



Experts View



The Universal Appeal of Gold



Gold has stood the test of time to remain one of the most traditional and preferred forms of investment. If the price increase witnessed in the yellow metal in the last few years is anything to go by, gold is likely to retain its preferred status in the time to come too.

The precious metal is universally seen as a wealth protector and finds place in practically every portfolio. As an asset, it is unique in more than one way. Unlike other asset classes, it has a global market-the size, depth and liquidity of which surpasses that of equities and bonds. Moreover, gold is seen to be relatively less impacted by the fluctuations in business cycles, on the contrary, the metal is known to flourish in the environment of economic uncertainty and low growths. Also, it is the only asset that does not possess a default risk as it is not linked to government or company finances. It differs from other commodities too as it is not susceptible to weather or geo-political risks. As such gold has been the virtually undisputed safe haven investment globally.



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(The author is the MD and CEO of CARE Ratings)

Gold features among the most investible asset as it can be easily obtained by one and all in various ways ranging from across the counter to commodity exchanges. This attribute of the metal adds to its appeal, in that it facilitates liquidity. Given its ever increasing appeal, gold is available in various forms too i.e. in physical forms such as coins, bars and jewelry as well as in the paper less form such as gold ETF's (exchange traded funds).

How does gold compare with other assets?

In terms of price increases and returns, other asset classes such as equities and bonds pale in comparison to gold. There are not many assets that can match the record of the steady rise in gold prices since 1990's. In the last decade alone, gold prices have risen from an average \$279/oz in 2000 to over \$1750/oz currently (upto Sept 2012), clocking a compounded annual growth rate (CAGR) of 15% during the period. In comparison, in the corresponding period the US Dow Jones Industrial Average (DJIA), the benchmark index of stock market activity, registered a CAGR of 1.41%. The returns on the other safe haven asset i.e. government bonds has been very low. The yield on the 10 year US treasury bonds, the most preferred "risk-free asset" is a mere 1.84%.

Gold counts amongst the world's best investment option and has been witnessing healthy demand. Demand for the precious metals has been largely undeterred by the high prices and increased by over 10%



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Gold Trades

Although, physical buying and selling of gold constitutes a large portion of its trade, gold registers huge volumes of trade in the derivatives market too world over. Going by the growth in trading volumes in the futures and option contracts in gold on the world's major exchanges, it can be inferred that there exists an active market (large participation) for the metal and that the price discovery mechanism is robust and effective. The gold contract traded on Nymex, MCX, TOCOM have recorded growth of 10%, 71% and 32% respectively in 2011 over 2010 as per FIA data.

Asia (that includes Shanghai, Tokyo, Taiwan and Mumbai) dominates the world's gold futures trade. The dominance of Asia in gold futures is due to the volume of consumer demand in the region for the metal. The region imports around 60% of the world's gold and exports 40%. The Asian region's dominance is likely to continue going by the consumption scenario that is likely to prevail globally. Given the weak financial and economic condition prevailing in Europe and the US, these regions are likely to see subdued consumption of the yellow metal.

Given the unlikelihood of dramatic changes in the global economic and finance space in the foreseeable future, the attractiveness of gold for investment is likely to remain unchallenged. It will continue to be one of the most widely traded commodity on the derivatives exchanges across the world.

in 2011 (to 4574 tonnes) from that in the previous year, despite prices being at record levels during the year.

Gold has been gaining importance as a monetary asset as in it is being increasingly used as a collateral in financial transactions, often even replacing other high quality assets such as government securities.

What has been driving gold?

In recent times, gold has benefitted from the global financial turmoil and the associated economic downswing and uncertainty. The metal has gained in popularity following the increases in government debt and thereby high public debt ratios in the post-crisis era, prompting investors to relook the "risk free and safest investment" status of government securities. In addition, the depreciation in currencies, especially the USD too has been aiding the attractiveness of gold for investors.

The waning investor confidence and low returns in other financial instruments/assets has resulted in investors crowding into safe

haven investments like gold, which have been giving highest returns to boot. The extent of investor confidence in the metal can be gauged from the shift in the portfolio of central banks that are being adjusted in favor of gold over traditional investments of sovereign bonds and forex. The share of gold as a percentage of total reserves has seen a quantum jump from 55% in Q1 2000 to 75% in Q2 2012 for USA, according to World Gold Council (WGC) data. Likewise, during the same period the share of gold in total reserves increased from 33%, 41% and 46% to 72% each in case of Germany, France and Italy respectively, to cite a few.

