1250 = \text{INR } 1875$. The trader makes INR 1875 with almost no investment from his side. Additionally, the trader will also earn interest on the money obtained from selling SBI stock on December 01. The lender earns a fee of INR 1250 for 125 SBI shares in a period of one month. This is approximately 0.54% of SBI's stock price. The annualised yield is about 6.57%.

In this context, we have not considered the margin/collateral requirements of the borrower. However, that should not affect the profitability of this transaction, as fixed deposits and bank guarantees can also be put up as margin/collateral, and they earn interest on their own.

The timeline of the arbitrage trade is as follows:

- Dec 01: Client buys futures, sells the stock, borrows stock from the SLB market, pays borrowing fee.
- Dec 02: Client gets hold of the stock from lender, delivers it for settlement.
- Dec 29: Client buys stock; futures expire.

- Jan 01: Client receives stock, repays to the lender.

As more clients start trading on arbitrage opportunities, the gap between the futures and the cash prices would eventually correct to its fair value.

Appendix III: Contract Specification of Indian SLB¹⁹

Approved Intermediary	NSCCL for the NSE; BOISL for the BSE
Eligible Securities	All securities traded in the F&O Segment
Trading Hours	9:15 a.m. to 3.30 p.m.
Series	<p>At any given time, contracts with multiple standardised stock return days on the following criterion:</p> <p>For the NSE: First Thursday of the month</p> <p>For the BSE:</p> <ol style="list-style-type: none"> 1. First Thursday of the month 2. Thursday prior to the last Thursday of the month 3. Additionally three weekly stock return days such that there are five stock return days (including the two above) on five consecutive Thursdays. <p>All eligible scrips will have a minimum of 26 and a maximum of 27 series available at any time.</p>
Order Type	Borrow/Recall/Lend/Early Return
Permitted lot size	1
Tick Size	INR 0.01
Last Trading Day	For any given stock return day, the last day to borrow and lend will be the third business day prior to the stock return day. If the stock return day is a holiday, then the return will take place on the trading day that immediately follows.

¹⁹ http://bseindia.com/bseslb/trading_mech.aspx