Impact of Unconventional Monetary Policies of Advanced Economies on Emerging Asian Economies

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Abstract

After the global financial crisis of 2007, advanced economies have been following unique but divergent monetary policies to come out of the subsequent recession. They tried stimulus packages, quantitative easing policies, and drastic cuts in lending rates to kick-start their moribund economies. Some European economies and Japan have adopted ultra low and even negative interest rate policies to stimulate liquidity in markets, investment in businesses, consumption, employment, and economic growth. Even the USA and the UK, outside the European Union, have drastically slashed their interest rates and are assessing the situation. Some emerging market economies too are toying with such ideas, if found workable. Some unconventional monetary policies adopted were unheard of till recently. Their cost-effectiveness, sustainability, and repercussions are yet to be fully assessed. It is important to study their implications for advanced economies and the debilitating spillover in emerging Asian economies, the ways and means to cope with them, and the safeguards to sustain growth and stability in such a backdrop. An extensive study of relevant literature was undertaken in this paper to learn more about such policies and their likely repercussions and come out with suitable findings, conclusions, and suggestions, in general, for the emerging economies of Asia.

Key words : **advanced economies, emerging economies, negative interest rate policy, quantitative easing, ultra low interest rate policy, unconventional monetary policies**

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"There are three methods to gaining wisdom. The first is reflection, which is the highest; the second is imitation, which is the easiest ; the third is experience, which is the bitterest." - Confucius

The U.S. subprime mortgage crisis of 2007, as well as all the earlier such crises had their genesis in the heedless race for interminable gain (Singh & Yadav, 2010). The global financial crisis (GFC) of 2007 originated in the U.S. because of the sub-prime mortgage crisis as the financial institutions there sacrificed morals and prudence at the altar of greed. Weak regulation, market fundamentalism, and innovation with wrong intentions appeared to be the main reasons for the financial inferno. It later spread all over the world, unlike the earlier world crises, from globalization of financial markets (Balaji, 2009). Some countries were badly affected, some moderately so, and some had mild shocks, depending upon their level of exposure to the U.S. financial markets and their preexisting financial resilience. Advanced economies (AE), in general, suffered the most, while the emerging market economies (EME) were moderately affected. The AEs have adopted, besides traditional measures, some unconventional monetary policies (UMPs), like ultra-low interest rate policies (ULIRP), negative interest rate policies (NIRP), and quantitative easing (QE) measures, to stimulate economic growth by

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restoring liquidity, encouraging investment, increasing consumption, creating employment, and to prevent economic recession or depression in the future.

Research Methodology

The present study is a review paper based on an extensive search of literature on various monetary, fiscal, prudential, and regulatory/supervisory measures in the context of a recession following the GFC (great financial crisis) of 2007. It is based on secondary data collected from various sources.

The Global Financial Scenario - Discussion

(1) History of Unconventional Monetary Policies : UMPs followed a series of unsuccessful traditional monetary policies by AE Central Banks to increase short-term growth (Bird, 2016). It included ULIRP, NIRP, and QE measures. Negative interest rate, pioneered by Denmark in 2012, was followed by the European Central Bank (ECB) in 2014, and later by Central banks of Switzerland and Sweden. Switzerland and Denmark introduced NIRP to offset pressures on their currencies by limiting capital inflows. In Asia, Bank of Japan (BOJ) announced NIRP in January 2016. Hungary became the only emerging nation trying it in March 2016. With more of the world's Central banks joining in and rates pushing further below zero, Wall Street Journal in April 2016 explored the working of NIRP in various settings and its implications for policymakers and markets. In Denmark, some mortgage holders were actually receiving interest payments from the banks, which they initially borrowed from. In Switzerland, all banks passed on negative interest to their customers, except Alternative Bank Schweiz AG. In Germany, life insurance companies started feeling the squeeze of negative interest, making a low-risk risk industry increasingly risky. Japanese announcement of NIRP spurred a massive rise in prices of government's 40 year bonds. Federal Reserve (Fed) of U.S., preparing for higher rather than lowering rates, was investigating whether going negative might work in a downturn scenario. Many AEs resorted to negative rates. More than $26 trillion government bonds traded at yields of below 1%, with around $7.6 trillion currently yielding less than 0% (25% of sovereign debt outstanding).