Investor appetite for gold is also being fuelled by the metal's attribute of an inflation hedge. With the depreciating currencies and high commodity and input prices, that has been contributing to inflation, lowering investor returns across asset classes, investors seek preservation of their wealth for which they turn to gold based investment which have been delivering higher real returns.





The Credit Risk Derivatives: Possibilities and implications in Nepal

Introduction

Financial Derivatives has been one of the essences to mitigate risk arising from commercial transactions. Exchange traded markets has formalized the transaction needs of all hedgers, speculators, and arbitrageurs, where the core objective lies in mitigating risk factors. Different modules of derivatives constructed upon various assets and indices as interest rates, equity index, commodity prices, stock price, even weather index with various other emerging concepts has revolutionized world economy to a different dimension.

Credit risk refers to the risk that a borrower will default on any type of debt by failing to make payments which it is obligated to do. Credit derivative concept was evolved in late 1990s that capitalized notional principal of about \$ 800 billion in outstanding derivatives contracts by 2000, and \$42 trillion by 2007. This tool allows company to trade credit risk in order to manage their portfolio. Banks and financial institutions has been one of the major buyers of credit protection to hedge against the risk



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diluted in their major income i.e. credit. These companies seek such protection either from insurance company or derivative exchange in term of credit default swaps and total return swaps built on credit indices, basket credit default swaps, and assets-backed securities and collateralized debt obligation. Markets In credit risk, which can be transferred, have the potential to contribute to a more efficient allocation of credit risk in the economy. This helps bank in reducing concentration of exposure and diversify risk beyond their consumer base.

One of the basic modules for transacting credit derivative is the contract that provides insurance against risk on credit (credit event) by particular company (reference entity). The buyer of protection fund pays amount per year (CDS Spread*) to seller as the risk premium, whereas seller pays to buyer in case of default risk.

These CDS spread are paid on annual, semiannual or quarterly basis with preferable maturity of five years. The default payment is made in case of occurrence of credit event. These credit events may occur because of

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downgrade by a rating agency below a specified minimum level, bankruptcy or insolvency by the obligator, or default on payment obligation. One of the basic credit derivative conceptual models is presented as follow:

Conceptual Framework:

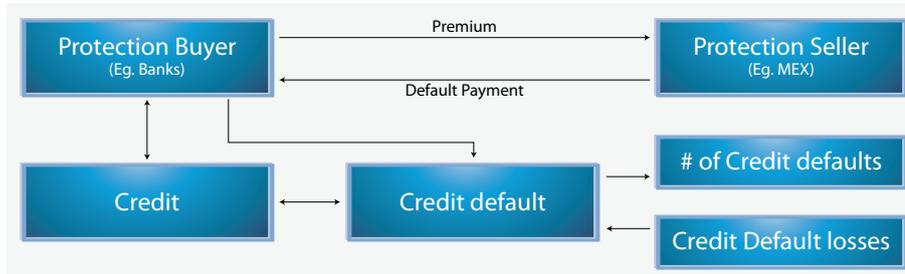


Fig: Credit Risk Derivative basic framework

Here, bank or some financial institution (hereby referred as protection buyer) once providing credit to some party seeks protection against default of credit from protection seller. As an exchange, premium is paid to ensure the default amount if any in regular basis to protection seller by buyer.

Credit Risk Metric: Poisson Model

Credit risk models allow the derivative and hedge companies for the identification and quantification of the typical risks inherent in credit portfolio. They enable portfolio managers to actively manage credit portfolios in an effective way. Credit risks are caused by the default of one or more than one customer or buyer. It is possible to determine the distribution of a portfolio's default losses from the probabilistic distribution of the number of defaults. We can apply the theory of generating function (GF) to derive the probability distribution of the credit loss function of a class or the entire sector.

In practice, we divide a credit portfolio into many independent sectors S_k such as banking, finance companies, Hotels, developmental, etc. with each comprising loans which have about the same credit risk.

Modeling the number of credit defaults within a sector:

If we know the expected default rate (μ) within the fixed time period, the number of credit defaults X within a fixed period of time (e.g. one year) can be described by the Poisson probability distribution.

The probability distribution function for the number of default would be

$$P(X = n) = \frac{\mu^n e^{-\mu}}{n!}$$

Here μ is the expected default rate.

Modeling the credit default losses:

The exposure of the default loss within a sector is to be defined according to the size or group such as 1 million, 2 million...etc. We define all default losses within a class j with exposure unit L by the upper limit of class L_j .

