Keynote Address
"Banking Disintermediation and its Implication to Monetary Policy"

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The central function of banks is lending; and that entails ascertaining credit worthiness. It is easy to lend money; the difficulty is getting it back. To get it back you have to lend it to people who will repay it and that means making judgments of who is credit worthy. In this sense, banking, credit markets, financial markets are inherently dealing with problems of imperfect information. The first motivation of my writing *Towards a New Paradigm of Monetary Theory* was to try to think through, in more detail what implications the economics of information had for monetary theory and the conduct of monetary policy. I was further motivated by the experiences of East Asia; by the crisis in Indonesia, Thailand and Korea, where the insights of the theories I had developed, I thought, were very relevant to understanding what should have been done, and why what was done failed so miserably. It explains why the models that were being used, for instance by the IMF, were wrong and why their predictions systematically did not bear out. My book provided an alternative intellectual framework for thinking about crises, but also for thinking about day-to-day management of macro-economics, including the kinds of issues that Indonesia is facing today.

What I would like to do this morning is to focus on why banks are so important, and what are some of the incentives for disintermediation? What are the consequences of disintermediation? How do we go about leveling the playing field? I will spend a few minutes addressing some of the specific policy issues facing Indonesia and many other developing countries today and then I will conclude with some general remarks.

Let me begin by talking about the general importance of finance. Finance, banks and capital markets are like the brains of the economy; they gather process and disseminate information on the basis of which scarce capital is allocated. How well they perform their task has much to do with how well the economy performs overall. This is especially important in developing countries where capital is very scarce and therefore, where the efficient allocation of capital is particularly important. In a country like the United States, we can misallocate capital massively, as we did in the bubble of the nineties, and we can get away with it. However, in a developing country if you made mistakes of that magnitude it does have severe consequences.

I want to argue that banks are absolutely central and to understand why banks are so important one has to understand the nature of the process of gathering information. Even in developed countries, most finance, other than self-finance, is in the form of debt. And most of the debt is through banking institutions. There have been changes over time but this general pattern is quite strong. The work that I have done with Bruce Greenwald and with others helped explain why that was the case. There are fundamental information asymmetries, which limit the role of equity markets.

I think the simplest way to explain that is the following: The nature of an equity market is the owner of the equity is selling a share in his company; he knows better what the value of it is. And you ask the question, when is he going to be most willing to sell it to you? The answer is very simple; when you are paying him too much. For example, lets say I have a wallet in my back pocket and in that wallet there is a certain amount of money and I know how much money is there, but you don t. I want to sell you a 1% share of the money in my wallet through an auction, but there is one little proviso of this auction; if have the right not to sell it, which I will obviously exercise if you do not offer me enough. So what is the equilibrium price? The equilibrium price is zero, or equivalently the market won't exist at all ; there will be zero sales. Why? Assume say that I had $100, and therefore a one percent share would be $1, if there were perfect information. But I know there is $100, and you don t. If you offer me a $1.10 then I ll sell it but if you offer me $0.90 then I won t. Therefore, it s a heads-I-win-tails-you-loose situation. The only time that I'm willing to sell to you is when you ve offered me too much. I have exaggerated this because if I was very risk-averse and if I didn't know how much money was in my wallet then I might want to be willing to give up something on average to you in order for you to share the risks.

The basic proposition is that asymmetries of information destroy markets and they are particularly effective at destroying equity markets. The problems of asymmetries of information of course, are even greater in developing countries because in developed countries you get well-developed institutions to try to gather this kind of information. You have huge numbers of analysts, people studying markets but in developing countries those institutions are not yet developed. That is why banks are the major source of funding in most countries and particularly for SMEs, which again are especially important in developing countries. In developing countries, most economic enterprises occur in SMEs. (There are a few exceptions, of course. In Korea, large enterprises play an important role.)

In almost all countries in the Source of Funding table, the major source of funding for investment is self-finance, as you can see from the last column of table 1. The capital markets are not as important as anything else that goes on inside the firm. That in itself has a very important implication for monetary policy because it means that if you charge high interest

rates then there is not the capital for self-financing. It is easy for the banking system to destroy the ability to self-finance. That is what happened in the East Asia crisis. When firms have large amounts of debt, and monetary authorities raise interest rates to very high levels the source of money for self-finance disappears completely. Monetary policy can have a very negative affect. It can't force people to invest but it can take away the money that they need to invest.