(2) Low Interest Rates - The New Normal : Interest rates in AEs have steadily declined after GFC (Societe Generale Econote, 2016). The causes are:

(i) A weak economy (and not the unconventional policies of Central banks) probably pushed interest rates down, the Central banks merely adapted to deeper economic trends. It appeared that there was a floor - not zero but just a little below zero, below which actual nominal interest rates couldn't go. The severe recession and a slow recovery were from the absence of normal market-clearing mechanisms, with less demand for goods and services.

(ii) Excess global savings relative to AE investments, not a bond bubble, caused the low interest rate levels and high bond valuations. Yields well below historical norms would continue for an extended period, till global savings declined or global investments rose markedly. Investors reconciled to low and negative interest rates from: (a) fear of deflation, (b) concerns on tail risks, (c) expectation of currency appreciation, (d) no choice other than government securities (for long-term investors, like insurance companies and pension funds), and (e) sell-back and mark-to-market capital gains option for investors from expected continuing fall in yields.

(3) Distributional Effects and Risks in Advanced Economies from UMP : Significant distributional effects in different sectors (Dobbs, Lund, Koller, & Shwayder, 2013) :

(i) Governments in Euro Area, UK, and U.S. in 2007 - 2012 collectively benefited by $1.6 trillion from fall in debt-service costs and rise in profits remitted from Central banks. Non financial corporations and large borrowers benefited by $710 billion. Though corporate profits (UK & U.S.) were boosted by 5% (2012), uncertain economic recovery and tight lending standards precluded rise in investments.

(ii) Households in AEs lost $630 billion in net interest income. Younger net-borrowers benefited, but older ones with significant interest-bearing assets lost.

(iii) Impact on banks was mixed. Euro bank profitability was eroded with cumulative loss of net interest income of $230 billion in 2007-2012. U.S. banks saw an increase in effective net interest margins and a cumulative increase in net interest income ($150 billion). UK banks fell in between.

(iv) Life-insurance companies and pension funds were squeezed with threats to their survival.

(v) Household and other investors had a mixed picture with higher asset prices offsetting lost interest.

(vi) Bond prices rose amidst declining yields in Euro Area, UK & U.S. investors gained, at least on paper, from a rise in asset values from fixed-income investments.

(vii) Housing prices rose by lower cost of mortgage credit in UK. It was less clear in U.S. from oversupply of housing, high foreclosure levels, predominant fixed-rate mortgages, tight credit standards, and homes of negative equity with no mortgage refinancing.

(viii) Equity markets were not boosted with no large-scale shift into equities by investors. Price-earnings ratios and price-book ratios in stock markets were no higher than long-term averages. Stock price reactions to Central bank announcements were only transitory.

(ix) Increased consumption would have outweighed the income lost. However, it didn't happen with housing prices in U.S. far below peak and tighter credit standards.

(x) Additional capital flowed to emerging markets, especially bond markets, with rising bond purchases by foreign investors ($92 billion in 2007 & $264 billion in 2012).

(xi) Reversal of UMPs pose certain risks. If asset purchases taper and interest rates rise, the benefits gained/losses incurred could be reversed for governments and investors. Euro area could be caught in a crosswind. If interest rates increased in the U.S. before Europe, foreign capital would shift from Europe to U.S., and if they remained low, Euro life insurers and banks would be more unprofitable. Higher leverage and return of asset-price bubble would occur in some sectors, like the real estate.

(4) Rewriting of Economics Textbooks for Negative Interest Rates : NIRP, hitherto unknown in textbooks on economics, has come to stay (Torres, 2016). Low/negative interest rates amidst low inflation would stimulate short-term growth by : (a) encouraging banks to lend to real economy, (b) rise in asset prices from reduction of discount rate on cash flows with a positive wealth effect for asset holders, (c) encouraging investors to move from safe to higher-yield risky asset classes, (d) depreciation of exchange rate, and (e) inflation returning to target range. But, in practice, banks lost incentive to lend. Rising asset prices caused only a transient feel-good effect. The investors' search for higher yields and duration pushed the term premium from low into negative territory from loss of confidence and negative future expectations. Firms were pushed to invest less and consumers to spend more. Exchange rate depreciation may boost net exports, growth, and employment, while inflation rose from higher import prices. By nudging inflation towards Central bank's inflation objectives, a deflationary spiral

would be avoided. In countries worried of capital-flow-driven currency appreciation, low and negative rates discouraged capital inflows.