We denote μ_j , the expected number of default events in the j^{th} class, X_j , refers to the number of defaults in the j^{th} class and V_j , the amount of default losses in the j^{th} class in units of L as;

$$P(V_j = n.j) = P(X_j = n) = \frac{e^{-\mu_j} \mu_j^n}{n!}$$

The generating function $G_j(z)$ of the loss probabilities of j^{th} class is

$$\begin{aligned} G_j(z) &= \sum_{n=0}^{\infty} P(V_j = n.j) z^{n.j} = \sum_{n=0}^{\infty} P(X_j = n) z^{n.j} = \sum_{n=0}^{\infty} \frac{e^{-\mu_j} \mu_j^n}{n!} z^{n.j} \\ &= e^{-\mu_j} \sum_{n=0}^{\infty} \frac{\mu_j^n z^{n.j}}{n!} = e^{-\mu_j} \sum_{n=0}^{\infty} \frac{(\mu_j z^j)^n}{n!} = e^{-\mu_j} e^{\mu_j z^j} \\ &= e^{-\mu_j(1-z^j)} \end{aligned}$$



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The generating function of the losses of entire sector S_k

$$G_{S_k}(z) = \prod G_j(z) = \prod e^{-\mu_j(1-z^j)} = e^{-\sum \mu_j + \sum \mu_j z^j}$$

The probability function of the default losses of a sector

$$P(V_{S_k} = n.L) = \frac{1}{n!} \frac{d}{dz} (Z_{S_k}(z)) \Big|_{z=0} = \sum_{j=1}^n \frac{\mu_j \cdot j}{n} (P(V_{S_k} = (n-1).L));$$

Such as, $P(V_{S_k} = 0) = e^{-\sum \mu_j}$

The above recursive relationship can model the distribution of the credit default loss of the entire sector.

Implications in Nepali Scenario

Credit derivatives have contributed to dramatic changes in the process of credit intermediation, and the benefits of these changes seem compelling. In the context of Nepal, the political insurgency for a decade had ample negativity on national economy. Closure of several businesses and infrastructure destruction strengthened the impact to its maximum, having adverse effect on investment scenario. Banks and financial institutions faced problem of issuing the number of new loans, whereas the existing one is in greater exposure of risk. Since then, situation has improved quiet a lot but still hasn't stabilized the scenario. Investors still have a big question mark on the direction, where the economy is tending itself. Lack of confidence in investors has crumpled the credit market on one side, whereas the agitating risk on the existing one has laid significant downfall in credit business.

Banks and finance company invested huge money on real estate business to hedge themselves to this risk exposure, where they intended to collect huge capital out of small chunks from investors and invest it in the place. But with crunch in business has questioned that:

Is the recovery possible???

As most of financial invested till boom of real estate business cycle, and suffered the fall in market. The risk in credit and loss of value in collateral with market price has now been one of the major concerns for all the lending agencies.

Credit Risk Derivative can be one of the effective tools in such scenario. This adds confidence in financial institution to freely provide loan insuring against their default risk. This will add positive effect in banking transactions, with increased in their revenue and profit margin, hedging investment risk on financial tranches. With the mentioned module of Credit Risk derivatives, the hedging is possible but has huge question on the feasibility of implication. Nepalese derivative market has a short history, driven by commodity futures trading. The industry itself is in growth stage, but it has shown a high degree of its prospect to grow as an alternative for investment. Derivative market with commodity futures is isolated from other sector of investment. In advanced economy, commodity futures on stock index, credit risk, and other derivatives have linked derivative market directly with other sector of economy, integrating the investment effect. Credit risk derivative is implied in China, still under development in India; two emerging giants in world economy. In such, the question arises that in such situation is it possible to launch credit risk derivative in Nepal, despite of its benefits to national economy. The question arises in the capability of market makers in derivative market, if they are capable enough to take risk on such credit transaction, in terms of clearing the contract at its execution as significant amount of the investments are made in major real estate business and hydro power projects. Now it's the role of government to stabilize derivative market and provide it with new integrated format with the economic variables, which adds value in national investment with measures to safeguard investors.