Table 1
Source of Funding

	New Equity/Gross Capital Formation	Bank Loan/Gross Capital Formation	Bond/Gross Capital Formation	Internal Sources/Gross Capital Formation
Brazil	2.72%	1.53%	2.14%	93.61%
Chile	2.63%	7.49%	4.73%	85.14%
Czech Republic	4.20%	3.93%	1.14%	90.74%
India	2.19%	0.50%	1.11%	96.20%
Indonesia	-2.64%	3.50%	-0.83%	99.98%
Kazakhstan	-2.36%	11.88%	-1.20%	91.67%
Malaysia	0.27%	4.02%	0.00%	95.72%
Mexico	3.66%	1.40%	3.38%	91.56%
Philippines	1.06%	-0.17%	-0.04%	99.16%
Poland	3.54%	1.86%	8.56%	86.04%
Thailand	15.29%	-3.28%	6.55%	81.44%

Source : Compiled from WDI data

If you look at the first column, you can see the remarkable fact that, except for one country, Thailand, new equity played an almost negligible role in the financing of new investment. That is true in these countries and it is also true in most of the advanced industrial countries as well. Except in particular episodes in particular countries, for example the nineties in the US, this is a traditional pattern and the reason is the asymmetry of information that I talked about before. People always worry when new shares are issued that companies are most willing to issue those shares when the shares are overpriced. One of the important empirical studies in this area was by David Mullens, who was the vice-chair of the Federal Reserve Board in the United States.[1] His work showed that when firms issue shares the share price falls dramatically. It is sending a signal to the market I think you are paying me a lot and that s I why I'm will to do it , so the issuing of shar es leads to a decrease in the price of the shares Firms know this and therefore, they are reluctant to do it; they only do it when the gains from doing that - access to capital they couldn't otherwise raise or risk diversification in a highly risky situation- off-set that very large cost in terms of the decline in price.

1 Asquith, Paul and Mullins, David W., 1986, "Equity Issues and Offering Dilution," *Journal of Financial Economics*, Volume 15, pp. 61 - 89.

The other two columns are debt and they say that basically most of the financing outside of self-financing is in the form of debt. It is also clear that most of it is in the form of bank loans in most countries, but not all. Bond issues make up a relatively small fraction in most of the countries. The basic reason is that security markets do not do as an effective job in gathering information as banks do. Banks are much better as a repository of information.

The next table, Table 2, summarizes some of the trends changes that have occurred in a number of countries. What you see is that new equity was very small in 1990 but it was even smaller in 2002. Bank loans remained larger in importance than bonds but there was an enormous increase in bond finance as well.

Table 2
Source of Funding

	1990	2002
New Equity/Gross Capital Formation	1.66%	-0.05%
Bank Loan/Gross Capital Formation	2.10%	3.70%
Bond/Gross Capital Formation	0.40%	3.66%

Source: Compiled from WDI data

The question I would like to turn to now is why banks? The problem of allocating resources - determining the credit worthiness - is essentially an information problem. It is an information intensive activity. But there are real market failures in information in the securities markets. The most important of these problems are related to the problems of appropriability. There are also problems of conflicts of interests as well.

The problem of appropriability is seen most clearly under the efficient markets hypothesis which is now quite widely rejected, though it was very popular for a long while called the efficient markets hypothesis. The idea is that markets are efficient in transmitting information. If somebody discovers that a stock is worth more, known as price discovery, they bid the price up and as that price is bid up, everybody else gets the information. Therefore, the information about the increased value is transmitted through the price system to everyone in society. The argument was that it was done efficiently. This is a fundamental hypothesis that argued for the efficiency of capital markets. What would this imply if it were really true? It would imply that if I invested in information then that information would be known instantaneously by everybody else. Consequently, that would mean that I couldn't get any return to that investment in

information. The logical implication of the efficient market hypothesis is that no one would invest in information. Therefore, the market could efficiently transmit information but there would be nothing there for it to transmit, except for costless, free-information. While it would be efficient in transmitting what available information was there it wouldn't be very useful. This is an extreme example of what is known as the free-rider problem. Everybody would be free-riding on the research of others. In fact, that obviously can't be true and so we argued that markets could not be perfectly efficient and the evidence that has accumulated since then confirms this conclusion. This is still however, an important free-rider problem; others do benefit from investments in information that a particular person makes. The markets do convey some information. One of the important problems here that I want to emphasize is how security markets free-ride off of the information provided by banks. Banks are in the job of providing intensive monitoring of firms. They have that constant relationship because it is a short-term credit they can pull the money. They have the ability to go in and look at the books. Therefore, in general, banks are much more information intensive than bond markets and bond markets, therefore, rely on the information provided by banks. If a bank of a firm says, we are no longer going to lend then that is a big deal. That conveys a lot of information to the rest of the market. The basic notion here is that to some extent, security markets are free-riding off of the information provided by banks. Indeed, bonds will typically be issued only if a firm has a good credit line. That is saying that they are relying on the judgment of at least some banks before they issue any bonds. That is an example of an appropriability problem.

