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**BANK REGULATION IN ERA OF GLOBALIZATION AND FINANCIAL BUBBLES**

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*Abstract*

*Over the last 35 years there has been a surge in the frequency and size of financial bubbles as compared to the prior 50 years. Robert Aliber (2011) and Ron McKinnon (2013) believe this surge in bubble frequency is due to the large global movement of hot mobile capital and its impact especially on smaller economies. However this explanation is not quite complete for while these oscillating flows are clearly a contributing factor they cannot themselves be the initial causes.*

*Leir Center research (Rapp 2013) as well as that of Charles Kindleberger (2005) and Hyman Minsky (Kindleberger and Aliber 2005) indicate that some dislocation that creates an economic or investment opportunity must come first and this is what attracts both local and international money flows. So an important research question is whether the increased bubble frequency is due to random increases in such events or is part of a larger trend that the hot money follows and with which it interacts.*

*Leir Center research indicates the latter is the case and that the increased frequency of bubbles is due to globalization, that is the identified trend since the early 1980s for a reduction in national barriers to trade, foreign investment and financial flows including the fall of Communism, increased Privatization, and weaker unions complemented by large technological advances in transport and telecommunications (Hill 2014). This is because Bubbles are a natural result of markets and capitalism. Therefore it is logical the increased role of markets and capitalism in the global economic system should lead to more Bubbles. As Francis Fukuyama argued in End of History (1992), liberal democracy won and in turn free markets and capitalism. An unforeseen though perhaps foreseeable result is therefore that more Bubbles that have occurred.*

*In this paper the author argues that the regulatory and technological changes that define globalization can be directly linked to particular Bubbles beginning with the deregulation of gold in the 1970s, then Reagan and Thatcher's privatization, Japan's Yen/$ dollar accord, etc. This also explains why the idea of regulating financial bubbles has met so much resistance including Alan Greenspan's since it goes against the prevailing anti-regulation winds of the globalization trend and the prevailing view that free markets know best.*

*However the recent financial crisis not only undermines the credibility of this view but also shows why a different bank regulatory approach is required to retain the benefits of globalization and market liberalization while avoiding or moderating the negative impacts from the re-emergence of larger and more frequent Bubbles with global impacts as happened before 1929.*

**Recent Developments**

Historically most Financial Bubbles have been identified retrospectively with observers noting something was a Bubble. Yet given this perspective it is also true that there were very few Bubbles between the great boom and bust that ended in 1929 and the start of the Great Depression until the mid-1970s. Further their impact was generally domestic not global. There was the US defense or Sputnik related Bubble, the US Conglomerate or ITT Bubble and the Japan growth surge of the 1960s and early 70s that ended with the first oil crisis and the Nixon shock that abolished the Bretton Woods Gold Exchange Standard and ushered in floating exchange rates.

 Indeed until around 1978 financial Bubbles were generally seen as a social or crowd-based phenomenon [Bagehot quoted by Kindleberger & Aliber 2011], even a type of sickness that could affect the masses [Dickens 1857, 2102]. There were also detailed descriptions and analyses of specific Bubbles such as the great South Sea, Mississippi [Balen 2002], and 1929 Bubbles [Galbraith 2009]. Already in the 19th Century Walter Bagehot [Kindleberger & Aliber 2011] observed “Much has been written about panics and manias, …; but one thing is certain, that at particular times a great deal of stupid people have a great deal of stupid money; it seeks for someone to devour it; … there is speculation; it is devoured and there is panic.”

 However in 1978 Charles Kindleberger published *Manias, Panics and Crashes* that identified Bubbles as having a particular pattern or paradigm that usually began with a displacement or shock to an asset market, the economy, or the financial system that created an investment opportunity that led to a rapid rise in real asset prices that attracted speculation. This rapid rise in real asset prices can be seen for example in the US in 1929, Japan in the 1980s or the more recent Dot.Com boom and bust.

 The 1929 boom and bust particularly was a combination of disruptive new technologies such as radio and movies and the availability of margin credit that caused the inflation adjusted S&P to rise 396% from a 1921 low to its 1929 high with price increases beginning to accelerate after 1925. The S&P’s P/E reached 32.6 in 1929. In Japan its equivalent stock index, the Nikkei 225, was below 10000 in 1983 but by December 24, 1989 it peaked at 38,957, a compound annual growth rate greater than 20% even though Japan’s CPI was never above 3% between 1984 and 1989. Indeed the CPI averaged only 1.4% per year.[[1]](#footnote-1) Yet these asset price booms were followed by what Kindleberger saw as the inevitable panic and crash. The Panic of 1929 began October 24 with the price crash continuing until 1932 when the Dow hit bottom at 41, down from its peak of 381 in 1929. The Nikkei began its slide during the Spring of 2000 ultimately returning to the 10,000 mark and then going below it. Almost 25 years later it is still only around 15,000.