**CDS Spread is the amount to be paid as a risk premium.*

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Common Areas Covered by Nepalese Bank & Financials Institutions (BFIs) in Credit Risks Assessment for Individual Credits

Credit Risks

“Before going to be exposed, BFIs must take into account and realize that they deal with others’ money which needs to be returned on demand”

One of the primary business of the BFIs is to prudently lend money to their potential borrowers and underwrite to the counterparty so that business could be sustained in a long run as well as the expected return could be given reasonably to their shareholders /investors. In course of lending process, lending activities are normally carried out with the arrangement through credit risk assessment of credit proposals individually and the credit exposure must be backed up by the acceptable and disposable security back up adequately so that financial loss could be avoided even in a distress situation to the possible extent.



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Credit risk normally refers to the level of possibility that a borrower /counterparty may fail to meet its obligations in accordance with agreed terms. Every BFI, while extending the loan and underwritings, exposes it towards the risks. Therefore, BFIs usually terms their loan & advances as “Risk Assets”. While extending the credits, BFIs should often take calculative risks by understanding the risk and its possible set back, extending risk assets only if there is sufficient ground to believe about the counterparties’ repayment capacity is sufficient and only if there are mitigating factors in place for the possible risks.

Before formulation of policy and strategy for the proper credit risk management, hence, it is imperative to answer that:

- What constitute credit risk?
- What are the components of lending function that are often risk exposed?
- What should be credit policy and credit culture?
- What are the available tools and resources to monitor and manage the credit risks?
- Who should take its direct and ultimate ownership? etc.

The defined aim of credit risk management for any BFI, thus, should often be to enlarge its risk adjusted rate of return by maintaining credit risk exposure within acceptable parameters. BFIs require to manage the credit risk inherent in the entire portfolio side by side the risk in individual credits /underwritings and transactions. It should also more prioritize to consider the relationships between credit risk and other risks like liquidity risk, operational risk, market risk, etc. The effective credit risk management is a crucial and critical component of a comprehensive approach to risk management and equally essential to the long-term success of any BFI.

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Bankers must admit that loans & advances are the largest and most obvious sources of credit risks. However other sources of credit risks, apart from that also exist throughout the activities of any BFI, including in the banking book, in trading books, and both on and off the balance sheet. BFIs face credit risk /counterparty risk in various financial instruments other than loans, also including acceptances, interbank transactions, trade financing, foreign exchange transactions, financial futures, credit repurchase, bonds, equities, etc., which also must take into account while assessing the risks, formulating strategies, policies, focusing on appropriate mechanism to screen and counter findings with mitigating tools.



Credit Risk Assessment

Before deciding to extend any credits / underwritings in favor of counterparty, conducting of a serious and thorough credit assessment only can ensure the sake of business to some extent. Such process is being started from the credit application origination i.e. Credit Officer or Relationship Manager, who also must take the ownership of customer relationship and must be held responsible to ensure the accuracy of the entire credit application as they are supposed to be equally familiar with the Credit Policy Guideline, Business Strategy & Planning and Risk Assessment Procedure of their employer.

Besides, Credit Officer /Relationship Manager must have familiarity about the Know Your Customer (KYC) and Anti Money Laundering Policy which should adhere to all times.

In context of Nepalese BFIs, following key factors, apart from other crucial factors, have been taken into account while assessing the individual credit proposal and intended to be ensured that the credit is bankable only if there are mitigates in place.



Industry & Business Risks:

Such type of risks normally implies in the credits other than personal loans, which also plays vital role in sustainability of the counterparties that ultimately determine whether the entity is bankable or not to some extent.

Basically, followings things are being taken into under industry and business risks:

- Industry size, demand & supply gap, and existing or likely market share
- Position of the counterparty in the industry i.e. market leader or follower or challenger
- Available suppliers, origin of raw material /goods (i.e. local or imported) and policy rules related to and possibility of hassle to procure
- Buyers & distributors and their strength & bargaining power
- Inherent and even unforeseen difficulties in productions / selling, situation of availability of technical support / parts and labor, union's strength
- Space / capacity available for storing the raw materials / goods
- Company's position vis a vis competition, government rules and regulations and possibilities of its amendment, dependency on any particular rules / policies / things
- Product mix and its substitutes
- Entry / exit barriers, implications if tax rate / customs duty or foreign government policy changes
- Any other risks relating to industry / business risks, etc.



Financial Risks:

Financial risk is a crucial risk that ultimately determines the capacity of the counterparties to meet its financial obligation. Basically below mentioned factors are being assessed for financial risks:

- Historical financial analysis and analysis on projected financials spreadsheet
- Repayment capacity, alternative source for the repayment of interest and principal, liquidity status
- Cash conversion cycle and average collection period vis a vis industry average, credit terms and period from suppliers
- Nature and quality of stocks /fixed assets
- Cash flow status and its adequacy, debt service coverage ratio, debt equity ratio, capital base, leverage, operating leverage position and relevant ratios
- Capacity of promoters to inject the capital in case of need, etc.