Another issue that came to light in the nineties are a whole set of problems of conflicts of interest. They particularly arise in securities markets and they are pervasive. Until the nineties, they were hidden but many of us worried about them. In fact, some of us worried why we didn't see more of it. Part of the lesson here is that it is very difficult to control these conflicts of interest but you need to be aware of it. It plays an important role for regulation and designing better regulation. It is an important reason for laws like the Glass-Steagall Act separating commercial banking from investment banking. The obvious example is the analysts who typically work for investment banks. If you look at their compensation scheme, you get a little bit of a feeling about what is going on in this market. It is very striking that so little attention has been paid to this issue. The analysts were supposed to be, as their name suggests, analyzing. An analyst is supposed to say what is a good company and what is a bad company. Unfortunately, that is not the basis of compensation. If that *was* the case you would say I'll give your pay depending upon how good your prediction is. If you predict well that this company is going to do well then your pay will go up but if your predictions are lousy then your pay will go down . That is what you would have thought would happen if he was being paid

as an analyst. His compensation should be related to the quality of his analysis. None of the pay in Wall Street is based on that. Analysts do not get paid on the basis of analysis. They get paid on the basis of generating money for the investment bank. If they bring in more money for the investment bank then they get paid more. And the people that they are bring in money for do not want accurate information. They want good information; good meaning positive. You don't sell stocks on the basis of accurate information that says this is going to loose money. That doesn't help you sell. The analyst Jack Grubman of Salomon Smith Barney, who is the object of a lawsuit now, was most famous because he only had three grades; buy right now, buy, and think about it and buy. They had some lower grades. Usually the day it went bankrupt they would say well maybe we shouldn't but it now. Even days and weeks before the bankruptcy, they were in a positive buy mood. It was very clear from the emails and correspondence they were selling things they knew internally were, as they called them, dogs, i.e. stocks that are not going to do well. But they had to sell them and provide positive information because that was the only way that the investment bank would get the underwriting, and the underwriting premiums were huge. The underwriting commissions were huge. Therefore, the investment bank made a huge amount of money and the way they did it was to get a strong report from the analyst. It was a corrupt process. It was actually more corrupt than I just described. One of the further corrupt practices was the IPOs (Initial Public Offerings). What the investment banks were supposed to do is give the shareholders of the company the fair market value of the shares. And that means that if the shares were worth 100 then they would issue the shares at the price of 100. However, that is not what they did, they would issue them at 50 and then the stock would go from 50 to 100 and they would boast about how good the shares were. They should have been condemning themselves. They issued something that was worth 100 but they issued it at 50. Look how bad their judgment was. But they never said that to themselves. They boasted about how well the stock did after they issued it, which is really a criticism of their pricing ability. It was a mystery; why were they systematically issuing them for 50? Were they that stupid? If they are that stupid then they ought to get out of the business. If you can't tell that something is worth 100 and you systematically say it is worth 50 something is wrong with your abilities as a bank, as an investment bank.

In the nineties we figured out what was really going on. It was corruption. Not the kind you talk about here but corruption in the private sector. So what can you do if you sell it for 50, you know it is worth 100 then you know there is going to be excess demand. If you just hold it for one day then you will make a 50 dollar capital gain. That is a high return for one day; 100%, so there is going to be excess demand. Who do you give that excess demand to? You are basically giving away 50 dollar bills all over the place. Now when *I say 50* dollars I am really

talking about 50 million dollars. That is a lot of money to be giving away. So who do you give it away to? You give it away to the managers, the CEOs of the companies that list the stocks with you. Basically, you bribe the company to list with you then you charge them enormous investment banking fees, you give a little bit of those investment banking fees, maybe 20 million dollars a year, to the analyst but you tell the analyst not to analyze just recruit the business by giving good reporting. The shareholders loose, the new shareholders loose but the CEOs and the executives of the investment banks do very well. It was an extremely corrupt process. Given the fact that there were such incentives for bad information, the information that was being reflected in the market in the prices was not accurate. Adam Smith's Invisible Hand theorem, the most important result in economics, said that the price system, the pursuit of self-interest leads as if by an invisible hand to economic efficiency.