(i) Risks from Continued UMPs : (a) loss of governmental fiscal discipline, (b) distraction from structural reforms in financial markets, (c) asset price distortions, financial market disruptions, and financial stability risks, & (d) loss of Central bank credibility.

(ii) Concerns in U.S.: (a) falling income from funds causing fund shut-down, and destabilization with funds leaving the money market, (b) adapting to negative interest rates of complex, interconnected infrastructure support transactions, (c) U.S. Treasury's difficulty in accepting negative rates at auctions, (d) depository institutions shifting reserve balances into currency (point of its cost-effectiveness uncertain), (e) market rate pass-through limited by government enterprises and federal home loan banks. Adoption of NIRP implies a sad shape of the economy.

(iii) Monetary Policy for Economic Growth : Negative rates relied on transmission channels of doubtful effectiveness and consequences. The accommodative policy extremes created fears in market participants of collapse of asset prices on stoppage. Price stability, though necessary, was not sufficient. For a sustained long-term growth, fiscal policy and structural reforms were needed, and not monetary policy alone.

(5) Dangers from UMP : UMPs are dangerous, if not properly used (Shah & Peebles, 2016). Despite preventing a deep protracted slump, they did not deliver strong, sustainable growth, nor banish deflation. Efforts of Central banks without mutual policy coordination would ignite an unwanted war.

(6) Implications of Negative Rates for Investors and Economy : NIRP implications were studied (Das, 2016). Investors would pay for placing money in banks and lose by investing in bonds. Economy was distorted by (a) no rise in consumption and investment, (b) deflationary pressures, (c) banks reluctant to pass on reduced rates, (d) credit trap from weak demand and supply, (e) exchange rates: uninfluenced, (f) changed role of default/bankruptcy in debt markets, (g) zombie companies: encouraged, & (h) banks too weak to realize bad debts. Delayed restructuring, restricted credit, and misallocated capital made crisis-resolution costlier and complicated.

(7) Impact of NIRP on European Markets : European markets were impacted by the negative interest rates (Ajewole & Duss, 2015).

(i) Equities : Negative interest rates of sovereign bonds (Figure 1) boosted their current value. A low growth depressed future cash-flows and removed the opportunity cost of holding excess cash. Long-term equity returns remained lower than before.

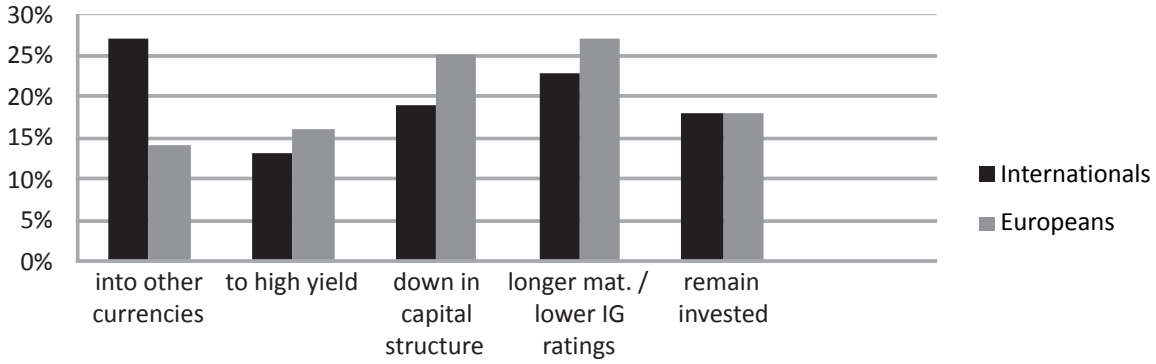
(ii) Credit Market Stakeholders : Issuers were incentivized to increase leverage, to restructure maturing debt to longer terms, and to issue in euro separately hedging currency risk for overseas corporations. Investors got displaced by ECBs planned government bond purchases, higher than the net market supply. A recent macro-survey showed potential future cash flow forecasts in two directions (Figure 2), with investors' natural risk habit distorted leading to high future volatility and sizeable cross-border carry trades destabilizing global finance.

(iii) The Regulatory QE Considerations : Lack of adequate collateral further depressed nominal bond yields and the risk - pricing models got invalid from mispricing of risks.