Management Quality /Risks:

Success of any business largely depends on the competency level of its entrepreneur and management. Weaknesses and incompetence in management affects in repayment of the credits granted. Therefore, basically following things are being considered while assessing the management risks:

- Background of the promoters /owners /management team
- Competency level, experience, qualification of owners /managers in managing the firm /business
- Commitment level and honesty of owners /management, track record in managing the firm /business and repayment of the loans
- Availability of competent second line management
- Operations and management track record of other firms /companies managed by them
- Focus on issues like whether the owners fully dependent on staff in managing the firm / company? If yes, what is their back up / succession plan status?
- Dynamism and prudent level to manage and mobilize the human resources, etc.

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Technical Risks:

Technical risks need to be assessed properly in order to ensure that there is enough mitigates are in place to mitigate the technical risks.

Following things, but not limited to, need to be considered while assessing the technical risks:

- Viability of project / business technically, availability of strong technical back up in terms of technology, manpower, expertise
- In case of in-house human resources are not available to repair the plant & machinery in terms of break down, how far is the nearest location from where technical people would visit? Whether it shall affect in their regular supply and production or not?
- Provision of guarantee / warrantee in purchase agreement of machinery / equipment & plants
- Supplier of spare parts, maintenance policy and planning, term of JV agreement or Annual Maintenance Contract for technical support and its reasonability and rationale
- Possibility of arrival of new machines / technology in the market and its consequences
- Quality, brand and condition of major plants and machinery, capacity utilization, etc.

Security Risks:

The offered / available security for the demanded credit facilities can often be considered as a means of loan recovery in case of loan default. It is, side by side, can be taken as to make the counterparty sincere and responsible towards the credits granted. Basically, a complete assessment of the offered / available security requires before accepting it based on the established guidelines & parameters.

Similarly, type of credit facilities to be availed of by the customer and subsequent of required security documents execution and obtaining is essential. If the security documents are not properly executed or security is not obtained adequately, BFIs may not be able to recover the loans if it requires to exercise second way out on problematic loans. Security documents and security coverage should be made based on the type of the facilities granted.

Normally, following aspect is being covered while assessing the security risks:

Primary Security:

- Nature of security (perishable / nondurable or durable), quality of stocks, aging of the receivables, disposable level, pricing trend of goods (volatile or stable), chances to be obsolete, verifiable or non-verifiable
- Go-down / store status, record keeping, insurable or uninsurable
- In case of plant & machinery; nature, brand, standard life, current age, book value, disposable value, warrantee / guarantee period, repairing & maintenance service, etc.

Secondary Security:

Secondary security comprises real-estate collateral and other fixed assets that could be considered as a last means in course of loan recovery process, which is necessary to be disposable even in a distress situation. In view of this, every BFI normally establishes basic parameter and defines minimum criteria and demarcate the location to standardize it so that lending exposure could be ensured with acceptable security back up adequately. Basic issues to address in assessing security risks are:

- Property type (residential, commercial, industrial, etc.), ownership of property and legal heirs & their consent
- Property location, commercial importance, future prospective, access of road, salability level
- Qualitative value rather than quantitative value, possible drawbacks / setbacks
- Whether it is dispute free or not and is its cooling off period elapsed?
- Personal net worth of the Guarantor in case of Personal Guarantee invocation
- If the facility is against Bank Guarantee, what is the status / standard of the BFI issuing the guarantee etc.

Sensitivity Analysis /Other Risks:

While granting the project loans /large loans, sensitivity analysis should also be carried out, taking the sensitive factors into account. For example;

