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The Impact of Shadow Banking System on Financial Market Distress; Moderating Role of Regulations

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Abstract: This research study aims at to discover the effects of evolving concept of the shadow banking system and particularly assessing how the major elements of shadow banking system such as Money Market Mutual Funds, Repurchase Agreements and Asset-Backed Commercial Papers would move to financial market distress. The Shadow banking have major contribution towards the great US financial crisis of 2007-2008 in the form of structural securities of SDOs due to lack of effective regulatory system and If the regulatory mechanism levied by Securities and Exchange Commissions and a stable monetary and fiscal strategies of central bank would be properly practiced, it can provide assistance to overcome the distressing situation of financial market. OLS method applied for analysis and two sample data sets are collected, firstly, for shadow banking system itself taken 29 countries as from the Global Financial Report (2017) and secondly, the outstanding level of time series data of money market mutual funds, repurchase agreements and asset-backed commercial papers in the context of US financial market through secondary data sources. The outcomes appeared as significant that are associated with our arguments given in the literature that through moderating role of regulations risk of financial market distress can be mitigate and the study hypothesis are verified. Hence, research framework proved statistically and a strong regulatory system can reduce the misbalancing situation of financial markets.

Keywords: Repurchase Agreement, Shadow Banking System, Shadow Banking Regulations

1. Introduction

Shadow banking termed as the non-banking intermediaries' system and a credit intermediator mechanism which do not fall under the systematic banking structure and offers financial facilities similar to traditional banking system, apart from not being in the category of real banks and the regulatory system enforced on traditional banks do not practiced in shadow banking system [51]. Due to this, a thoughtful challenging situation have been appeared for many years in the field of finance. Evidently, shadow banking in the literature has been defined as a key sponsor in the financial crisis of 2007-2008 [21]. The threats postured through shadow banking also realized the financial analysists to look out the sources to inspect the regulatory system. With the intention of to avoid comparable forthcoming financial crises, shadow banking and its elements must be properly scrutinized and a regulatory framework is essential.

The functions and operations run through shadow banking just similar like conventional banking system, for instance, investment banking, MMFs (money market funds), securitizations and mortgage-backed dealers, entirely contains the activities of shadow banking system [29]. All of them, MMF may consider as much serious part of shadow banking. MMF invests in short span debt securities that's extremely valued and may denotes as mutual and open-ended venture firms in the worldwide financial mechanism. For a short period of financing and liquidness MMF can be serving as a huge part designed for various financial sectors. Because of that MMF embraced more than of three trillion US dollars in the aggregate value of assets as of March, 2017 [8]. Although, its massive evolution, the ambiguity and incapability of MMFs to make available a protection shields contrary to financial crises, place a serious threat.

In the essential of the recent financial crisis in 2007-2008 and the collapse of whole financial system was mainly caused by structured securities, most commonly known as basic element of shadow banking system. Securitization do not directly engage with maturity renovation, but specifically this term is used for funding. The fast speeding up of the new issue of equity mortgage-backed securities (EMBS) dominated in 2000-2004 and, also through re-securitizations such as Collateralized Debt Obligations (CDOs), and with the outstanding balance issue market as per quarterly, quickly reached across more than 500 billion dollars from the 100 billion dollars of worth outstanding.

However, subsequent downfall of the ABCP market, the mortgage-backed securities (MBS) market also come to an end in Aug-2007, while after the failure of Lehman Brothers in Sep- 2008, the remaining market with fresher stock also crashed due to imbalance intermediation system of specifically prime money market mutual funds. While, historically a distorting pattern of securitization has a comparatively brief history. In the 1920, first ever transaction with respect to securitization was conducted, loans were sold to the finance marketable real estate and to trade investors by the marketable real estate bond houses, via a channel of the commercial real estate bonds. In the phase of the immense financial crises, the activities were fell down and a huge amount of such bonds resulted in default [56]. Though, the swift decline in the global economic circumstances add a significant role in the interpretation of the lower standard performance, as done intense underwriting, also trading of the bonds in minor values to inexperienced retail investors.

In the period of 2000, a challenging situation of securitization were focused in various segments of CDOs, specially in 2002, and later in 2005-2007, along with RMBS and CMBS. More probably for arbitrage, firms by means of securitization are engaged in the credit cycles, through securitization as a means of charge income by nominal proposed risk preservation, and several of there were give up such holding stocks of debt afterward.

Shadow banking often make available the investment opportunities on the basis of high-risk and high-return to the investment banks which may consider as an inferior quality of investment due to an indulge of higher factor of risk and somehow this innovative system, most probably provides an efficient way to escape from the regulations system of SEC or central bank that may leads towards a higher risk outline. Though in the condition of equilibrium, the higher return with an efficient investment opportunity may compensates the losses associated with high risk factor involved.

However, the banking sectors relatively may not be regulated and its evidence comes from the literature, while in this study, the research model demonstrates that through a practical implication of regulations, such imperfections which is caused by the extended risk factor of default in financial market, and deliberately leads towards a misbalancing situations firstly, at domestic level and then in global financial market, can be minimized. The intentions are to satisfy the fundamental investigations of regulatory system, prospects and the financial risks engaged with shadow banking system and its elements particularly.

In the time of economic recession, the risk of extensive liquidity frequently lost investor's trust on financial market. Due to provision of better and diverse investment channels and to avoid undue regulations, shadow banking considered a most preferable financial intermediaries system, but though on practical ground realities referring to the case of great financial recession of 2007-2008, this study showed, such shadow banking system and its elements may prove to be a great concern of financial market distressing situation, and proves to be devastating one if, regulations are completely omit from the scenario of financial money market. Although, extended implication of debt or leverage as compare to equity and asset bubbles caused by an increase in expected gain of high risky assets, may also leads towards a shift in relative risk, thus shadow banking grows widely. Such findings may consider as constant with the financial area growth during the phase of the U. S. financial crisis (2007–2008), that was categorized as a big initiative, that could away the traditional banking system and ultimately leads to the shadow banking mechanism.

However, according to [43] the volume of traditional banking system was approximately eleven trillion US dollar, while the size of shadow banking system was estimated roughly twenty trillion US dollar, which is as twice from the credit intermediation of the traditional banking system [40, 48]. And by time being, banks rapidly formulated the securitization mechanism to overcome capital prerequisites. The promotion of asset-backed commercial paper through specialized channels, such as special purpose vehicles (SPV), is the most prominent one, that was issued to the external investors for the short span of time against the acquisitions and holding of long period assets from the financial banks. These assets may not be undertaken for the purpose of measuring capital essentials, as such assets are categorized an off-balance sheet item when the SPVs held them [42]. The initiation of ABCP channels also illustrates the development of shadow banking system. Though, by the end of July 2007, the outstanding worth accumulated of ABCP is reached to the extent of \$1.3 trillion from \$650 billion US dollar as accounted in 2004, that demonstrates ABCP was the most widely traded device among the money market instrument of the United States [2, 50]. All the financial structure based on the counterparties trust, that means investors must have strong faith upon the financial mechanism (in which they dealing), and it must functioning on the expectations of the investors, that's why at the peak of US financial crisis R. Samuelson also wrote in the Washington Post column; "It's all about confidence". As financial managers, investors, financial banks, investment banks and insurance companies moreover, hedge funds, money market funds, asset backed securities with almost repo market have lost such confidence, that's why we are in a phase of full puffed disaster. And banks withdrawal from lending (to each other); investors retreat [49].