What modern economics has shown is that when information is imperfect, which is always the case, quite often the reason the invisible hand seems invisible is that it is not there. We saw the pursuit of self-interest in the nineties, and self-interest is just a gentle form of greed on the part of CEOs, did not lead to economic efficiency, it lead to a massive distortion of resources. If prices are not based on good information then prices cannot give a good signal to where resources should be allocated. And if resources are not being allocated well then you will have a problem. The market system won't work well. What you had in place in this system in the United States was a systematic bias towards providing bad information that lead to the misallocation of resources with enormous cost to the American economy. You had a bubble that eventually broke. During the bubble the prices were distorted so that you had things like telecom, where prices lead people to invest in for instance, fiber optics and at one point it was said that 97% of all the fiber optics had seen no light. In other words 97% excess capacity. Even worse than the real estate bubble here in East Asia.

Inevitably, when you have this kind of bubble or this kind of distorted information — nothing to do with crony capitalism , it had something to do with a fundamental problem in market capitalism- the result is that when this bubble brakes there are real consequences. Just like in East Asia, there were real consequences in the United States. One has to put this into perspective. Whenever you have a bubble and it breaks, it takes a long while to recover. Indonesia is finally beginning to recover. The United States is also beginning to recover but it has still not fully recovered. It has been four years since the bubble broke and the United States is still very much below capacity. While the official unemployment rate is around 5.5%, if you look more carefully you'll see that with disguised unemployment it is closer to 9%. As an example, disability rolls in the United States are up by one million people over the last four years. It is not that people in the Unites States suddenly got a disease that no one new about

and they all, therefore, had to end up on disability. It was only that disability benefits pay more than unemployment benefits. Consequently, if you can't get a job it is better to be disabled and unemployed than just unemployed. There are now over one million Americans now on part-time employment, involuntarily, because they can't get a full-time job. The labor market in the United States is still not that great. If you looked at it in an accurate way then the true unemployment is around 9% so we haven't really recovered. I estimated that the cumulative gap between the actual output and the potential output over the 4 years from 2001-2004 the loss in the United States is to the order of magnitude of $1.7 trillion. That is a lot of money. The money could have been used for education, health or even to fight another war. The point is that the consequence of having an economic system with distorted information is a bubble that broke. A consequence that is, in some sense, predictable. The point is that banks, in the provision of this information, avoid some of these conflicts of interest and avoid some of the free-rider problem because they both gather the information with which to make loans on the basis of and therefore, bear the cost if they don't get the right information. Banks have to integrate the information problem in a way that it is not done in the securities markets. Therefore we can say that banks are informational more efficient, which is something that I will come back to.

Greater information intensity allows for distinguishing between firms that are temporally in trouble and those that have more long-term problems. The problem is that when an economy goes into a down turn, profits decline in almost all firms. A difficulty arises when profits go down and you don't know whether it is a temporary problem or is it really on the way out. Is it in the wrong product market? Is it not being well managed? You really need a lot of detailed information to be able to answer these questions. And banks are in a better position to gather that information.

On the books of the banks, there should be a reserve for the likely fall in the price of bonds. The long-term government bonds were risky and there needed to be a reserve for that decrease in value of the bonds. But what did the government allow them to do? They allowed them to borrow short (accept short-term deposits) at say 3% interest and lend long at say 8%, book the difference of 5% and treat it as perfectly safe without any reserve. Consequently, the banks looked better and better, unless of course they were looked at closely. A real criticism of financial markets is that they are so stupid. They don t look at these things. They should have realized that this was very volatile but they didn't pay much attention to it. The regulators were saying that the balance sheets looked better and better because the banks were booking 8% in return and only paying 3% in interest, which looks like a very good investment. But the market is telling you that the reason there is a discrepancy is because there is a risk of a capital

loss. No money was put aside for this risk. The important lesson to learn is that not every gamble fails. This was a gamble that worked out because President Clinton did succeed, with one vote, in getting a tax increase and deficit reduction package passed. There was a capital gain and the banks were basically recapitalized through that capital gain and things worked out ok in the end. However, had that not happened interest rates could have gone up, bond prices could have gone down and the United States would have had a banking crisis of first order magnitude. The point of this is that in the United States in the early nineties there was the same situation that many developing countries find themselves in today. The banks have excess reserves. The banks may be getting a smaller percentage of the total savings but even with that, they are not lending to the private sector but are holding more in the form of government bonds.