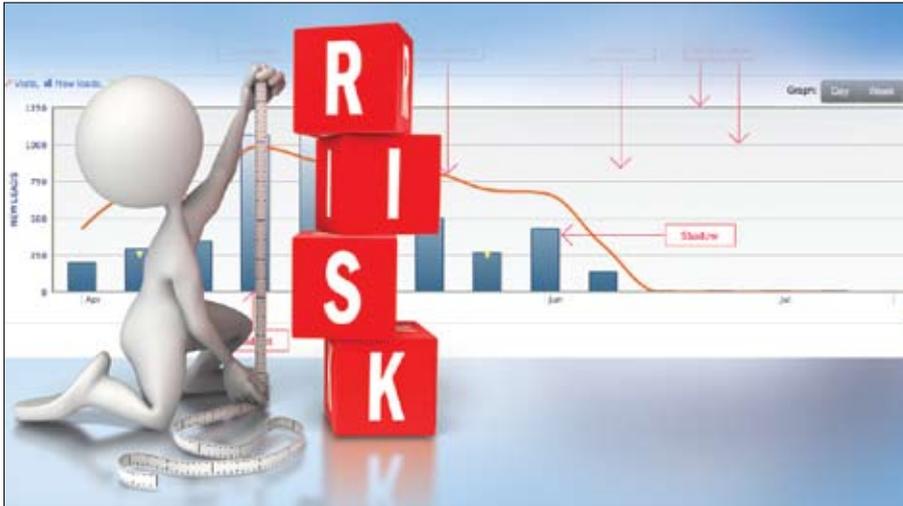
- Increase in cost of raw material
- Decrease in selling price
- Project is delayed by a span of time than projected
- Less capacity utilization,
- Decrease in production (unit)
- Decrease in sales (unit), etc.

In such cases, analysis should be done what will be the effect to the counterparty / unit's cost of production if cost of raw material is increased? Is it sensitive? If the unit has limited suppliers, what will be the status of the unit if suppliers do not supply the raw material? Are there any possibilities to have other suppliers?

Similarly, possibility to deterioration of profitability on account of selling price decrease. If they are supplying to limited units / buyers, impact may exist in the sales and the profitability of the unit /



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counterparty. It would be meaningful to understand that whether other buyers shall buy their productions or not and possibilities to incorporate new customers in case where market penetration is required to sustain the business.

The above mentioned points are examples only. The factors, which are sensitive for the counterparty of the BFIs, should be analyzed and calculative risks only should be taken into account.

Other risks and mitigates, on case to case basis, based on the identified risks should be assessed and need to be ensured that sufficient mitigates are in place.

Credit Scoring & Grading:

Apart from above qualitative assessment, BFIs practice to follow internal "Credit Risk Grading System" in order to know the degree of risks lied on each credits and deals, which has been developed based on different defining parameters. Generally, credit monitoring and pricing are being exercised based on credit rating or grading.

Apart from afore mentioned issues, other areas that are also equally important to agree as risk factors while extending credits are:

Purpose of Credit Requests:

Misuse of credits also leads towards credit default. Therefore, borrowing purpose should be understood and clearly documented in the credit appraisal. Credit proposal should not be processed / approved without understanding the actual need of the fund. Also, the officials should be cautious on fake borrowing requests. For example; requirement showing for enhancement of the business but actually using the fund for personal use or for speculative purpose (investment in shares / real estate properties).

Past Track Record:

While considering the credit proposal, past track record and background of the customer should be understood. If the applicant is existing customer past performance can be assessed based on internal information and records. Even if the intended customer is new one, its track record with other BFIs must be understood and documented through the available means.

However, in case of personal loans, risk factor to the above highlighted horizon may not be required to assess, but basic things as jotted down including the security risk, but not limited to, are being assessed painstakingly:

- Background, character / integrity and reputation of the prospective borrower and his / her undivided family members
- Adequacy of cash flow / repayment capacity and its nature. Whether it supports to repayment module of the loan or not?
- Reliability and sustainability of repayment source and its diversification

- Status of existing borrowings with other BFIs, and market information
- Past track record with other BFIs
- Availability of competent alternative person to serve the loan in absence of the borrower
- Nature of requirement and facility structure etc.

Given the hierarchical flow of the risk factors, it can be concluded that any BFI may suffer a heavy loss or precipitate even failure if above mentioned risks are not identified and managed properly giving desired attention as warranted by the degree of identified / possible risks.

Based on the above highlighted way of credit risk assessment, any type of credits and underwritings may be extended that ultimately enables to the different entrepreneurs / business and consumers including the investors who often look forward the investment areas and invest in the available investment opportunities expecting reasonable returns. If we separate the business banking / corporate business and other productive entrepreneurship / ventures, in context of Nepalese individual investors, derivative / commodities market is also evolving as one of the new avenues to invest, besides the stock market. The possible investors of commodities market also may have been facilitated by the local BFIs with designing / launching new products in customize way. However, formulation of policy and rules from the part of government is necessary to rollout immediately to streamline, recognize and monitor this sector so that every stakeholder and potential finance partners can do something to boost this sector, as exercised in other countries of the world.

