



Subject: RMIM

Chapter: Unit 3 & 4

Category: Assignment 2 solution

MCQs

Answer 1: C

Answer 2: D

Answer 3: D

Answer 4: B

Answer 5: B

Answer 6: C

Answer 7: D

Answer 8: C

Answer 9: C

Answer 10: A

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Longer questions:**Answer 1:**

- As was the case with Drysdale, management controls were very loose.
- The fact that Jett was making such extraordinary returns were overlooked on many occasions suggesting some complicity on behalf of the management which didn't seem to mind the good returns that were generated, although very suspiciously so.
- The computer system error which allowed this to happen should also have been vetted out before being uploaded to such a widespread system.
- Separation of duties
- No exception for any unusual profits

Answer 2:**What Happened?**

Unit 3 & 4

ASSIGNMENT 2 SOLUTION

Nirav Modi, Indian diamondaire, along with his uncle Mehul Choksi and other family members and employees of Punjab National Bank (PNB) and his firm, Gitanjali Group, fraudulently obtained Letters of Undertaking (LoU) from the bank under the pretext of paying overseas suppliers. It resulted in the biggest banking scam of Independent Indian history.

What was the cause?

At PNB's branch office at Brady House in Fort, Mumbai, two of its employees, Gokulnath Shetty, retired Deputy Manager of PNB and another bank official, issued fraudulent LoUs to Hong Kong based creditors on behalf of three firms associated with Nirav Modi and the Gitanjali Group.

The LoU serves the purpose of a bank guarantee, on the back of which foreign branches of a few Indian banks — including Axis and Allahabad Bank — gave dollar loans to PNB.

These foreign currency loans were used to fund PNB's Nostro accounts and from these accounts funds moved to certain overseas parties. A Nostro account is the account an Indian bank (here, PNB) has with an overseas bank.

Result:

The estimated size of the fraudulent LoUs was ₹11,356.84 crore (US\$1.4 billion) when detected in 2018. As of 18 May 2018, the scam has ballooned ₹14,356.84 crore (US\$2.1 billion).

It resulted in the entire value of PNB evaporating overnight.

Nirav Modi and his uncle, Mehul Choksi are fighting protracted legal battles with Indian authorities overseas regarding extradition and have been classified by GoI as economic offenders and fugitives.

What Happened?

NSEL case relates to a payment default at the National Spot Exchange Limited that occurred in 2013 involving Financial Technologies India Ltd, when a payment default took place after a commodities market regulator, the Forward Markets Commission (FMC), directed NSEL to stop launching contracts. This led to the closure of the Exchange in July 2013.

What was the cause?

The brokers mis-sold NSEL products to their clients by assuring them fixed returns. The defaulters hypothecated stocks and produced fake warehouse receipts and siphoned the entire default money. The exchange is blamed to take as long as 25 to 35 days to settle some contracts. The permitted time period to do so was up to 11 days.

Against the regulations, short-selling, too, was allowed in many cases. The then regulator Forward Market Commission (FMC), then intervened and asked NSEL to wind down existing contracts. This ended in payment default.

Jignesh Shah, the promoter of NSEL, was initially arrested but released on bail. He wasn't found guilty as no money could be traced to him but rather to 22 other defaulters.

Result:

Initially, it was projected that there were 13,000 trading clients affected by the NSEL crisis. The genuineness and entitlement of these 13,000 trading clients is questionable.

The NSEL management have been given a schedule of repayment, according to which every Tuesday (commencing August 20, 2013) would see a payout of Rs 174.72 crore for the first 20 weeks and Rs 86.2 crore for the next 10 weeks. But as expected, the exchange has failed in the very first payout, having distributed just around Rs 92 crore against a commitment of Rs 174.72 crore. The exchange closed in July 2013.

Answer 3:

The U.S. economy was experiencing a low interest rate environment, both because of large capital inflows from abroad, especially from Asian countries, and because the Federal Reserve had adopted a lax interest rate policy. Asian countries bought U.S. securities both to peg the exchange rates at an export-friendly level and to hedge against a depreciation of their own currencies against the dollar, a lesson learned from the Southeast Asian crisis of the late 1990s.

The Federal Reserve Bank feared a deflationary period after the bursting of the Internet bubble and thus did not counteract the buildup of the housing bubble.

At the same time, the banking system underwent an important transformation. The traditional banking model, in which the issuing banks hold loans until they are repaid, was replaced by the "originate and distribute" banking model, in which loans are pooled, tranced, and then resold via securitization. The creation of new securities facilitated the large capital inflows from abroad.