Consequently, shadow banking had a sound setting to develop and raise instantly, specially once the credit intermediaries found confident about the behavior of financial institutions as seems to be regulated, although in actual scenario it is irregulated system. Whereas, a huge cost have be bear the traditional banking for regulating their banking system and enforcement of rules, while in the system of shadow banking such cost is vanished, though the financial sector which falls in the orbit of shadow banking, must maintain their repute through investors' confidence and ultimately, they regulate discipline through own mechanism, as to be conscious about the investor perception of market performance. According to Nobel and Zimmermann (2005) the historic viewpoint of financial regulation had been an abrupt response towards financial catastrophes. In the period of financial crisis, the complications and the vulnerabilities of the banks and its operating system turn out to be very concrete and it increases the requirement of the regulatory activities to establish updated rules about entire running and practice robust monitoring system on all banks to terminate the malfunctioning and alleviate the adverse influence on the economy. Studying the historic perspective of Federal regulation of United States on banking operations they realize that exertions about the regulatory institutes to offer protection contrary to delicateness of banks, essentially produce added difficulties, for instance, risk revelation rises with decreasing market discipline.

Particularly, this research study inquiries about the hazards postured through shadow banking system and specifically its elements as Money Market Mutual Fund (MMMF), Repurchase Agreements (Repo), Asset-Backed Commercial Papers (ABCP) and for the purpose of devising substantial ways regarding the regulatory system of MMMF, Repo and ABCP.

From many decades, to escape from different financial penalties and cost, financial authorities and banking sectors running a parallel system as shadow banking system, where the regulations are not imposed as the real banks [41]. Nevertheless, in the scenario of great financial depression of 2008 the shadow banking and specifically its elements as MMF (in forms of CDOs) were the huge donor towards generating a systematic risk and it has been considered to posture a serious risk towards the worldwide financial institutions. The existing regulatory system meant to have insufficient financial instrumental system for riveting serious economic variations in the form of legislative assurances. Hereafter, an economic disastrous outcome could be appearing in the result of such financial crisis. Subsequently, it needs to identify and devise methods for intensive care to regulate shadow banking system and further a mechanism particularly for Money Market Mutual Fund (MMMF), Repurchase Agreements (Repo) and Asset-Backed Commercial Papers (ABCP). In future, the solely way to minimize the magnitude of financial and economic losses, is to implement financial regulatory system.

The objective of this research study is to develop a probable monitoring mechanism for the regulations of the Shadow Banking System, to establish possible mechanisms for regulating the Money Market Mutual Fund (MMMF), Repurchase Agreements (Repo) and Asset-Backed Commercial Papers (ABCP). To discover the possible risks linked through shadow banking system with its elements globally and to identify the prospective scenarios in relation to the Shadow Banking System, MMMF, REPO and ABCP essentially with United States financial markets. Also, the research questions to be answered as mentioned;

1. What are the potential risks associated with Shadow Banking System to the global economy and What positive impact of Regulation can exert to evade financial crises?
2. What are the ways to provide advantages by MMF specifically to banking institutions? and how can the Money Market Funds (MMMF), Repurchase Agreements (Repo) and Asset-Backed Commercial Papers (ABCP) be structured and regulated?
3. How can be identify the potential financial threats involved with the Money market funds, Repurchase agreements and Unsecured Commercial Papers specifically in the scenario of US economy?

Global regulatory mechanism of banking institutions is emphasizing toward world-wide. The great shocks of financial crises of (2007-2008) caused by the prior weak regulatory system of banks that incurred a huge amount of financial losses and ultimately immense financial disturbance globally. After 2009, a series of regulation were initiated specifically exertion towards a systemized banking and more emphasized upon shadow banking system. As being elements of shadow banking system the MMFs (Money Market Funds) [including all the open-ended Money Market Mutual Funds, short term loans and Repurchase Agreements and the Asset Backed Commercial Paper] considered as riskier short-terms debt investment alternative. Still that were the gainful option for investment banks. By way of REPO, ABCP and MMMFs, behave as a mediators and agents with their major objective toward the support of locating and analyzing minimum cost associated with MMF. Owing to this practice, a number of prominent financial sectors were engaged in MMF, thus these MMF got an influencing position at the worldwide economic system specially in proceeding decades [11]. Giving such incentives of financial expansion to the global financial system, the shadow banking needs to be sustained in positive direction and grow with stability. Though, for the purpose to escape additional financial loopholes, like 2008's financial crises, numerous approaches have to be accessed for the regulatory system of shadow banking and money market funds. For such purpose this research study's intentions to exploring the existing literature and to identify existing risks, prospects and probable regulatory mechanism linked up with shadow banking system and specifically its elements firstly, in US domestic financial market then later at global financial market.

2. Literature Review

2.1. The System of Shadow Banking and Financial Market Distress

Shadow banking system can be termed with some form of securitization, as a system of financial institutes that perform by means of intermediation between depositors and investors. Although the credit transmission in such network done more alike conventional banking system, and do not hold direct source for liquidity. Thus, the govt regulatory framework and indemnifications, such as Federal Reserve and net public security doesn't applicable to them [46]. The literature review concerning regulation of shadow banking system have been primarily stirred by the 2007-2008 financial disaster [57].

The literature reviews concerning regulation of shadow banking system have been primarily stirred by the 2007-2008 financial disaster [52]. That was the phase when the corresponding shadow banking system begins attaining an ordinary consideration [24]. Meanwhile in the period of 1940-1950, shadow banking as per mediators has grew a huge deal [55].

It's also demonstrated through existing literature that intermediation by traditional banking's share fell to as forty% in 2007, while previously in the end of 1940s it was near to 100%. [6]. The growth of the shadow banks has been reached to 34% in preceding decade, and its expansion could be realized over the former decade by observing the [figure 1]. The shadow banks illustrations seized in the chart prominently the MMF (money market funds), CP (commercial papers), REPOs (repurchase agreements), REIT and GSEs (govt sponsored enterprises).