**Need To Increase Our Understanding Of Bubbles**

 The 1990s and the Dot.com Bubble and collapse and the recent US housing Bubble and crash have led many analysts and as well central bankers and politicians to ask more pointed questions about financial Bubbles in terms of understanding their origins and recognizing their development as well as how to manage, regulate and/or moderate their impacts. Thus since 2008 much greater analytical efforts have made with respect to advancing our understanding of Bubbles, using econometrics, statistical analysis and mathematical modeling to identify and quantify them. [[2]](#footnote-2)

 Based on these efforts researchers have determined that the Dot.Com Bubble started in 1995 and lasted until 2000. Some noteworthy events during this period include the August 1995 Netscape IPO and the Amazon IPO in 1997. Further as predicted by the Kindlberger paradigm [2005, 2011] this Bubble began due to a major displacement that opened many new and exciting business opportunities, the Internet. Real prices of all assets related to the Internet rose rapidly. In 1995 the index for the NASDAQ where most of the stocks of these companies were listed was 1000+. However it reached a high on March 10, 2000 of 5133 [413% up]. At the same time US Inflation during this period was quite low. The average annual US CPI was 2.55%, just a 15.3% increase during this time.

 Therefore it confirmed Kindleberger’s Bubble pattern. There was a major displacement followed by a rapid real price increase for assets relative to the general price level that attracted speculator interest that kept driving up asset prices. In addition this interest resulted in more market volatility and high optimism that led to herding where the speculators drove out rational investors [irrational exuberance].

 However as some more rational speculators began to recognize the risks and started leaving the market this had the effect of slowing price increases, signaling a measurable momentum loss. This seems to indicate the market is close to the top [Rapp 2013]. Throughout the Bubble period there was an excess of investor and policymaker optimism though it is not clear if this can be measured [“irrational exuberance”]. Yet once doubt arose, a panic can develop with a crash close behind.

 Another reason that Bubbles are currently receiving more attention is that unlike the period between 1929 and the Nixon Shock there have been several major Bubbles in relatively close succession: Gold & Silver 1979, Japan 1980s, Mexico 1990s, Asian Financial Crisis 1997, Ruble Crisis and LTCM 1998, Dot.Com Boom and Bust 1995- 2000, and US Housing Crisis 2008-2009. Therefore understanding and identifying Asset Bubbles is seen as being important since if some of these Bubbles could have been understood and action taken at an earlier stage in their formation it might have benefitted the investment community, central bankers and economic policy makers worldwide.

**Tests**

 Various models and tests that have been developed to identify Bubbles [Rapp 2013]. These include: the PWY Test, the GSADF Test, and the Bank of Finland Model. Applying the PWY Test based on a 5% significance level indicates that the Internet Bubble started in July 1995 and collapsed July 2001. The SADF test has been generalized to the GSADF test to test the occurrence of multiple bubbles for episodes with durations greater than 6 months.

 Using this test the 1929 Great boom spanned January 1929 to September with the crash coming October; Black Monday October 1987 began in February 1987 and peaked in September while the Dot.Com bubble went from December 1995 to June 2001. The Bank Of Finland has an even more comprehensive analytical model and analysis. Its 200-page paper can be downloaded [Taipalus 2012].

 Yet from a policy standpoint these models and econometric analyses have important limitations. This is because not all Bubbles are the same and they therefore must be identified. But the tests noted above do not identify the different bubble types that include: stocks, emerging markets, bonds, real estate, commodities, and technology. These Bubbles as predicted by the Kindleberger paradigm all display increases in real asset prices but they are all different in terms of other characteristics and particularly their economic impacts. Further they can be combined and intertwined to varying degrees. Thus 1929 combined stocks, real estate and technology while Japan 1980s combined stock, bonds and real estate but no new or disruptive technology. Conversely the Dot.Com boom and bust was almost a pure technology Bubble.