The strategy of off-balance-sheet vehicles—investing in long-term assets and borrowing with short-term paper—exposes the banks to funding liquidity risk: investors might suddenly stop buying asset-backed commercial paper, preventing these vehicles from rolling over their short-term debt.

To ensure funding liquidity for the vehicle, the sponsoring bank grants a credit line to the vehicle, called a "liquidity backstop."

As a result, the banking system still bears the liquidity risk from holding long-term assets and making short-term loans even though it does not appear on the banks' balance sheets.

There was an increase in the maturity mismatch on the balance sheet of investment banks. This change was the result of a move towards financing balance sheets with short-term repurchase agreements, or "repos."

In a repo contract, a firm borrows funds by selling a collateral asset today and promising to repurchase it at a later date. The growth in repo financing as a fraction of investment banks' total assets is mostly due to an increase in overnight repos. The fraction of total investment bank assets financed by overnight repos roughly doubled from 2000 to 2007. Term repos with a maturity of up to three months had stayed roughly constant at as a fraction of total assets.

This greater reliance on overnight financing required investment banks to roll over a large part of their funding on a daily basis.

Deposit insurance has made bank runs almost obsolete, but runs can occur on other financial institutions.

Not rolling over commercial paper is, in effect, a run on the issuer of asset-backed commercial paper. Furthermore, Bear Stearns essentially experienced a bank run in March 2008 when hedge funds, which typically park a sizable amount of liquid wealth with their prime brokers, pulled out those funds.

In September 2008, AIG faced a “margin run”. Several counterparties requested additional collateral from AIG for its credit default swap positions. These requests would have brought the firm down if the Fed had not injected additional funds.

Answer 4:

One of the biggest criticisms of VaR is inherent in the methodology. VaR does not attempt to offer any indication of how large or frequent a loss might be once the loss exceeds the VaR number—i.e., VaR fails to capture what is known as “tail risk.”

For example, we might hope that a portfolio with a VaR of \$100 million at the 99 percent confidence level is unlikely to experience losses above \$100 million more often than once every 100 days (i.e., 1 percent of the time), or two to three times in one year. Even supposing the VaR is accurately estimated, we can therefore expect losses of over \$100 million on around three trading days for any particular year.

“Expected shortfall” (ES), is an alternative risk measure that gives an indication of the magnitude of the potential losses in the tail:

ES = Expected loss beyond VaR (i.e., the expected loss given that the loss exceeds the VaR)

ES then measures the downside risk beyond VaR at a given confidence level.

Taking account of tail risk using ES is likely to become a critical capability in many institutions. In its “Fundamental Review of the Trading Book,” published in 2012, the Basel Committee even went so far as to propose adopting this risk metric in lieu of VaR.

Answer 5:

What was the cause?

A flaw in accounting for forward transactions in the computer system for government bond trading failed to take into account the present valuing of the forward. This enabled a trader (Joseph Jett in this case) purchasing a cash bond and delivering it at a forward price to book an instant profit. Over the period between booking and delivery, the profit would inevitably dissipate, since the cash position had a financing cost that was unmatched by any financing gain on the forward position.

Joseph Jett exploited the opportunity and made spectacular gains, albeit only on paper

What could have been done better?

As was the case with Drysdale, management controls were very loose.

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The computer system error which allowed this to happen should also have been vetted out before being uploaded to such a widespread system,

Answer 6:

What Happened?

Parekh artificially rigged prices of certain chosen securities (informally referred to as K-10 stocks), using large sums of money borrowed from banks including the Madhavpura Mercantile Co-operative Bank(MMCB), of which he himself was a director. The directors of these unheard of companies provided funds to him to exponentially boost the share prices of these companies which came crashing down after a RBI investigation and some moves by the bear cartel of BSE.

What was the cause?

Ketan Parekh purchased large stakes in less known small market capitalization companies, and jacked up their prices through circular trading with other traders, and collusion with these companies and large institutional investors.

Co-operative Banks, like MNCB, cannot invest more than 5% of their loanable fund in equities. Yet he borrowed around Rs 900 crore from the bank.

Ketan Parekh also was involved in a lot of arbitrage trading between Calcutta Stock Exchange (CSE) and BSE.

Answer 7:

The U.S. economy was experiencing a low interest rate environment, both because of large capital inflows from abroad, especially from Asian countries, and because the Federal Reserve had adopted a lax interest rate policy. Asian countries bought U.S. securities both to peg the exchange rates at an export-friendly level and to hedge against a depreciation of their own currencies against the dollar, a lesson learned from the Southeast Asian crisis of the late 1990s.

The Federal Reserve Bank feared a deflationary period after the bursting of the Internet bubble and thus did not counteract the buildup of the housing bubble.

