

## **“Macro-Prudential Regulations: Linkages with macro-economic policies for promoting financial stability”**

### **Transcripts of the comments by Andrew Sheng, President, Fung Global Institute**

Thank you very much Jose Antonio. I would really like to thank Usha Thorat, CAFRAL and Stephany Griffith Jones of IPD for inviting me to come and join this illustrious conference. Speaking after everybody here whom I admire, I don't know what I am going to say but I am going to try something a little bit unorthodox. It's trying to synthesize what everybody in this distinguished panel and earlier keynote speeches has talked about. After Joseph Stiglitz's tour de force on the theory and practice of capital flows and macro-prudential regulation, and then Minister Chidambaram's challenge that we need to have more humility to deal with systemic crisis, that we need to see the forest from the trees, what else can we add?

I want to summarise what I think Joseph was really saying. Joseph was really saying that in macro-economic thinking behind current policies, we are in the phase of transition from a closed system - a reverting-to-equilibrium paradigm in economics - to an open system of disequilibrium continuum framework of thinking. But that concept of continuous disequilibrium with massive information asymmetry is essentially Eastern. We realize that life is so complicated with massive information asymmetries and uncertainties that you have to have the humility to understand that everything is relative; that nothing is black and white and everything is both black and white. Everything is both government and state; not either government or state. It's not either/or, which was the old thinking, because, as Minsky<sup>1</sup> discovered, stability creates its own instability. In fact, Minsky was repeating the contradictions of Eastern thinking that there is instability within stability, as well as stability within instability.

So, how do we achieve the humility to worry about the continuum and complexity that when we apply macro-prudential tools, the medicine may be worse than the cure? What

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<sup>1</sup> Andrew Sheng, “*Finance cannot be left to free markets<sup>1</sup>: An Asian Tribute to Minsky*”, 20<sup>th</sup> Hyman P Minsky Conference 15 April, 2011, Levy Institute, Bard College, New York

are the operational implications of open system theory? Using a recent paper by Veysov<sup>2</sup>, which defined the four L's of systemic risk, I have added another L .

The first L is the level of systemic risk. The level of systemic risk is essentially two types – the first being those who are very large and too big to fail which are super spreaders of risk - the big elephants out there like Lehmans. Then the second type comprises common behaviour patterns or what we call the Typhoid Marys<sup>3</sup>, which have hidden implications of similar behaviour or viruses that cause failure. This aspect was mentioned by Joseph in his opening keynote.

The second L is the system liquidity issue, which Jan Kregel talked about. We need to distinguish between global liquidity, domestic liquidity, private liquidity and official liquidity. All these liquidity issues disguise the systemic risk at different levels.

The third L is leverage. As you know, there above the line leverage, which is recognized officially; below the line or off-balance sheet leverage, which is not fully accounted for and measured for risks until too late; and offshore leverage, which domestic regulators have not measured because it is outside their jurisdiction. Put all the leverage together and we have total leverage of the global financial system that we have not understood and still not measuring properly. We are still grappling with the political economy of how do we stop the banks overleveraging themselves to a crisis level.

The fourth L is linkage or the interconnectivity that creates the interdependence of the financial network. The fragility of linkage lies not just in weak nodes (institutions); it is the interconnectivity with different counterparties, and the feedback mechanisms between them that ultimately generate the last L - the losses - not just at the individual institution level but also at the system level.

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<sup>2</sup> Alexander Veysov, *Financial Contagion and Systemic Risk: From Theory to Applicable Macroeconomic Model*, Moscow State Institute of International Relations (MGIMO) 14. June 2012, Online at <http://mpira.ub.uni-muenchen.de/40612/> MPRA Paper No. 40612, posted 11. August 2012 13:24 UTC

<sup>3</sup> Typhoid Mary was a well-known carrier of typhoid who spread the disease wherever she went, but was herself immune to the disease.

If we use the Bertalanffy Open System theory<sup>4</sup>, we realize that we may have to apply very complex and very new vocabulary like entropy, feedback mechanisms, homeostasis, differentiation and equifinality, all terms which we economists are not used to. We really need to borrow from other disciplines like biology and physics to think about system stability and the way systems evolve from one phase to the next. I want to discuss this at several levels.