 Moreover while the models can signal that one is in a Bubble they offer no policy prescriptions on how to manage or influence it. This is important since there is no record of any government successfully managing or even moderating an asset Bubble. Indeed because the models and statistics do not explain how bubbles generally or specific types start and develop, policymakers and regulators can easily be co-opted by those involved if they have greater perceived expertise and can thus persuasively argue this situation is different [Rapp 2013]. The mixing of different types of asset price risks such as technology and real estate also complicates the appropriate targeting of any policy response.

 Thus the disruptive technologies in 1929 and Dot.Com boom both attracted risk capital creating a bubble in tech stocks but whereas bank loans expanded real estate and stock bubbles in 1929 and Japan in the 1980s, increasing the crash’s harm to economy, margin requirements limited the economic damage from the collapse of the Dot.com Bubble.

 Conversely bank leverage supporting investment banks, hedge funds, and SIVs exacerbated the economic impact on the Great Recession of the US housing bust fueled by the collapse of subprime mortgages and in turn housing prices [Rapp 2013]. Dodd-Frank thus properly identified deleveraging and limiting certain bank lending as appropriate rules to moderate future bubbles, though it is not clear the measures go far enough.

 Indeed given recent experience policy differences can be important since generally strict rules seem to work best in limiting harmful fallout from a Bubble’s boom and bust cycle with the bust always being bigger and more dramatic than the boom because the nature of a Bubble is that it reaches it largest size relative to the economy just before its collapse and the collapse generally seems to happen faster than the upsurge. Regulations and limiting capital at risk also seem to work better than monetary or fiscal policy.

 This is because the former, particularly when requiring more capital, raises the investment cost and decreases the return on equity while the latter actions of tighter money, lower expenditure or increased taxes reduce economic activity. Further fiscal or monetary restraints can perversely push more money into the speculative market because this is where investors envision they can cover the increased funding costs or defer taxable gains. Meanwhile the higher market rates and reduced economic activity discourage more rational investments undermining the real economy and making the crash’s economic impact worse when it occurs.

 Tech stocks for example soared relative other stocks both in the 1920s and 1990s. Between 1925 and 1929 Radio [RCA] rose from $11 to $114 or 936% and from 1995 to 2000 the adjusted price for Microsoft rose from $2.79 to $37. Based on these kinds of results no speculator is going to be discouraged by tighter fiscal or monetary policies. This was also a theme criticizing IMF actions after the Asian Financial Crisis [Hill 2014] arguing that Asian governments had not run large deficits or loose money policies so that further tightening requirements only made the adverse economic situation worse. Rather one reason for the boom and bust was the inflow of hot money and especially dollar loans with lower interest rates that were then used for stock and real estate speculation.

**Bank Policy And Regulatory Issues**

Examining and analyzing the past and recent record of financial Bubbles indicates that panics and crashes with big negative externalities are caused when people borrow money to buy inflated assets and the banks are involved in providing this funding. New ventures or financial innovations pose risks to the financial system and in turn the general economy that depends on bank lending when bank exposure and leverage are involved. Further the greater the bank involvement and leverage the greater the systemic risks and the eventual harm to the economy.

 This is why strict laws such as margin limits or loan to value limits on real estate transactions appear to be better at moderating or limiting a Bubbles negative aspects than regulators’ discretion since the government or industry regulators seem to get caught up in the Bubble’s optimism and are co-opted [Rapp 2013]. The regulatory lesson from 1929 is that broker loans required only 10-20% margin and as prices rose investors/speculators could borrow more. In turn brokers and trusts borrowed from the banks. Thus when the crash came, the loan pyramid collapsed and since the banks themselves were leveraged relative to their depositors they failed too.

 Something similar occurred in Japan in the 1980s. Speculators borrowed from banks based on the market value of stock and real estate assets [120% A/L]. Further banks were allowed to count 40% of the value of stocks they owned as capital. Thus as the banks lent more for stock speculation and prices rose the amount they could lend based on their capital also rose. However when stock prices started to decline this financial rocket was reversed with a huge jump in non-performing loans [NPL] and led to the collapse and merger of many major banks [Rapp 1999]. The Japanese economy and stock market are still trying to recover almost 25 years later. In sum if the policy objective is to keep the financial system and especially the banks sound while providing funds needed to support economic growth and new technologies, the history of great bubbles supports the concept that given their leverage banks should not provide this kind of risk capital.