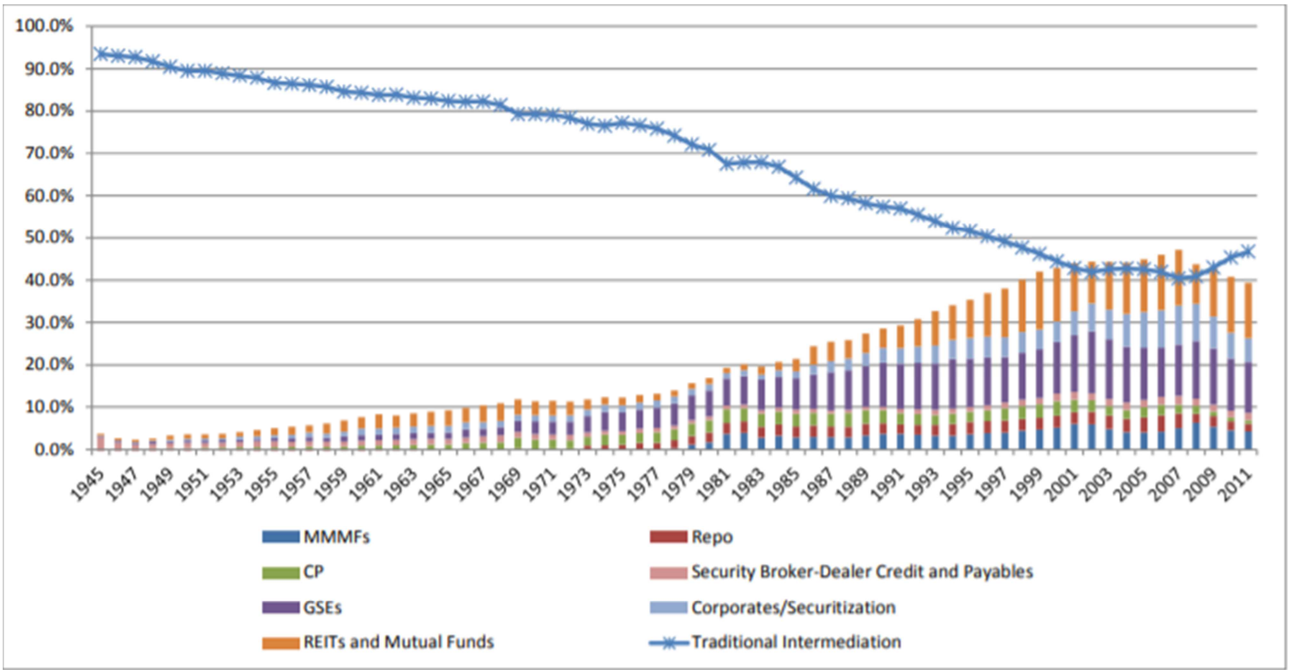

Figure 1. *Financial institution's outstanding liabilities level.*

Origin; Board of Governors of the Federal-Reserve System: *Flow of Funds* [Slabs L107 - L212], March, 2017.

Regardless of an instant raise into the expansion of shadow banks as an intermediary, there is an estimation that its involvement fell down to approximately 26% through the last of 2011 [46]. This deterioration in the earlier years had been mainly due to the delicateness of shadow banking's structure, as not being controlled or indemnified by govt institutions. According to First Federal Reserve Monetary Policy Report (2011); the credits employed within such financial structure is unsecure, further inclined to individual institution obvious unconventional risks and over-all financial threat, but the financial experts are merely fascinated through the system of shadow banking as risk free driver. Hence, having the structure integral within its pure layout, much of the literature during recent years focuses on proposing the shadow banks regulatory framework [46]. Numerous principles have been devised and practiced through financial analysts and policy developers.

This regulatory sub-section established by SEC and seems as reasonable, arranged and experienced in financial markets through instructing the affiliate members with the financial instrument's dealings. Such affiliations run through the most significant clearance initiatives and deals, and financial securities otherwise denoted as self-managerial relations to several negotiated conventional firms and venture entities. Simply, to being placed, the market regulatory division formed the rules relevant to the venture entities. Similarly, it decodes some predictable alternatives to present directions, further reviews other inconsistencies against the doings of the business engaged with financial securities. It keeps up constant reflection of driving the market for the insurance that appropriate measures are taken and dealings with financial securities can bring into the monitoring system [17].

H-1: The system of shadow banking has significant effect on financial market distress.

H-2: Effect of the regulations have moderating role between shadow banking system and financial market distress.

2.2. Money Market Mutual Funds (MMMFs) and Financial Market Distress

MMMF labeled by way of open-ended funds intended for the investment options in a short span debt security. Institutional MMMF deals with financial institutions rather than individual investors, with floating Net Asset Value that's why considered more riskier in the time of financial crises. Firstly, in the period of 1971, MMMF were recognized in the US money market as a means to avoid banks regulations that impose some restriction upon the interest charges on credits [10]. At the span of 1974, only a rare MMMF exists then it raised to approximate figure of 35 in the last of 1975 and the evolution of MMF amplified instantly within the period of 1978 and the financial business's possessions fractious the digit as two billion US dollar, within only five months of that year [10]. After that time, the MMF formed an equivalent banking mechanism, catering the requirements of the investors and creating healthier returns as compare to the traditional banking credits and in 2008, MMMF area surpassed to approximate $3.5 trillion US dollars. The MMFs are primarily structured through SEC fall in the Act of (1940) of Investment Companies and its objective towards attainment a stabilized value of net assets or (NAV), normally as equal to $1.00 [53, 46]. The hedge funds, MMMF and accounts as institutional into the investment streams were examined in the noteworthy study, and the core issue toward identifying the peculiars relevant to the time of financial crisis [47]. This research accomplishes that financial crisis spreads beyond institutional depositors to other financial bodies and MMF institutional depositors design added risk of financial crisis. In additional similar research, the impact of MMMFs institutional structure upon the risk bearing investor's perception have been studied [36, 33]. Sponsors of MMMF had declared, MMFs area unit with completely likelihood not arranging to provoke turns inferable as of their intensely liquid assets, then deducted, the MMMF area unit equivalent about ordinary banking [16]. In the research of [51] observe the outcome of the confidential MMMF's design on also risk bearing perspective, though the risk-bearing creates dissimilarities about the private assets and the assets possessed by wider holding entities, as banking holding entity [19]. The variances of the risk bearing perspective of separate MMMFs and the financial sectors possessing the govt and institutional assurances are also examined. The notable characteristic recognizes shadow banking from conventional banking that the tactic as financial intervention line is a component between frequent sections. While in commercial banking, credit opening and the value creation done in-house. Commercial banks used investor's credit, compulsion and value to aid credit access toward customers. Highlighting the secondary vulnerabilities of elusive credit publicize, then correspondingly a capability by the Federal-Reserve fluidity agencies within MMMFs preserve running inside the fiscal alternative, [12] in study comprehend that emergency liquidness agencies remained contributory in regenerating trustworthiness of the MMMFs. The originators deal with numerous strict regulations to reduce primary hazards specified within MMMFs distinctive susceptibility to run.

Generally, the MMMFs are considered as being cash intervention chain due to the reason of initial ingredient within the system of shadow banking. MMF grow supplies, issue cases to depositors and later put the assets with financial representatives, for instance, commercial papers and securitization drivers.

Instability in the interest rate of MMMF have an adverse impact upon the balancing of financial market and there could be a disturbing situation in market with excessive instability that ultimately could be move towards the higher fluidity rates. At the time, the depositors started withdraws the fluid assets in crisis situation, then SEC should take measures and enforce regulations to enhance the liquidity. These acting policies could stabilize the short-term funds invested into the financial market and would actually be accommodating especially for the depositors [23]. which can also prove to be helpful to regulate the financial market in balance and prevent another financial crisis to occur.