Figure 1. European Equity Risk Premium (Required Rate of Return versus Cash)

Note : Projected ERP based on constant required rate of return for equities minus adjusted risk free rate.
Source : Adapted from Ajewole and Duss (2015) (DataStream. Based on MSCI Europe ex UK)

Figure 2. Intentions of European Investment Grade Investors



Source : Adapted from Ajewole and Duss (2015) (Barclay's GM Survey)

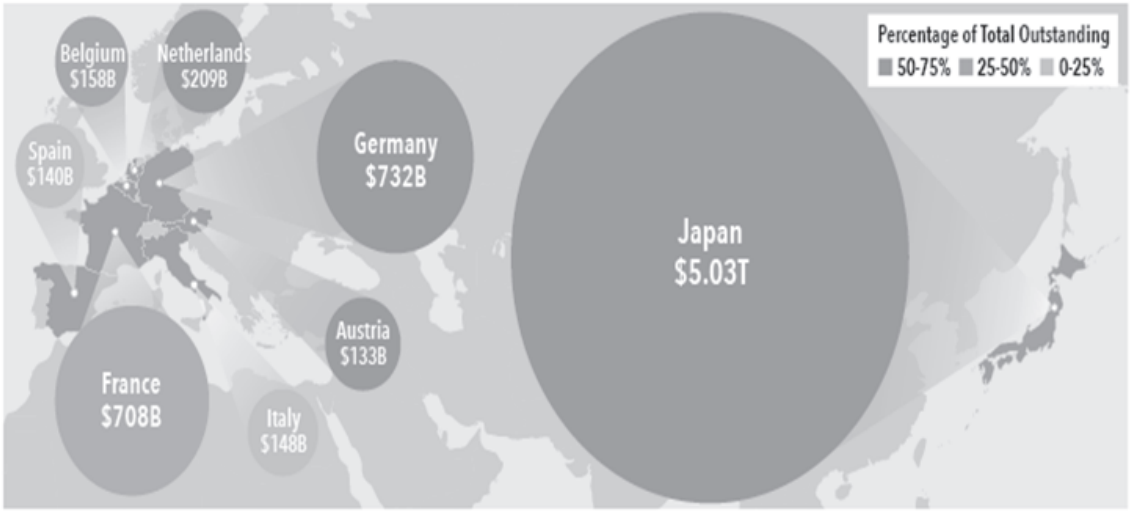
(iv) Asset Price Distortion : Caused investor-shift to overseas for yield. Further increase in foreign issuance in euro credit markets were worth monitoring.

(8) No Positive Gains from Negative Interest Rates : Japan led the world (Figure 3) in NIRP, with Germany & France at a distant 2nd & 3rd positions.

A number of world's major Central banks after GFC-2007 started purchasing government bonds (called QE) with NIRP just an extension of it. Pioneered by the BoJ, it has now spread around the world. In March 2016, the ECB expanded its bond-buying from €60 billion to €80 billion a month. BoJ purchased ¥80 trillion a year of financial assets. The Fed ended its own QE in October 2014 after adding $3.5 trillion or more to its balance sheet.

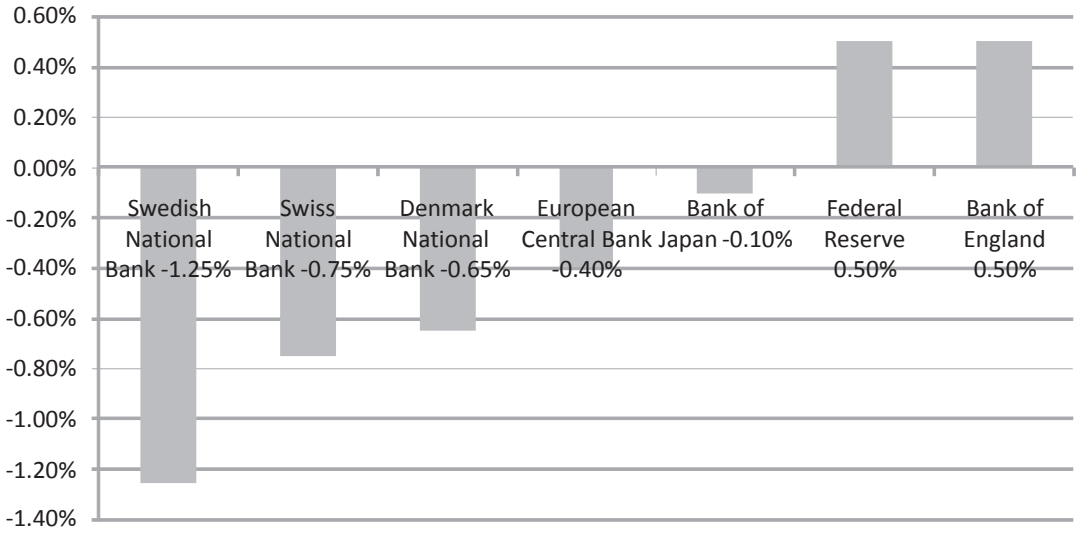
The Fed moved in an opposite direction due to a better economy and raised rates in December 2015 for the first time in a decade and signaled further future hikes. With the EU and Japan in negative territory, the Fed and the Bank of England remained just above zero (Figure 4). The BoJ deployed NIRP in January 2016 joining the Euro Area and is the negative yield leader with about $5 trillion outstanding (Macdonald & Hoag, 2016).