 Further it is obvious that lending decisions that could make sense on a micro basis often will not when done in volume [herding] such as real estate or stock loans in Japan based on appreciated assets or the margin loans for stock speculation in the US prior to 1929 crash. Similarly the housing loans and mortgage pools that created the US 2003-2007 housing boom offered no exit strategy for investors when the defaults came. Massive foreclosures soured the market and drove prices well below loan levels while the political and economic backlash against what was seen as predatory lending created a bank management and mortgage loan servicing nightmare.

**Prices Critical Variable**

 Understanding an asset’s price action is the key to identifying a Bubble and the proper policy response. Increased prices create optimism that attract speculators and make lenders and regulators feel overly confident. This is further complicated by the fact governments and politicians usually benefit from greater economic activity and higher tax revenues [Clinton Surplus]. It is clearly easier to get re-elected when people feel good and are optimistic about the future.

 Still there is a high future hangover price from this kind of inebriation for though price increases attract more participants and more optimism and perceived economic benefits at some point price volatility leads some speculators to exit especially if they are highly leveraged.

 It is this situation though that indicates the proper policy lever is to limit access to the debt needed to support further price increases and especially bank debt. Price declines generally will create a panic especially if speculators are heavily indebted. However this fact supports a policy that limits speculator leverage generally and severely constrains bank debt particularly. A policy that compels more committed capital creates more of a downside cushion and by reducing bank exposure ensures less pressure on the banks and the financial system when prices inevitably decline. This should also reduce the negative externalities of the crash as prices collapse. Dodd-Frank appears to support this rationale.

**Disruptive Technologies, Economic Growth, And Capital Markets**

 From a policy view it important to note, though, that an historical examination of Bubbles indicates not all Bubbles are uniformly bad since some Bubbles involving disruptive technologies and large investment requirements have had positive externalities such as the railroads and the Internet. Over-investment in these technologies and subsequent bankruptcies have lowered the capital cost of using them especially where the marginal costs of such use have been low. Indeed the development of new companies and businesses such as mail order [Sears] and e-commerce [Amazon and Google] have depended on such post-Bubble situations. The process may even be a natural outcome of the capitalistic system given that Russia and China did not have Bubbles until they became more market oriented. The key policy issue is thus to retain the benefits of economic growth from such investments while reducing the apparent risks to the financial system and the economy.

 Margin requirements for stock have worked fairly well in this regard in that the Dot.Com Boom and Bust or the collapse of some social media shares [Groupon] have had little negative impact on the real economy as a whole or the financial system. Hopefully deleveraging bonds and derivatives will have similar results. Other policy signals related to the risky price action of Bubbles include: financial innovations, increased leverage, more complexity, concentration of underpriced risk such as AIG, and pro-cyclical regulation.

Interestingly News stories seem to play little role in starting panics or crashes. Rather it is the price action that all participants can see that is the key. Newspapers and other news media merely report the results.

Rather systemic risk with global implications emerges when the following are involved or occur: potential banking losses, capital losses for large highly leveraged multi-national institutions often with heavy use of derivatives such as LTCM [Long-term Capital Management], Metallgessellshaft or AIG. In these and other cases investor capital is minimal as in 1929 and 2008. Foreign exchange effects along with derivatives can increase leverage and magnify any losses on a global basis as they did in the Asian Financial Crisis and Japan’s stock market collapse [Rapp 1999] respectively.

 Finally if Bubbles are a market phenomenon initiated by an economic dislocation such as a change in regulations or disruptive technology that attracts a rapid inflow of funds, then their increased frequency since 1979 would appear directly linked to increased globalization. As Hill [2014] and others have observed there has been an identified trend since the early 1980s for reduction in national barriers to trade, foreign investment and financial flows including the fall of Communism, increased Privatization, and weaker unions complemented by large technological advances in transport and telecommunications. If Bubbles are a natural result of markets and capitalism it is logical we would see more of them under these conditions. As Francis Fukuyama argued in End of History (1992), liberal democracy won and in turn free markets and capitalism. An unforeseen though perhaps foreseeable result is therefore that more Bubbles have occurred. The regulatory and technological changes that define globalization were clear dislocations to the established economic order beginning with gold’s deregulation in the 1970s, then Reagan and Thatcher's privatization, followed by Japan's Yen/$ dollar accord, shifts in export platforms to Asia, the opening of Russia and China and finally instantaneous global communication.