H-3: Money market mutual funds have significant effect on financial market distress.

H-4: Effects of the regulations has moderate role between money market mutual funds and financial market distress.

2.3. Financial Market Distress and Regulation's Impact

The investors may move towards liquidating the funds due to the instable rate of MMFs triggered through the financial crisis and could bring about a huge volume of misbalancing situation in the financial market that also have a negative influence on the investor's intentions. The elements of financial market run through the association of actions in counter-party default risk, liquidity of cash required also risks management agendas, and all these are deciding the competence and eagerness toward exchange. While, credit risks featured into subsidiary agreements appeared as further liability, when prices fluctuating with higher values. Where, counterparty financial reliability is further robust to assess the intensified monetary effects, that could ensure the financial disclosures.

However, in concealed markets or non-disclosure of public info, the featured influence integrate disorders of prices, are growing stimulus and become a source of dynamic exchange systems. The subordinate conclusion relevant as this could be markets strength illustrate imperfectly liquidity in the introduction toward period of market disturbance. Liquidness appears as more significant when it appears without any vagueness, but right with some sort of ambiguity it generally deserted the expected return on the financial securities [43]. Once the market become unbalanced at that time a rise in liquidness and extra fluidity appears, consequently, it would be not as much as appealing toward the investor's perspective, as they have to sacrifice long-period yields just by emphasizing on the securities that could be with no trouble converted into the money. Frequently hesitant investors are not the risk-taker or risk averse and they have curiosity in more fluid assets. Nonetheless, not bearing the sufficient risk is an unhealthy or a negative indicator considered toward market as to ignore long-span assets also overlook prospective yield. However, through an investment perspective more illiquid MMFs are preferred. The MMFs along relatively low fluidity has high yield than such funds as per high liquidness. The markets ware normally biased over high fluidity risk on the bases that nobody ought to be indulge into an enormously deprived undertaking they can't stream [13]. In spite of the progressive debate upon handling current convertible funds practices, the regulations up-till remains infrequent and at odds, particularly the regulations involving managerial arbitrage and the shadow convertible cash. So far, Plant in 2014 states, it could be more appealing to release up wealth requisites for traditional banking toward lessening the shadow banking activities and to managing them [45]. Additionally, financial researchers examined that development of shadow handling have to implicitly more arranged about regulating costs and stirring forces into such direction that the standard banking could assist the shadow banking system to join in further controllable shadow convertible funds practices [4]. As well, the financial experts deal with that regulatory framework must be center on assisting the shadow banking to have outstanding dimensions to stretch the liquidness and credit without fundamentally relay on the conventional banking [28]. propensity to perceive short liquidness like a dual cutting edge that may equally create probability [1]. To evade probable monetary disaster and sufferers that may appear in the form of financial crisis, the existence for regulatory banking system is mandatory, and more than a few federal and institutional protocols had stayed projected in previous era and the historic perspective of [2007-2008] financial crisis further the disastrous outcomes triggered through it. Thus, numerous MMMF revolutions in form of regulatory framework had also anticipated in recent ages [30]. There are two conservatories of judgements in the perspective of U. S. money market, about the regulation of MMMF. The first approach appeared as in the favor of MMMFs must be regulated, alike the conventional banking. While, the other approach states that MMMFs do not such compulsion as regulated similar to conventional system of banking. The United States' SEC (securities and exchange commission regulate the MMMFs under regulations as [2a-7] of the Act-(1940) of Investment Company [34] and the dividends have to be repaid under such act that are indicator of the extent to short period interests. While, MMMFs are not guaranteed through the govt, thus, Rule 2a-7 permit MMMFs to state the net asset value at minimum level of one-dollar value ($1.00), given that its "shadow NAV" (Net Asset Value) have not drop as lower than $0.995 [27]. Though, an MMMF's testified Net Asset Value may drop lower than $1.00 [as known to be "breaking the buck"], when the shadow net asset value drops below the value of ($0.995) [31].

The Financial Stability Board (FSB) have part a substantial character as far controlling and regulations have been considered about the MMMF and essentially to properly regulate the shadow banking system. With the intention of absorbing the economic shockwaves in period of emergency, the FSB intentions to frame suitable regulatory structure to monitoring the system of shadow banks and further MMMFs. The FSB offered wide-range sorting of the shadow banks for example, the way to formulating rule and regulations approved and the controlling [22]. Additionally, the instability of financial funds becomes the source of more distressing economic situation and rapidly jump into the higher risk's probability, further intensified wave of financial crises within recessions becomes the fragility of financial funds.

Although, in crisis period, shadow banking must be obligated to provide funds at discount that can encourage estimations within regulatory framework. It also offers incentives to pull-back funding, beforehand different shadow handling associate mark-account contributors decide on. As it might be, the similarity in some of the functions between conventional banking channels and the shadow banking development initiatives as up till now, apart from regulatory framework, on which necessarily conventional banking is based [7]. While according to few conclusive statements the shadow secured funds does not provide demand provisions, however moderately have funding into markdown money-market, for illustration, Commercial Papers and Repurchase Agreements [38] offers a structure toward having functioning into the market of Repo which taking the detailed inevitabilities for the Lehman then Bear-Stearns crises as preliminary drive. This structure also focuses particularly on the disparities amid the Tri-Party REPO market then the reverse REPO display-case thus, two-markets evaluation had done [5]. Although keep successively in the interior of two-edge market defined through a sharp increase in shock strategies [25], keeping run inside the Tri-Party REPO show-case seemed easily withdrawing of funds by an appropriate limited outcome to the level of shock strategies. Preserves running in the asset-backed-CP display-case had correspondingly explained through the withdrawing of funds.

H-5: The regulations have significant effect on financial market distress.

2.4. Short Term Loans and Repurchase Agreements and Financial Market Distress

There is one of the reasons of great financial disaster 2007-2008 as the most financial sectors were extremely levered that unexpectedly down fell. Although existence of collateralization, they were not capable to extend or transfer the short-term loans. On short-term money market in terms of micro design, liquidity restriction and a collateral limit relay significantly.

As on the provision of collateral, mostly traders take short term loans from financial investors dealing in financial credit institutions, for instance; Money Market Funds, and the most financial instruments traders considered the repurchase agreements as the core area of finance and provision of availability of loans especially while in urgent need of finance. The institutional dealers who engage in especially with market of Tri party repo is one of the core aspect of repo market which was topped up with approximately 2.9 trillion US dollars in the phase of financial recession of 2007-2008; while others repo including with overnight maturity rise up to four billion US dollars, that was also a considerable addition in the outstanding amount of existing short term money market funds.

However, the available data is not sufficient about related market of repo. If we insight over the year of 2012, there is facts and figures related to repo market indicates approximately 3.1 trillion in worth; that's including almost 2/3 of Tri party repo, while remaining bilateral market of repo [14]. On the hand the worth of Reverse repurchase agreement were approximately 2.1 trillion in term of US dollar. However, the whole worth of repo can be estimated as more than 6 trillion USD. The cause to be default of Lehman' was considered as the sudden downfall of debt instruments, including derivative securities such as SDOs, while Repo also take a part in highly risky short-term debt securities. Although in the interest of public there is begin a serious discussion on considerably at more riskier devices e.g. Repo that could have such potential to de-structure the whole financial system [20]. Although, being collateralization with securities, the sudden downfall of Repo market was considerably shocking (Bernanke, 2009). The FRB of United States established an especial body to monitor the system of Tri party Repo market in 2009, remember during the financial market distress situation 2007-2008, this Tri party Repo encountered the intensive liquidity problems.