Figure 3. Less Than Zero Nations



Source: Adapted from Macdonald and Hoag (2016)

Figure 4. Interest Rates of Central Banks of Advanced Economies



Source : Adapted from Macdonald and Hoag (2016) (FactSet, Central Banks Data as of April 29, 2016)

In summary, the risks arising from NIRP are :

(i) Central banks of AE at the monetary policy limits were risking dangerous consequences,

(ii) Negative-yielding debt of Europe and Japan made U.S. bonds relatively attractive,

(iii) Distortions in asset prices and economy appeared widespread,

(iv) Inflationary pressures might build up over time, and

(v) The Fed was unlikely to introduce negative rates.

↳ **Impact on the Banking Sector :** An immediate impact was a decline in share prices. With European banks already in problems with strict new regulatory requirements and a rise in non-performing loans, ULIRP/NIRP put a severe pressure on net interest margins amidst stunted profits for years. Most banks were reluctant to pass on negative rates to customers. The extreme pressures undermined the very objective of NIRP.

↳ **Impact on Insurance Sector & Pension Funds :** They, with strict solvency regulations, were unable to match long-term liabilities with long-term assets. Japan's largest insurer, Nippon Life, acknowledged this in April 2016 and expected it to remain so in the near future.

↳ **Impact on Bond Yields :** NIRP in Europe and Japan were putting enormous pressure on global bond yields, including U.S. Treasuries. With 10-year German and Japanese bonds yielding almost zero and shorter maturity bonds in the negative territory, U.S. bonds yielding 1.83% were quite attractive and their increasing demand was keeping interest rates low domestically, despite Fed's desire to normalize rates across the yield curve.

↳ **Impact on Inflation :** Price inflation has occurred in financial assets and in high-end goods. Consumer price impact was yet to happen. China's slowdown, falling oil prices, and a slump in the industrial economy have been deflationary in the short term, leading to further easing by Central banks. Consumer price inflation was expected to pick up shortly with low business investments leading to low productivity.

↳ **Impact on Investors :** Investors were to expect continued market volatility. Wall Street and the big banks could no longer be the shock absorbers against sharp asset price swings due to increased government regulations. The 'rented liquidity' they provided was still a buffer. Investors were advised to favor investments and portfolio that protected real purchasing power with inflation creeping higher. For a fixed-income investor, Treasury Inflation Protected Securities were an important component.

Policy options, other than ULIRP & NIRP, had to be explored, like providing funds to banks at negative rates. Policy uncertainties made businesses to hesitate in making large investments. Corporations increased their equity values and profitability through transactions without much real investing. Growth would come from productive investment in an environment of investor confidence. Distortions in natural flow of capital penalized savers, robbing income from their savings and directed capital to unproductive areas. Positive interest rates and capital allocated efficiently were needed for economies to function normally. Central banks persisted with UMPs fearing repercussions from backtracking.

(9) Reasons for Negative Interest Rates of Bank of Japan : Japan's negative interest rate framework had a 3-tier approach (Kiat, 2016):

(i) Basic balance denoted deposits not loaned out and was charged interest at + 0.1%.

(ii) Macro add-on balance (loans for the massive reconstruction efforts after earth-quake, tsunami, & Fukushima Daiichi nuclear power plant disaster of March 2011) would earn 0% interest to shield victims from negative interest rate effects.