 At the same time it also explains why regulations targeted at financial Bubbles have met so much resistance including Greenspan's since it goes against globalization’s prevailing anti-regulation winds and the view that free markets know best [Shiller 2005].

**Regulating The Aftermath**

Yet the aftermath of the most recent bubbles combined with their greater frequency argues that lenders of last resort [Governments, Central Banks and/or the IMF] and other regulators or policymakers should move beyond their prior reaction of generally acting after the fact to deal with the economic and financial mess of a crash. Legislative and regulatory actions should work to prevent or moderate the next bubble.

Interestingly when similar legislation or regulations from the past is later modified or repealed it can be a signal for the emergence of a new Bubble [Glass-Steagall versus Gramm, Leach, Bliley or NY 1907 Bucket Shop Law versus Credit Default Swaps]. Still the objective should be to counter excessive optimism by forcing investors and speculators to risk more of their own money or to control optimistic contracting as in the case of Japanese Real Estate laws and regulations introduced during the 1980s boom. Prosecutions can also be a way to deter future bad acts.

**Current Bubble Understanding Still Leaves Policy Gaps**

Given that Bubbles seem to be a natural outcome of human greed and market conditions related to risk taking that are an integral part of the capitalistic system, they probably are something that has to be accommodated but still managed so as to moderate the negative externalities and amplify the benefits of capital allocation to new ventures and technologies. Indeed when there is excess capital and returns are low the willingness to take more risk and probably underprice it increases. The policy issue then becomes whether this should be discouraged as not promoting economic growth.

Bubbles that have promoted growth include Canals, Railroads and the Internet while those that have not have instead promoted real estate speculation and risky bank lending [Japan and recent US housing Bubble]. In this respect Government actions and reactions to a rapid rise in asset prices are critical if society as a whole is not to suffer from the crash, recognizing individual investors will always be at risk. At the same time history indicates these government actions should be targeted at the specific Bubble after analyzing its characteristics, since the perverse effects of credit tightening can actually stimulate a Bubble and as explained above can exacerbate the ultimate crash’s economic and social impact when funds flow to the higher perceived yields offered through speculation [1929, Asian Financial Crisis and Japan 1980s] while general economic tightening will just make the final negative economic impact greater.

Some targeted guidelines include limiting the concentration of credit risk due to foreign exchange effects, counterparty issues, or Ponzi Finance [adding required loan repayments or interest to principal]. Such policy regimes need to lean against the wind by limiting the 3-sided [lender, borrower, regulator] optimism and asymmetric incentives in financial contracting. This will require sensible regulatory policies by Central Banks or other government agencies with oversight authority versus co-option. Therefore set rules should impose some limits on flexible regulations or Regulators.

Of the three current Bubbles: Social Media, Emerging Market Debt, and Long-term high quality sovereign debt, the first falls into our disruptive technology category with debt exposures handled through margin requirements. Further participants own much of the inflated stock. Emerging market bonds and long-term high quality sovereign debt such as 30-year US bonds or 20-year Japanese bonds however could have high degrees of associated debt and/or derivative leverage and exposure with potentially significant systemic risk. But our data and understanding of these exposures remains murky. Further they do not seem to be getting much attention from regulators and policy makers who for obvious economic policy reasons continue to keep interest rates low.

From this brief analysis of Bubbles and their links to globalization, greater frequency seems inevitable. This situation therefore argues for a regulatory and policy approach that limits direct and indirect leverage through strict and relatively high capital and margin requirements. It also argues that due to their inherent leverage, bank lending should be restricted to the normal credit and foreign exchange activities needed to support the economy and the global financial system and they should be prevented from providing venture or other forms of risk capital related to asset price speculation.

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1. The rise in stock prices accelerated after 1985 [13000+], to 18,800+ in 1986, and 20000+ in 1987-88 after recovering from the global stock market swoon. It then jumped to 30000+ between 1988-89 reaching a peak December 1989 of 38,957. Japanese real estate prices also rose rapidly with stock prices: 1985-86 residential prices rose 45% and commercial properties 122%. By 1991 Japanese commercial real estate was up 303% and residential real estate was up 181% from 1985. [↑](#footnote-ref-1)
2. Several other bubbles and crashes were globally contemporaneous with US Housing Bubble including Ireland [Celtic Bubble in stocks and real estate], Iceland [stocks], Latvia [real estate], Spain [construction and real estate], and UK [financial services] as well as bubbles in commodities such as oil and gold. [↑](#footnote-ref-2)