To streamline the US financial market conditions there were some strategical steps taken by the United States Federal Reserve Board as established firstly, the PDCF (primary dealer credit facility) and subsequently, developing the TSLF (term securities lending facility) to lessen the intensive pressure and make available as a backstop especially for the Tri party Repo during the phase of crisis. Experiential literature also provides the evidence about United States Repo market have distinct features especially in the time of misbalancing situation of US financial market. In the specified areas of Bilateral market, haircuts also rise exceptionally [28, 15]. This research work enables to study the relative delicateness about the various sections of financial markets, also explains the discrepancy between growing restrictions of margins, that's a possibly equilibrating spectacle and practicing, though it can be possible in case of inadequate margins growth in order to the safety of investor's interests.

However, if the margin grows that may ultimately decrease the accessible funds but some funds are good in case of no funds [28]. Although, being collateralization with securities, the sudden downfall of Repo market was considerably shocking [9]. Though bilateral repo market operations should be running at its limited level. But if we talk about Lehman's that were totally contrary to this situation and solely relays on the repo market related to third party, that's why the margins stuck and shortage of funds leads towards the collapse of the whole financial structure in the times of crisis. "Bear Stearns" also faced the same circumstances of cut off funds in some days and their margins also stuck, and the meanwhile they also confronted the situation of crisis due to third party market intermediation.

H-6: Repurchase agreements have significant effect on market distress.

H-7: Impact of regulations has moderating role between repurchase agreements and market distress.

2.5. Asset-Backed Commercial Papers and Financial Market Distress

A well-defined financial instrument named as Asset-backed commercial paper ABCP is widely used for the support of financial credit system in provision of short-term loans among various financial sectors as well for their individual clients. But the overall outstanding level of financial market went down in year 2007 from its crowning position with the highest quality of their funds. As ABCP were found one of the most appealing investment alternatives about short period of times. In late 1980s ABCP was introduced for the first time as the most reliable financial instrument dealings in the short term. While in some of decades its standings were become stronger and grabbed the investor's attentions approximately 1.3 trillion dollars in 2007 as an outstanding level of US financial market. In the European market scenario, their chunk is approximately more than 250 billion dollars, but after the peak point in 2007, ABCP a deleveraging system is escorted, until a great financial misbalancing situation occurred that was leading towards the financial catastrophe. Due to financial downturn there is also huge decrease confronted in economic sectors which may also appears an ordinary reduction in the number of receivables recognized as ABCP. However, the recent regulations have been enforced, that discourage such type of funding with application of huge cost and there is obvious reduction is appeared in the total outstanding level, as sufficiently went down from 251 billion. As for the matter of liquidity, elasticity or the growth rate is concerned, many commercial treasury accounts prefer ABCP as a good source of investment. Over the contemporary financial crisis, many conventional multiple seller's channels continued. Hence, the process of ABCP erections improved with the new-fangled regulatory actions, In spite of small issuance and investor's incredulity. Before making an investment, prospective investors should take extreme inside into the strengths, potentials, kinds and the quality of collaterals as to mitigate risks through continuous monitoring and relevant credit policies.

However, the financial market had a swift upward trend before begins the financial crises in the time period of 2007 with the accumulated outstanding values of 1.2 trillion US dollar [44]. In the meantime, upward demand trend from the investor's side specifically deled with institutions about the specific category of asset caused in the spread of advanced ABCP, which further added difficulties for the customers to determine risk factor involved in numerous lineups [18]. Liquidity concerns ensuing the inception of the subprime debt crisis has been beaten the market of ABCP, complemented by the fact that ABCP and the more striking, somehow by the time being, disreputable special purpose vehicles (SPVs) have such structural resemblances. In the time of great financial recession in Sep. 2008, Lehman Brothers filed a bankruptcy, but afterward there were depletions through Prime Money Market Funds (PMMF), and the major buyers of ABCP exaggerated and straightly lead to the drop of plans in their outstanding value by ABCP promoters. Infect, a quantitative valuation about the implied performance of guarantees is provided for the source of mortgages [35]. However, there is a massive drop can be seen in the accumulated outstanding value of ABCP after the financial crises of 2007 as stood 230 billion dollars in the year Nov 2017, which can show more than eighty percent of reduction. In order to ensure the liquidity of corporate and yield returns, Asset Backed Commercial Papers has been considered as an authentic investment tool specially within short time frame through investor's perspective. However, recent regulations and the automation process of the financial market would be appeared as an overall strong credit structure of the lineups that gradually becoming a part of the regulatory practice. Investors often have no intuition about collateral pools, and whenever they confronted such situation of risks associated with subprime, they reluctant to invest in such channels. Also, the risk consideration is an important element regarding imposition of regulations, while ABCP may offer some of risk moderation for an investment group and may transmit other risks linked with securitized credit.

Some risks are involved with ABCP program that may have adverse effects due to the incorporation of structural risks and the soundness of ABCP lineups is deeply influences by the known status as the special purpose vehicles (SPVs), that contains high level of risks due to several parties and multifaceted legal requirements, as contrasting from the traditional financial corporate sectors which commercial and financial risks are comparatively informal to comprehend and analyze. However, the issuer is not allowed to liquidation on his own discretion or in such case, any of the related words is subject to clarification through court of law due to the inbuild complexity of ABCP program. Another risk may be considered as the liquidity risk of ABCP as the collections through collateral assets may not come to the stipulated time frame to make available credit to repay the maturing amounts. The most considerable risk involved with collateral is the probability of not completely collectible and finally incurrence of losses. Hence after crisis risks may be transmitted to the sponsoring banks, which may indicate that the counterparty risk associated with sponsor is more significant currently than earlier financial crisis [31]. A study emphasizes on the finances of ABCP channels that financial banks establish some specific channels for the securitization of assets, with assuring to diminish the requirements for bank's capital with credit guarantees, and make available an alternative as financial statement of banks for external investors [3].