The first one is that change is all about very complex feedback mechanisms between different parts of the system, which John Gieve has talked about. We need to realize that the feedback mechanism is the process that effect change and evolution within the system. When central banks offer a new set of rules, the bankers immediately start to game them. For every action in dynamic open systems, there is a countervailing action. So shadow banks are really created by excessive regulation. The more you regulate, the more the market shifts to where it is not regulated. The immediate policy reaction is to say that we are need to regulate the shadow banks. But the minute you attempt to do so through super-regulators, what makes you think that they can solve the shadow banking problem? The new rules and supervision simply add another level of complexity and a further level of countervailing action. Just as entropy in physics increases through time, complexity increases in a system through feedback mechanisms within the system. We need to have some humility in appreciating that whatever we do as regulators, we are not sure how the system evolves because of these complex feedbacks.

The second level of complexity arises from the problem of information asymmetry, which Joseph talked about. Open dynamic systems have levels of complexity that we do not know, perhaps spillovers we are not aware and may not be able to measure. We not only do not know - the very fact that we think we know is very likely to be wrong, because of these very complex uncertainties of feedbacks and spillovers that change the game continuously. Information asymmetry is built into open system complexity that is diametrically opposite to static equilibrium models that yield a single optimal solution.

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<sup>4</sup> D. Katz and R. L. Kahn (1966), “*Common Characteristics of Open Systems*”, chapter 2 in *The Social Psychology of Organizations*, Wiley, pp 14-29 quoting L. von Bertalanffy, *The Theory of Open Systems in Physics and Biology*, Science, vol. 111 (1950), pp.23-29.

Finally, we need to realize that there is no one size fit all solution or tool. This is the key difference between the closed system thinking and open system thinking. Optimality thinking in closed systems suggest that there is one standard solution that can work for all. Open systems with no equilibrium or at best temporary stable dynamic paths mean that there are different standards and tools available, none of which are optimal. The IFIs work on the basis that we need to have standardization of rules at the global level. In a closed system, standardization is a condition for optimality and equilibrium. It is the contradiction of open systems that anything that we all agree on is very likely to be wrong. What is your meat is my poison. This is because if the agreed rule or standard is wrong, because the environment has changed, then we will all be wrong at the same time. Standardization in open systems creates system fragility.

One size fit all rules can be very dangerous, because for open systems to be dynamically stable, you need diversity in the system. It is not just about diversification; you need diversity in the system. A market is only stable when there are equal numbers of sellers as well as buyers. One trouble of the pro-cyclicality is that de facto the world is interconnected to two basic business information sources both of which are pro-cyclical in the game. If I am a retail guy and I listen to both Bloomberg and Reuters, and they both say the market is going to go up, guess what I am going to do? I am going to be pro-cyclical, very likely I am going to be wrong, and I am going to be killed. Extending this to macro-prudential policies, you will find that what is right for the large reserve currency macro-prudential policies is probably very likely the wrong policies for emerging markets.

Why do I say this? Because the large advanced economies create very large externalities. The large markets are the externality giver and the small emerging markets are the externality receivers. Similarly, the big markets are rule makers, while the emerging markets are the rule takers. If emerging markets are the disexternality receivers, we need to think and react very differently. When we had the first phase of global liquidity, Ben Bernanke<sup>5</sup> famously said in 2005 that this was the savings glut problem, and it is you

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<sup>5</sup> Bernanke, B S (2005), *'The global saving glut and the US current account deficit'*, Sandridge Lecture, Virginia Association of Economists, Richmond, Virginia.

emerging markets saving too much that caused our problems of loss of monetary policy effectiveness. He was wrong: it really was a global credit glut problem, as Hyun Shin<sup>6</sup>, Claudio Borio<sup>7</sup> and others have elaborated more recently. Essentially, the loss of monetary control at the domestic level was due to large scale global liquidity, which was created not just by official credit, but by private credit through financial innovation. Much of this private liquidity was not measured at the national level, because current accounting standards, regulatory and tax arbitrage enabled the leverage to be disguised off-balance sheet, in special investment vehicles or offshore.