(iii) Policy- rate balance (above the basic and macro add-on balances) was charged a negative interest rate (- 0.1%). Despite best efforts, Japanese banks were unable to find enough creditworthy borrowers. After the 1990 real estate bubble, banks became very conservative and chose to pay interest to BoJ, rather than lose on bad loans. NIRP has worked for Europe with less aging population, successful labour reforms, and productive infrastructure investment and not for Japan with a more ageing and declining population.

(10) Asian Banks and Fear of Negative Interest Rate Impact : EME Central banks were struggling to revive growth and keep financial systems stable against the potentially destabilizing spillovers from AEs ("Asian banks fear impact of negative interest rates," 2016). Despite defenses against crises, they remained vulnerable to sudden capital outflows. The potential to manage economic crises was becoming limited, with QE and monetary policy stretched to limits. Some form of global coordination to avoid a race to the bottom for rates and currencies and adoption of a global system for assessing the wider impact of UMP's would mitigate the risks. The need for greater policy coordination among countries to prevent over-reliance on monetary policy was being realized.

(11) ULIRP - NIRP - Implication for Growth and Financial Stability : UMPs, thought to be temporary, were continued in Europe and Japan even after 8 years, testing "boundaries of the unthinkable" in monetary policy (Hannoun & Hofmann, 2015). Boost to short-term growth appeared uncertain from ineffectiveness of the five main channels: credit, asset valuation, portfolio balance & risk taking, reflation, and exchange rate.
The five main long-term risks (5D's) from prolongation of UMPs are :

(i) Disincentive : for fiscal consolidation by indefinite postponement of fiscal reforms.

(ii) Distraction : from implementing repair and reforms.

(iii) Distortion : Central banks distorted asset prices taking over the role of economic fundamentals.

(iv) Disruption : of business models of financial institutions.

(v) Disillusionment : with "new monetary orthodoxy" of taxing savers and subsidizing borrowers.

(12) Capital Flows in Ultra Low Interest Rate Environment - Menace for EMEs and AEs: Volatile capital flows from prolonged UMPs created risks for both EMEs & AEs (daSilva, 2015). After many crises, the most pragmatic EMEs adopted a macroeconomic policy framework of a floating exchange rate regime, a sustainable fiscal-public debt stance, and an open investment capital account to conduct an independent monetary policy for a sustainable growth & development and social inclusion. This was reinforced by commonsense measures, like keeping the local financial system well capitalized, strongly regulated, and supervised with provisions and liquidity to withstand unusual shocks. Besides a floating exchange rate as the first line of defense, importance of keeping enough forex reserves to smooth volatility, instead of depending on short-term liquidity provisions of bilateral or multilateral sources, was realized.

The conclusions from UMP experience for both EMEs and AEs are as follows :

(i) Macro and financial stability might be damaged when excessively expansionary credit, not fiscal policy, was used. EMEs engaged in macro-populism in "fiscal" dimension (1990s). Some AEs did it in a "financial"/ "credit" dimension (2000s). This macro-populism was compounded by financial innovations, risk-taking channel of cross-border financial flows, use of financial round trips among AEs, and lack of regulation in the housing market would explain much of the subprime crisis and the GFC.

(ii) AEs had instruments and credibility to address the GFC using unprecedented policies. But UMPs for a prolonged period without structural reforms might produce decreasing returns and increasing collateral effects, affecting financial stability of both EMEs & AEs.

(iii) EMEs have learnt how to manage the spillover effects of UMPs into local credit and asset markets. However, prolonged UMPs might have profound collateral effects on the economy and even society by reducing returns of

pension funds affecting household behavior. Not much was known about impact on the balance sheets of financial intermediaries, households and firms, especially pension funds and insurance companies, let alone the wider consequences of how this might affect inter-temporal social contracts. These might threaten financial stability.

(13) Cross - Country Volatility Linkages : The volatility of one market spills over to other markets directly or indirectly during a crisis period (Singh & Kaur, 2015). To model the dynamic spillover of volatility of U.S. market (AE) to BRIC (Brazil, Russia, India, & China) EME markets during the sub-prime crisis period (2007-2014), the major stock market indices were taken into consideration. The results of the study support the direct spillover of U.S. stock market volatility to the Brazilian stock market, but not to the Russian, Indian, and Chinese markets (EMEs of Asia). However, an indirect impact was still observed among them in falling returns (with a likely risk premium expectation of investors, discounting of stock prices, and increase in volatility). Global investors need a knowledge of such linkages between countries to understand the reduced benefits from portfolio diversification.