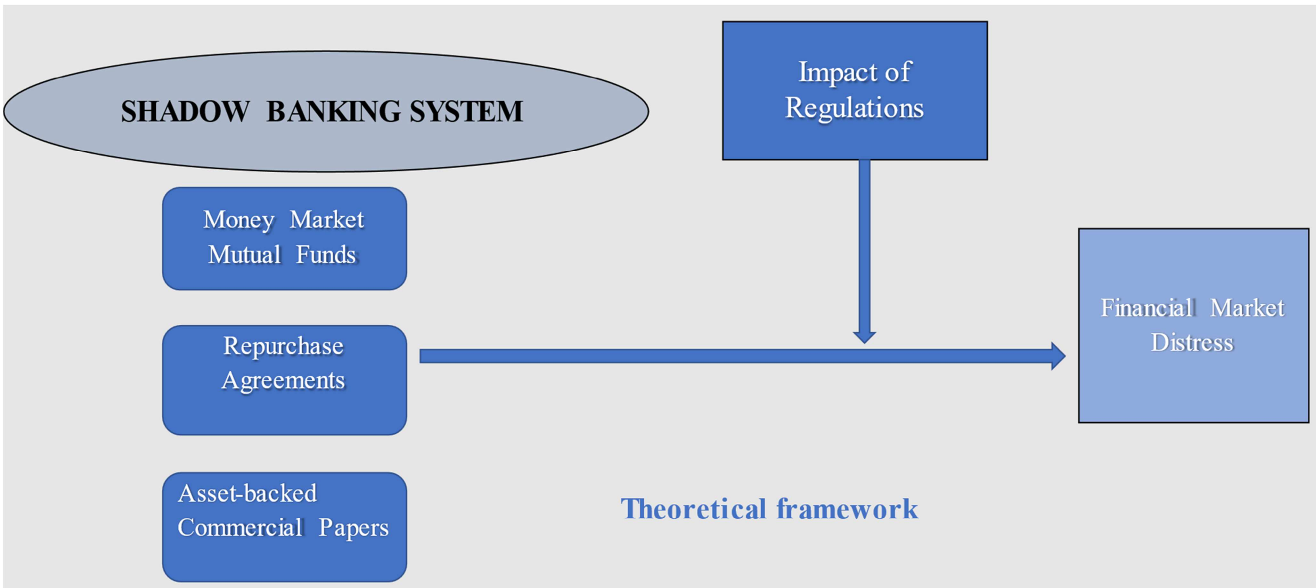

Figure 2. *Framework of variables.*

In the aftershock of the financial crisis, regulatory concentration moved swiftly towards elaborating and preservation of financial stability. While at that time, a series of modifications were ratified that, however usually not directly effecting market of ABCP, establishment of sponsor banks for the assistance of investors and supporting them to completely backing their channels. By the meanwhile, these innovative regulations also bring about to an end, this credit conduit on cost and capital deliberations in some bank sponsors.

H-8: Asset-backed commercial papers have significant effect on financial market distress.

H-9: Impact of regulations has moderating role between asset-backed commercial papers and financial market distress.

3. Methodology

3.1. Sample / Data Collection

1. First Model with Cross-Sectional Annual Data for the time horizon 2012 and 2016.
   Statistical Model: Financial Market Distress = B0 + B1*Shadow Banking System*LIBOR

In the above mentioned statistical model dependent variable is Financial Market Distress which is measured through Global Financial Stress Index (FSI), *B0* is an intercept and *B1* denotes as coefficient of independent variable. Moderating effect of Regulations have measured through US dollar Libor as its being considered most stabilized rate and widely used a standard benchmark in global banking network. All the statistical tests and remedies in this study applied with the help of [37]. To ensure the ethics of research, the secondary data used in this study is collected with the permission of concern departments [54].

In first model, sample data of Shadow Banking (independent variable) have taken from the time period of [2012 and 2016] as 29_group of countries; Argentina, Australia, Chile, Brazil, Belgium, Canada, Cayman Islands, China, France, Russia, Germany, Hong Kong, India, Indonesia, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, Singapore, Saudi Arabia, Spain, South Africa, United States, Switzerland, Turkey, and United Kingdom. These countries are selected as per the jurisdictions mentioned in Global Shadow Banking Report-2017 and the Regression tests are run through Ordinary Least Square (OLS) method, for the attestation of the study hypothesis. Through secondary sources the data is gathered as National sector balance sheet and data from FSB (Global Shadow Banking Report 2017).

2. Second Model with Time series Quarterly Data for the time horizon of 2000 to 2016**.**
   Statistical Model: FSI = B0+B1*MMMF*LIBOR + B2*REPO*LIBOR + B3*ABCP*LIBOR

2nd model is tested as for the elements of shadow banking which includes; Money Market Mutual Fund, Repurchase Agreements and Asset-Backed Commercial Papers for the time frame of 2000 to 2016. In the above-mentioned statistical model dependent variable is Financial Market Distress which is measured through St. Louis Fed Financial Stress Index (*STLFSI*) [58, 60, 61], *B0* is an intercept and *B1* denotes as coefficient of independent variable. Moderating effect of Regulations also have measured through US dollar Libor. The sample data of the, Money Market Mutual Fund [39], Repurchase Agreements, Asset-Backed Commercial Papers and Financial Market Distress (dependent variable) have taken for the time horizon of (2000 to 2016) from the Office of financial research (OFR Financial Stress Index | Office Of Financial Research, 2019) [59], and LIBOR has taken from the FRED (ICE Benchmark Administration Limited (IBA), 2019) [32].

3.2. Data Analysis Methods and Techniques

Two model have been developed to analysis the sample data through applying Ordinary Least Square. Regression analysis run through OLS method and also test some of the assumptions of OLS methods.

In the first model as 29- countries are selected with available annual data for shadow banking and treated in place of cross-sectional and in the second model, we shall apply time series quarterly data analysis and run regression test accordingly to test our hypothesis for the time period of 2000 to 2016.

4. Results Section

4.1. Descriptive Statistics for Cross Sectional Data Model

Following table shows some statistical descriptive values of independent variable Shadow Banking in the time period of 2012 and 2016.

Table 1. *Descriptive statistics of cross sectional data.*

	S_B_2012	*S_B_2016*
Mean	1280.393	1557.235
Median	483.2060	487.7720
Maximum	14238.07	14134.10
Minimum	14.96320	16.01011
Std. Dev.	2665.175	2899.933
Skewness	4.166336	3.194700
Kurtosis	20.71300	13.63717
Jarque-Bera	463.0138	186.0518
Probability	0.000000	0.000000
Sum	37131.39	45159.80
Sum Sq. Dev.	199000000	235000000
Observations	29	29

S_B_2012: Shadow Banking in the time period of 2012.
S_B_2016: Shadow Banking in the time period of 2016.

4.2. Descriptive Statistics for Time Series Data Model

Following table shows some statistical descriptive values of related independent variables MMMF, Repo and ABCP.

Table 2. *Descriptive statistics of cross time series data.*

	MMMF	REPO	ABCP
Mean	1574.425	4515858.	549.4985
Median	1714.931	4544807.	602.7785
Maximum	2588.246	7016192.	1144.353
Minimum	709.4231	2681688.	216.1934
Std. Dev.	454.8065	942950.9	261.7649
Skewness	0.136460	0.266700	0.397900
Kurtosis	2.411436	3.221121	2.166046
Jarque-Bera	1.210068	0.958552	3.598769
Sum	108635.3	312000000	35717.40
Sum Sq. Dev.	14065728	60500000000000	4385334.
Observations	69	69	65

Followings are two proposed statistical model models for regression analysis with some predefined time frames:

Regression Analysis of First Model with Cross Sectional Data (2012 and 2016).