Hyun Shin<sup>8</sup> (2013) said that we are moving to the second stage of global liquidity, and macroprudential concerns need to focus on the global banks because the banks are the big guys who are providing the shadow banking institutions, such as asset managers, with leverage and credit. Minister Chidambaram and emerging market policy makers are highly concerned with the volatility caused by capital flows. But who are most responsible for these capital flows? Asset managers, but unfortunately, the conventional wisdom say that we don't need to regulate asset managers.

What we are confronted today are contradiction issues. Nothing is absolutely right, nothing is absolutely wrong. You think that asset managers need not be regulated because they are not leveraged, but in reality, when asset managers hedge their positions, they actually leverage themselves through credit provided by the prime broker banks. Total global assets under management is today roughly \$90 trillion, only slightly smaller than the global banking assets of \$117 trillion<sup>9</sup>, with the top 10 asset managers managing something like \$20 trillion of assets. Asset re-allocation by these large funds could overwhelm any emerging markets if they pull out of any particular market.

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<sup>6</sup> Shin, Hyun (2012), 'Global banking glut and loan risk premium', Mundell-Fleming Lecture, presented at the 2011 IMF Annual Research Conference.

<sup>7</sup> Claudio Borio, "Rediscovering the macroeconomic roots of financial stability policy: journey, challenges and a way forward", Bank for International Settlements, September 2011

<sup>8</sup> Bruno, Valentina and Hyun Song Shin (2013) "Capital Flows, Cross-Border Banking and Global Liquidity", NBER working paper w19038.

<sup>9</sup> IMF Global Financial Stability Report, October 2013, Statistical Appendix, Table 1.

Put in this perspective, emerging market policy makers really need to have a very different way of thinking about capital flows and dealing with them. We are now facing the second phase of QE, which as the advanced markets begin to withdraw quantitative easing, we are going to face the fundamental problem of rising interest rates and capital outflows. Managing this is going to be more complex and challenging than before.

Since the crisis broke out in 2008, emerging markets have become rule takers of major regulatory reform rules. I need to say something about the contradiction of regulatory reform between the advanced and the emerging markets. As I mentioned earlier, because of different stages of development and institutional deepening, there is no one size fit all rules for everyone. Sir John Gieve stated earlier that we are returning to complexity. Actually, complexity has always been there, because reality has always been complex. The only problem was that our (neo-classical based) view of the world was overly simplistic. The dominant neoclassical framework sacrificed reality for the elegance of theory. The older generation of central bankers, with myself as an example of retired and perhaps unemployable because of my unorthodoxy, we recognized that even with very complex market behaviour, there are relatively simple patterns. The key question is how do we recognize such patterns?

Let me give an illustration, using the Legal Theory of Finance, developed by Columbia Professor Katharina Pistor<sup>10</sup>, which I think is one of the more original thinking that has emerged as a result of the crisis. Basically, financial markets are networks of different legal contracts. As Jan Kregel said earlier, the way you make money in finance is to make these contracts (such as financial derivatives) more and more complicated, and that demands more and more complicated rules for regulation. As Katherina Pistor rightly observed, financial markets are hierarchical, and the rules are very complex but fragile at the periphery, and very simple and flexible at the centre.

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<sup>10</sup> Katharina Pistor, *A Legal Theory of Finance*, Columbia Law School Public Law & Legal Theory Working Paper Group, Paper Number 13-348, May 9, 2013

For example, the contracts for financial derivative rules based on ISDA contracts are defined using pretty complex rules whereas the central banking swap arrangements are just one piece of paper or exchange of letters. Between central banks, we trust each other: that's it. The more markets become complex, the more simple sovereign trust must become to deal with crisis. Global money and liquidity is being created by hundreds of banks and asset managers who actually create private liquidity, but every now and then, the market suffers a black swan attack that creates panic, which requires the central banks to step in and deal with panic through swift and decisive action, such as liquidity being freely provided (the Bagehot rule). Ultimately, money must be anchored by sovereign backing and rules.