(14) Impact of Foreign Institutional Investment on Indian Stock Market Volatility : Investors view India as a potential opportunity due to its tremendous capacity for growth and good support from the Government (Dadhich, Chotia & Chaudhry, 2015). The study of impact of foreign institutional investment (FII) flows on Indian stock market volatility found that FIIs contributed significantly (with a greater impact from gross purchase than from gross sales) to the Indian stock market volatility during the 2004 - 2014 period.

(15) Macro - Prudential Regulation of Financial System : Regulatory approach to mitigate risk to financial system and costs of financial instability were studied and compared to micro-prudential regulations (Table 1) (Borio, 2011 ; Macroprudential Regulation, n.d.).

A reform of prudential regulation integrating three different paradigms: (a) the agency ('moral hazard'- outside MaP), (b) the externalities ('pecuniary externality'- MaP), and (c) the mood swings ('animal spirits'- MaP), and the role for a MaP supervisor moderating uncertainty and alert to risks of financial innovations were justified.

(i) Indicators of Systemic Risk : (a) Measures of risk of individual institutions (cross-sectional dimension): Sophisticated financial tools and models have been developed to assess the inter-connectedness across intermediaries and each institution's contribution to systemic risk, (b) Measures of the evolution, or pro-cyclicality of systemic risk through time (*time dimension):* A wide set of variables, like ratio of credit to GDP, real asset prices, ratio of non-core to core liabilities of the banking sector, and monetary aggregates were used. Early warning indicators and macro stress tests were used to identify vulnerability to simulated adverse outcome.

(ii) Macro - Prudential (MaP) Tools : Most of them prevent pro-cyclicality on the asset and liability sides, like cap on loan-to-value ratio and loan loss provisions, and cap on debt-to-income ratio.

Table 1. Macro and Micro Prudential Approaches: A Comparison

Comparison	Objective		Risk	Exposures Across Institutions	Prudential Controls
	Proximate	Ultimate			
Macro Prudential	Limiting system-wide distress	Avoid output or GDP costs	Endogenous; dependent on collective behavior	Important	Top-down approach
Micro Prudential	Limiting distress of individual institutions	Consumer (investor or depositor) protection	Exogenous; independent of individual agent behavior	Irrelevant	Bottom-up approach

Source : Adapted from Borio (2011)

MaP tools include (a) counter cyclical capital requirement, (b) cap on leverage, (c) levy on non-core liabilities, and (d) time-varying reserve requirement.

Tools preventing accumulation of excessive short-term debt are : (a) liquidity coverage ratio, (b) liquidity risk charges that penalize short-term funding, (c) capital requirement surcharges proportional to size of maturity mismatch, and (d) minimum haircut requirements on asset-backed securities.

Different types of contingent capital instruments, like "contingent convertibles" and "capital insurance" were proposed to facilitate bank's recapitalization in a crisis.

(iii) Basel Committee on Banking Supervision : Acknowledging the systemic significance of financial institutions, banks' capital requirements were strengthened and new liquidity requirements, a leverage cap and a counter cyclical capital buffer were introduced under Basel III. Large global banks were required to hold more and higher-quality capital in a cross-section approach to systemic risk.

(iv) Effectiveness of MaP Tools : Several Central banks in EMEs have applied MaP policies at least since the 1997 Asian financial crisis and the 1998 Russian financial crisis, which effectively contributed to resilience of financial systems against the GFC- 2007.

(v) Costs of MaP Regulation : The higher capital requirement costs for MaP were small, compared to mitigation of crisis risk and boom-bust cycles, and well offset by the long-run effects on loan rates for borrowers. Despite concerns about impact on financial markets, investments, and economic growth, they were recommended for use more during booms to target sources of externalities, while preserving the positive growth contribution of financial markets.

(vi) Institutional Responsibility for MaP Regulation : Financial Stability Oversight Council in the U.S. and European Systemic Risk Board (supported by ECB) in Europe supervised this. A complementary relationship between MaP and monetary policies was advocated. On an international level, there were several potential sources of leakage and arbitrage from MaP regulation, such as banks' lending via foreign branches and direct cross-border lending. Also, as emerging economies imposed controls on capital flows with prudential purposes, other might suffer negative spillovers. So, a global coordination of MaP policies was considered necessary to improve their effectiveness.