Mathematical Equation; Financial Market Distress = B0 + B1*Shadow Banking System*LIBOR

4.3. Regression Test Between Shadow Banking System and Financial Market Distress with Moderation Effect of Regulations (2012)

Estimation Equation:

FSI_2012 = B0 + B1*LOG (S_B_2012)*LOG (LIBOR_2012).

Substituted Coefficients values into equation:

FSI_2012 = 0.04148 - 3.17807051747e-17*LOG (S_B_2012)*LOG (LIBOR_2012).

Table 3. *Regression Test Between Shadow Banking System and Financial Market Distress with Moderation Effect of Regulations 2012.*

Variable	Coefficient	Std. Error	t-Statistic	Prob
B	0.041480	1.43E-17	2.90E+15	0.0000
LOG(S_B_2012)*LOG(LIBOR_2012)	-3.18E-17	6.13E-18	-5.186053	0.0000
Mean dependent var	0.041480	S. D. dependent var		0.000000
S. E. of regression	2.29E-17	Sum squared resid		1.42E-32
Durbin-Watson stat	1.548953			

NOTATIONS: LOG (S_B_2012)*LOG (LIBOR_2012); indicates interaction term as log value of shadow banking with log value of LIBOR within time frame 2012.

Regression test is run to ascertain the results that are significant as the p- value is less than 0.05. While FSI (Financial Stress Index used as a proxy to measure Financial Market Distress) and S_B (Shadow Banking in USD billion) is an explanatory variable which have well explained the outcome variable and Least Squares Method is used. To check the impact of regulations on dependent variable, we run regression test with interaction of moderator (Libor) and independent variables consequently found the p-values is less than 0.05 which indicates significant results of regression test.

4.4. Regression Test Between Shadow Banking System and Financial Market Distress with Moderation Effect of Regulations (2016)

Estimation Equation:

FSI_2016 = B0 + B1*LOG (S_B_2016)*LOG (LIBOR_2016).

Substituted Coefficients values into equation:

FSI_2016 = -0.196079365079 + 3.38132277387e-16*LOG (S_B_2016)*LOG (LIBOR_2016).

Table 4. *Regression Test Between Shadow Banking System and Financial Market Distress with Moderation Effect of Regulations 2016.*

Variable	Coefficient	Std. Error	t-Statistic	Prob.
B	-0.196079	2.39E-16	-8.22E+14	0.0000
LOG(S_B_2016)*LOG(LIBOR_2016)	3.38E-16	6.55E-17	5.161606	0.0000
Mean dependent var	-0.196079	S. D. dependent var		0.000000
S. E. of regression	3.68E-16	Sum squared resid		3.65E-30
Durbin-Watson stat	1.645851			

NOTATIONS: LOG (S_B_2016)*LOG (LIBOR_2016); Log value of Shadow Banking into Log value of Libor in 2016.

To check the impact of regulations on dependent variable, we run regression test with interaction of moderator (Libor) and independent variables consequently found the p-values is less than 0.05 which indicates significant results of regression test.

Regression Analysis of Second Model with Time Series Data (2000Q1- 2016Q1):

Mathematical Equation;

Financial Market Distress = B0 + B1*MMMF*LIBOR + B2*REPO*LIBOR + B3*ABCP*LIBOR

In the second model of time series data we have following variables:

Independent Variables are (1) MMMF; Money Market Mutual Funds, (2) REPO; Repurchase Agreements and, (3) ABCP; Asset backed commercial papers.

Dependent Variable is “Financial Market Distress” which is measured through “St. Louis Fed Financial Stress Index” (FSI). Moderator is Regulations which is measured through US Dollar Libor.

Some of the assumptions of OLS are also tested for the robustness of our regression results through normality test, heteroskedasticity test and LM auto correlation test.

4.5. Regression Test Between Mmmf, REPO, ABCP and Financial Market Distress with Moderation Effect of Regulations for Time Series Data Model

Estimation Equation:

FSI = B0 + B1*MMMF*LIBOR + B2*REPO*LIBOR + B3*ABCP*LIBOR

Substituted Coefficients into equation:

FSI = -1.58082030749 + 0.00160613990733*MMMF*LIBOR - 4.43891839803e-07*REPO*LIBOR + 0.000602809001889*ABCP*LIBOR

Table 5. *Regression Test Between Mmmf, REPO, ABCP and Financial Market Distress with Moderation Effect of Regulations for Time Series Data Model.*

Variable	Coefficient	Std. Error	t-Statistic	Prob.
B	-1.580820	0.118022	-13.39427	0.0000
MMMF*LIBOR	0.001606	0.000110	14.54319	0.0000
REPO*LIBOR	-0.000000444	3.85E-08	-11.54318	0.0000
ABCP*LIBOR	0.000603	9.39E-05	6.420238	0.0000
R-squared	0.808587	Mean dependent var		-0.041099
Adjusted R-squared	0.799174	S. D. dependent var		1.046167
S. E. of regression	0.468826	Akaike info criterion		1.382391
Sum squared resid	13.40764	Schwarz criterion		1.516200
Log likelihood	-40.92772	Hannan-Quinn criter.		1.435187
F-statistic	85.89445			
Prob(F-statistic)	0.000000			

To check the impact of regulations on dependent variable, we run regression test with interaction of moderator (Libor) and independent variables, as a result we found all the p-values are less than 0.05 which indicates significant results of regression test. R-squared value is appeared as (0.808587) that shows explanatory variables sufficiently explains the dependent variable (FSI) and also the value of Adjusted R-squared is higher (0.799174) which may indicate proposed model explains variability around its mean. Probability value of (F-statistic) is also significant.

5. Discussion Section

In this study two hypothetical models are tested with the OLS method that intended for simple and multiple analysis of regression. While, through first model with cross-sectional data we have tested relationship of shadow banking system (IV) with the dependent variable which is used as financial market distress and the impact of regulations thereof, afterward, the second model is employed with time series data, as some of the major elements of shadow banking system (MMMF, REPO, ABCP) are used as explanatory variables, and the regulation's impact on financial market distress for the statistical soundness of the results. In the very first model the collected data are not successive alike data of time series instead treated data as cross-sectional with employing Eview8 and few OLS assumption is verified. In the period of 2012 and 2016, the data is gathered, then scrutinized independently for assessment and outcomes appeared as significant.

Firstly, regression test run without moderation for the available data in 2012, and one of the assumptions OLS scrutinized as the normality test and its insignificant value [p>0.005] signifies that residuals of data is within particular range. To test another OLS method's assumption we shall again hypotheses as to check problem of heteroskedasticity in the time periods 2012. As the p-value is greater than (p>0.005) so, in this case we accept the null hypothesis and reject the alternative hypothesis, as the model is free from the problem of heteroskedasticity and data is homoscedastic. For the moderation and combined effect of shadow banking system in the time frame of 2012 and the regulations (Libor US dollar), again the test run and within influence of moderation the outcomes are testified as moderating variable as well contented with research question concerning assurance about the regulations, though hypothesis are correspondingly developed on the study questions of the research. The (F-statistic)'s probability value also less than (0.05) that indicates as also significant. While "B" indicates as the measure for intercept or else constant and Durbin-Watson's value also lying within acceptable criteria, thus accepted.