Now what does flexible rules at the centre mean? What are the implications of this particular insight? The insight is that when we think about financial markets as open systems, we need to understand the architecture, the market hierarchy, the incentive structure, and the exogeneity and endogeneity of the system. The contradiction of open systems is that although you need rules for normal times, when a crisis occurs and you have no information on how to deal with it, *the rule is that there is no rule*. The logic of this is simple. If information asymmetry is the norm, you cannot write a rule that applies for all time. When the environment changes, the rule becomes ineffective. Hence, the rule is that there is no rule for all time.

That's exactly how Joseph summed up for me when I described this contradiction to him last night. He had the insight that when the market has moved away from orthodoxy, to solve this unorthodox crisis, you need unorthodox rules. That is why central banking is an art rather than a science. We simply have so much information uncertainty and asymmetry, that when the system evolves into a very complex system we need both complexity and simplicity. Why do I say we need simplicity? Firstly, complexity disadvantages the retail participant and the small and medium enterprises. The market becomes more and more unequal because only the large enterprises and financial institutions can afford the expertise to deal with complex rules and high transaction costs. Second, when I don't understand what is going on, and most retail guys don't understand, and when most bankers don't understand Basel III and all these other complex rules, and when a crisis

occurs, the first simple rule is to run. Basically, the recent financial crisis was a run against the shadow banking system. It started with the subprime mortgages, then the CDOs, Fannie Mae and Ginnie Mae debt and money market funds. When a systemic run occurs, it becomes pro-cyclical and creates the exact problems of illiquidity and insolvency that we were trying to avoid.

Walter Bagehot<sup>11</sup> understood in the 19<sup>th</sup> century that the only way we can stabilize bank runs is for the central bank to undertake very unorthodox policies to stabilize the system. As Mario Draghi understood, it takes whatever it takes. “Whatever it takes” assures the market, because nobody really knows what it means except that the central bank will take care of the crisis and there is no theory behind that orthodoxy of whatever it takes, but it changes the dynamics of the system.

Given the inherent contradictions, how does one operate in this increasingly complex system that crashes in order to simplify it? We come back to the Asian philosophy<sup>12</sup>, which is that given that the fact that life is both complex and simple, the simple rule is it must not be overdone. What we have now done in the world is that we have overdone QE, and we have overdone the complex regulations, and we need to simplify the system. If we don’t simplify it so that the majority man in the street understands what is going on, we are creating the next crisis by our reform activities.

Let me illustrate with another simple contradiction.

Everything we have discussed here today are inherent contradictions in the system. We started by the advanced markets getting into crisis because they thought the system was self-regulating. They can afford to deal with crisis through quantitative easing (QE), because they are literally passing the losses to whoever holds their liability. Its worsening the inequality in the system by making the rich richer and punishing the saver, especially the masses who cannot avoid the inflation tax. That’s a contradiction, but that’s a reality. So what happens now is that you have QE to stimulate the economy, and very complex regulations to deleverage the excessively leveraged system as a whole, which has the effect

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<sup>11</sup> Walter Bagehot, *Lombard Street*, Henry S. King & Co, London, 1873.

of slowing growth. When you withdraw QE and accelerate the implementation of deleveraging rules at the emerging market level, the emerging markets are going to slow down. The consequence of QE withdrawal is going to slow down the global economy, since we are moving towards a synchronized policy recession. Is that what we want?

We need to have a much better dialogue on this global policy contradiction or inconsistency. We need to understand that the combined spillover effects of withdrawal of QE at the same time as enforced implementation of global rules on emerging market financial systems is not so simple and we should not overdo it.

The emerging markets need to concentrate on the simple macro-prudential tools that are proven to work. For example, we understand in Hong Kong that a very effective macro-prudential tool in safeguarding bank stability is to lower the Loan-to-Value (LTV) ratio for real estate loans. If the property markets go up, you reduce the LTV. We told this to our American friends, who ignored the use of such simple rules because they thought that it interfered with the free market system. But we need to understand that emerging markets have very different circumstances from advanced markets. There can be never one size fit all rules for individual central banks to use because there are very different ways to deal with how a global crisis hits different countries.

To conclude, my basic conclusion is that the need for more complex macro-prudential rules may not fit emerging markets, because all they achieve is more complex ways the industry games the new rules. The current set of macro-prudential rules is grossly over complex, so we need to keep to simple central banking that the layman can understand.

Central banking is still an art, rather than a science.

Thank you very much indeed.