At the same time, the banking system underwent an important transformation. The traditional banking model, in which the issuing banks hold loans until they are repaid, was replaced by the "originate and distribute" banking model, in which loans are pooled, tranced, and then resold via securitization. The creation of new securities facilitated the large capital inflows from abroad.

Answer 8:

- a. Liquidity Risk can generally be classified into the following two types:
 - i. Funding liquidity risk: When a firm is unable to pay or refinance its debt or cash obligation

ii. Trading liquidity risk:

- When the firm is unable to buy or sell security at market price.

If the sale happens it might happen at a discount resulting into huge losses.

LTCM

What Happened?

Long-Term Capital Management (LTCM), founded in 1994, was a hedge fund founded by very reputed people in the financial industry.

LTCM's downfall was triggered by an action of the Russian government in August of 1998. In a surprise move, the Russians defaulted on their own debt and devalued their currency. This created a flight to quality (i.e., an extreme movement to assets perceived as safe) where investors rushed to buy the exact assets that LTCM had been shorting (i.e., U.S. Treasuries and German bunds). The result was a decline in the value of LTCM's assets by just over 40% (\$2 billion of their \$4.8 billion in equity) in one month.

What was the cause?

The failure of LTCM was due to model error. Management did not properly anticipate increased correlations in the event of a global crisis. They actually adjusted correlations higher in their models, but the adjustment did not go anywhere close to the actual correlation spike caused by the cascading external economic shocks.

They also did not properly forecast the volatility that actually appeared in the markets. The margin calls that resulted from the evaporation of their equity drove LTCM to the point of collapse. In fairness, it was (and is) very difficult to forecast extreme tail risk events like the Russian devaluation scenario.

The fund was highly over-leveraged, at the ratio of 26:1 at the time of their default which also resulted in unheard of amounts of losses. The illiquidity faced near the end also played a decisive role in its demise.

What could have been done better?

Correlations should have been managed better, especially for tail-risk events. Also, loss assumptions should have been better set. LTCM relied heavily on value-at-risk (VaR) modeling using a 10-day time horizon. Its calculated VaR was \$320 billion and reality played out much more severely. A 10-day horizon is far too short of a window to survive a short-term market shock.

Based on the reputations of the founders, initial margins were often waved off by the investment banks dealing with LTCM. That exception should be avoided.

Lack of oversight in the hedge fund industry (which is a continuing problem) should have been tackled.

Result:

LTCM failed in the late 1990s following the Russian devaluation.

The turmoil that ensued spilled over into the broader U.S. financial markets and nearly caused a systematic crash. It probably would have if the Federal Reserve Bank of New York had not stepped in to broker a deal where a group of banks would inject \$3.5 billion of new equity in LTCM in exchange for 90% of the firm's shares and complete control of management.

Many banks took a substantial write-off as a result of losses on their investments. UBS took a third-quarter charge of \$700 million, Dresdner Bank AG a \$145 million charge, and Credit Suisse \$55 million.

Answer 9:

Before Lehman Brothers filed bankruptcy in September 2008, it was the fourth largest investment bank in the United States. The downfall of Lehman was its large exposure to subprime mortgages in the form of owning companies that underwrote the mortgages and also in issuing MBSs that contained subprime mortgages. The bankruptcy filing in September 2008 is considered the tipping point in the financial crisis. It eroded confidence in financial institutions and caused a run on money market mutual funds. This lack of confidence spread across markets and countries, resulting in banks holding onto cash, thereby amplifying losses in the subprime mortgage market.

Answer 10:

The housing bubble, which later burst and caused a liquidity squeeze, can be seen as the product of the following two broad factors:

1. Cheap credit. Interest rates were low in the lead-up to the housing bubble due to a combination of factors. First, an increase in demand for U.S. securities by foreign governments experiencing trade surpluses put downward pressure on interest rates.

Also, the Federal Reserve adopted a lax interest rate policy that promoted low interest rates to fend off deflation after the bursting of the internet bubble.

2. Decline in lending standards. In the past, banks held onto loans that they made until the loan was repaid. In the years leading up to the housing bubble, this traditional banking model was replaced by a new originate-to-distribute model of banking, in which loans are collected together, sliced into tranches, and then sold as securities. Since loan-originating institutions could transfer the default risk of borrowers to investors, the originating institutions had little incentive to be rigorous or diligent in their creditworthiness assessments. (There are stories of banks awarding mortgage loans upon presentation of only a driver's license.) As a result, lending standards fell substantially.

This decline in lending standards and abundance of cheap credit led banks to offer credit at low interest rates and lenient terms. This environment of cheap money and plentiful borrowing opportunities led to a flood of real estate purchases, which generated a housing boom.