(16) Supervisory Capital Assessment Program : A lesson from the recent GFC was that supervision and regulation of financial firms in isolation would not maintain financial stability. A MaP perspective of evaluating and responding to the whole system was necessary. The Supervisory Capital Assessment Program (SCAP, or bank 'Stress Test') joined the macro- and micro- prudential perspectives for a strong supervisory framework (Hirtle, Schuerman, & Stiroh, 2009). It was designed in a period of substantial economic uncertainty. Its twin objectives of maintaining aggregate lending and credit provision capacity of bank holding companies (BHCs) were embodied in its design and process with a combination of top-down industry - wide estimates and projections with bottom-up, firm-specific data and analysis.

Lessons from SCAP on design and implementation for future MaP supervision :

(i) The goals, approaches, and consequences should reflect the broader macroeconomic and financial sector environment of supervision.

(ii) A balanced and complementary macro and micro- prudential perspectives in design and implementation would achieve the broader goals.

(iii) Future MaP supervisory exercises should also have tangible follow-through results to support their broader goals, to enhance confidence in the banking system, and to allay fears about the possibility of severe outcomes.

The present study intends to assess and gauge the impact of UMPs of AEs on themselves and on the Asian EMEs, and then suggest remedial measures. All similar past studies consulted have confirmed existence of an impact, but variable only in degree. The degree of impact depended on the level of exposure to the U.S. market of origin for GFC among other AEs and EMEs. There was less impact in general on Asian EMEs as compared to the Aes.

Conclusions and Suggestions

Financial stability of Asian emerging economies can be damaged by resorting to "populism" in fiscal policy, doubtful financial innovations, risk-taking channel of cross-border financial flows, use of financial round trips between advanced economies, and lack of regulation.

Prolonged use of unconventional monetary policies produces decreasing returns and increasing collateral damage affecting financial stability of both the emerging and advanced economies. Known collateral effects in the local credit and asset markets can be managed effectively by the emerging Asian economies. However, the little-known effects on balance sheets of financial intermediaries, households, firms and large institutional investors, like pension funds and insurance companies have huge and worrisome impacts upon the economy and the society.

The global financial crisis of 2007 has offered the following lessons :

- Sophisticated and advanced financial markets had no provisions for self-correction.
- A low and stable inflation offered no guarantee of financial and macroeconomic stability.
- A prudential framework focused on individual institutions, supported by a sound payment and settlements infrastructure, which was not sufficient to ensure financial stability.
- Unconventional monetary policies raise three 'dominance risks' : financial, exchange rate, and fiscal for Central banks. Only a timely exit from them shall free the overburdened Central banks. In the debate on ultra-low rates and a trade-off between short and long terms, it should be realized that borrowing from the future growth is not sustainable.

A major rethink in policy circles has prompted consensus on the following points :

- A major reassessment of policies on financial stability are needed.
- A rational combination of micro and macro prudential approach is desirable for coordination between the financial system and the real economy.
- Arrangements for closer attention to liquidity are essential.
- A monetary policy of short-term price stability alone is inadequate for financial stability.

The financial stability policy thus is back to its historical origins and macroeconomic roots. The main challenge is to reconsider the prevailing paradigm, embedded in microeconomics, ill-suited for financial instability and business fluctuations.

A rediscovery of the monetary nature of world economies, where credit creation and creation of purchasing power play a key role and a better understanding of the relationship between business cycles and longer financial cycles reinforcing them are called for.

Effective macro-prudential and monetary policy responses and a stronger analytical framework are being developed. A successful monetary policy should stop runaway inflation, but satisfactory macroeconomic performance alone, is not a success. The analytics of financial and macroeconomic stability are the same and monetary policy is critical in both. Growth needs productive long-term investment and investor confidence. Economies need positive interest rates and efficient capital allocation for normal function. Understanding all these intricacies and implementing a suitable policy framework shall do a world of good for growth, resilience, and stability of the emerging Asian economies.

Research Implications, Limitations of the Study, and Scope for Further Research

The study is confined to the impact of UMPs on AEs and the consequent spillover on Asian EMEs. The findings shall highlight the ways and means of coping with such spillovers, and thereby safeguard the Asian EMEs' growth and stability. The period of study is the decade, 2007-2017, after the GFC-2007. There is a wide field for further research on spillover to other continents and over a longer timeframe.

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