Afterward for the period 2016, without moderation regression test run to determine the association between the explanatory and DV (Financial market distress). At this point, prob-value again is significant as per [P<0.005] indicating that shadow banking system have positive association through financial market distress hence, the *H1* verified. The mutual outcome of S_B_2016 and Libor aimed at 2016, shows the influence of the regulations have combined impact upon research variables that are again significant and our H2 hypothesis verified.

While next regression test run, meant for the time series model from the year of 2000 to 2016 with quarterly data. Also checked multicollinearity through correlation analysis and the problem of multicollinearity is not found as all the independent variables are not highly correlated.

Then multiple regression test with moderation is run to ascertain the results that all the explanatory variables are significant as less than 0.05 with inclusion of sixty-five observations after adjustments and sample is taken from 2000 to 2016 data as quarterly.

However, within second statistical model of time series data the autocorrelation assumption of OLS also tested and its insignificant prob-value that appear as (p>0.005) are the evidence that of no autocorrelation amongst the residuals and IVs. In table 5, high measure as (0.799174) about Adjusted r-squared shows the research framework explicates entire variations of data round to its average value, if huge magnitude of disparities would have seized into regression assessment the nearer points of data would form a finest fitted line of regression. Hence, higher r-square measure within test indicates that IVs proficiently explains DV. Whereas, a high-value of Adj- r-square always looked-for fitting model.

However, all following results whether related to cross-sectional or time series model are significant thus, their relevant proposed hypotheses also accepted and the theoretical framework eventually contented with the responses of related questions raised in this research study.

6. Conclusion

6.1. Findings of the Study

The scholarly piece of work contained several sections and each section is deliberated in individual complete chapter. The core issues regarding shadow banking system and its elements are addressed and further concerns are answered in this research study. The concentration of the research is immensely varied groups of unregulated economic intermediaries arose in the form of shadow banking system that was promoted through RCGA [Financial Stability Board Regional Consultative Group for Asia]. Shadow banking are functioning similar to conventional or traditional banks through making available the prompt advances to clients. Now thing to be noticeable that traditional banks were regulated through govt and central bank levies some restrictions of maintain reserves that have immense cost towards the conventional banks, while in parallel structure as shadow banking system doesn't have to tolerate these disbursements. So, this study proposed a new proxy of US dollar Libor in place of regulations as US dollar Libor have been considered the most standardized benchmark rate used in global financial banking system which can be further used for regulating the financial market instruments. The major purpose of this scholarly research just to discover actions concerning the essentials of maturity and liquidity renovation, risk transmission and credit postponement, directed partially or on the whole externally through the "conventional banking" structure and irregularity within such doings could lead to the instability of financial market mechanism which can refer to "Financial Market Distress" and can be measure by FSI (financial stress index).

However, with help of current scholarly literature, the study variables are deliberated into depth, then hypothesis developed conferring with research model which have answered the research questions. At this point, Financial Market Distress (FMD) have taken as dependent variable, in addition, Money market mutual fund (MMMFs), Repurchase Agreements (Repo) and Asset Backed Commercial Papers are instruments that (includes usually debt securities with short time span), are employed by means of descriptive variables later are manipulating to verify a casual influence upon financial misbalancing market situation. Though, Uncertainty in the financial market funds have impact on financial market distress. There would be further market distressing situation with additional instability and in due course would move to a higher liquidity frequency. However, positive activities could be conducted and the fair dealings of funds would be ensured, only then at the phase of financial recession, regulatory framework and financial strategies are properly practiced.

The intended purpose of evaluating the association amongst MMMF, Repo, ABCP, Financial market unbalancing situation and regularities. In the first model, data with annual frequency, for shadow banking from 29 countries selected (2012, & 2016) are secondary nature and used as a cross sectional series, While in the second model time series regression analysis has been conducted for the time period of (2000-2016) and the data are taken as an outstanding balance of all these elements of shadow banking system with quarterly frequency in the context of US financial market, through various official sites (OFR, FRED) of capital or money market. Accordingly, the findings from these two models interpreted as significant that ultimately verified thus, our research model is defensible.

To escape from the prospect financial recessions occurrence and to avoid probable financial and economic fatalities the regulatory framework is needed, or else the financial crises have place to become obvious. In historic perspective of financial crisis {2007-2008} and complications instigated, at that moment various money market funds renovations in the forms of regulation have projected in the previous year's [30].

According to Global Shadow Banking Monitoring Report (2012) by FSB [Financial Stability Boards], the equivalent structure to traditional banks extended and growing stimulus stretched a magnitude of above sixty-seven trillion US dollar at the approximate period of (2011). The sponsors of MMF had acknowledged, that MMF zone in entire prospect have no preparation to incite turns inferable as of its intensely liquid assets and incidental that Money Market Funds range unit equivalent to ordinary banks [43, 26].

By means of the deteriorating confidence unto credit ratings in financial market, stockholders loss faith on financial money markets and behave discretionally in the current financial recession. Hence, undue fluidity would prove to be distorting the entire impact regarding financial market and effective regulatory framework is obligatory intended for a stabilized money market.

6.2. Recommendations of the Study

Additional thing into consideration, it explains the positions significant macro-practical also further challenging situation of regulations confronted through shadow banking. The reduced market discipline that eventually permit shadow banking system to generate systemic risks factor with huge magnitude, it needs to employed backstops for their functioning. In the scenario of non-existence of market discipline, the regulatory framework and monitoring mechanism is the solitary way through which hoarding financial risks could be escape within shadow banking system.

In inference, it proposes that through regulated financial banking division towards shadow banking system the risks transmission often recognized as unintended implication of strict regulation of banking, and is more challenging than rest key questions. The activities of shadow banking into the financial mechanism that doesn't avail to the values as franchise or govt assurances can't move on the massive measure.

6.3. Practical Implications; for Policy Makers, Research, Industry and Academia

The researchers have sufficient area to explore the other proxies regarding the regulations which can help the economic and financial experts in formulating the effective policies in anticipation of any probable future financial crises and essentially to develop the regulatory framework, also a series of research exploration could be initiate regarding the regulations in academia.

However, for effective functioning and proper monitoring of financial institutions, Backstop as crucial that proposes certain beneficial policy implications and considered a critical aspect of the shadow banking system. It provides a source of assessing the latest risks engaged with the shadow banking system by govt. assurances to function, the financial actions ought to be as a status of franchise.

A question is raised upon the doings of non-traditional actions of an insurance and investment companies that offering their services like commercial banks, e.g. ETF (exchange traded funds) deals in commercial banking provides as backstops for leverage.

6.4. Limitations and the Future Line of Research

In this research the study variables are limited due to non-availability of reliable data, control variables couldn't incorporate in this study as lack of authentic and timely data according to the research time frame of this study. Future research can be conducted on the other areas of shadow banking as Hedge Funds and Securitization process with the impact of regulations.

Future research study regarding regulations of Shadow Banking can be conducted in the context of China, as Shadow Banking has at time being worth approximately 87% of China's GDP.

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