The function of banks in our society is to lend, not to the government but to the private sector. If they are lending to the government then they are not fulfilling their basic social function. They are not doing the information role that I described earlier as the absolutely essential role that the banks are supposed to engage in. Then the question becomes; how do you induce banks to lend more in such a situation? The first thing is to look for biases. In the case of the United States, we looked for the biases, the bad accounting, the treating of long-term government bonds as if they are safe, and the overly restrictive regulatory framework. We changed that in 1993 to try to encourage more lending. Therefore, you should look for mistakes that may be discouraging lending. Secondly, you look at what the banks are doing. You should try to change incentives and impose constraints. For instance in one country we were in, the banks were holding their money outside the country because they expected a devaluation. They were gambling and they thought there would be a higher return by keeping their money outside in dollar bonds than lending in the country. Incentives can be changed by imposing on banks a high capital gains tax on speculative returns from capital gains. That affects the returns to holding money in dollars. This way the incentives have been changed by affecting higher returns from lending in domestic currency domestically.

The distinction between macro and micro; macro instruments and micro instruments; regulatory instruments and open market instruments, has been over exaggerated. Monetary authorities need to use the full range of instruments that are available. Capital adequacy requirements can affect lending just as open market operations can affect lending. The two are really not separate. Your design of your regulatory policy can have macro effects just like open market operations can. Not recognizing this can have very severe macro economic effects. This general perspective of focusing on incentives and constraints is part of a tool kit for redressing the problem of insufficient lending.

Some of the banking disintermediation is a result of the special burdens imposed on banks. Banks do have some advantages in some countries like deposit insurance but not large enough to offset the disadvantages. Therefore, it is important to level the playing field. And there are a number of aspects of this; for instance, it can be done by paying interest on reserves, strengthening deposit insurance, strengthening regulations on securities markets, imposing transaction taxes in securities markets, separating policy lending from commercial banks and helping banks restart with a clean slate. These are some of the instruments that can be used to help level the playing field. The basic point I would like to make is that implicitly we do have a set of taxes on the banking system and we need to think about that very carefully because banks do have this distinct role in our economy and there are high costs of disintermediation.

Moving towards the conclusion, the important lesson is that the old wisdom that securities markets are better than banks because they allow better diversification of risk ignore the importance of information. But the collection, processing and use of information is the central function of the financial system. The new view sees bank institutions as central to the success of any economy but especially developing economies, even though there will inevitably be some disintermediation as economies grow and securities markets develop.

Central banks have an important role, not only in macro economic management but also insuring that the financial system overall is functioning well. I want to emphasize this because too often central banks think of themselves as simply in a narrow role of modulating the economy of just managing the macro economy. It was brought home very forcibly to me when I was asked by the Central Bank of Ecuador after they dollarized, should they disband? They thought that they no longer controlled monetary policy we have now dollarized. I though that they shouldn t give up and disband because there is still an important role for the central bank to play because Ecuador was still a developing country, there was still a need for credit. The financial markets were not working well and no one was looking after the financial markets. As a result, the central bank has an important role of trying to create credit. That is important. Even in the EU and the formation of the European Central Bank, there is a role for the national banks, which the national banks have not yet come to understand. The role is that even though the European Central Bank may affect the interest rates that affect the various European countries, each of the national banks has a role in determining the credit availability because they happen to control the banking system of their respective country. They can set the capital adequacy requirements, they can set a whole variety of other terms of the banking system and they determine banking regulation. They can no longer engage in open market operations in the way they could before but the other set of tools; the regulatory tools have first order macro economic affects.

For an economy thinking about growth and expansion or for an economy recovering from a severe economic downturn, a central role means trying to make sure that there is credit provided to all segments of society and especially to SMEs, which will never have access through securities markets. It is also important to make sure that credit is available on affordable terms. High interest rates will debilitate the private sector even in a well functioning economy but in a developing economy, it is even more important to make sure that interest rates are low. Interest rates do matter but credit availability matters even more. If you make credit available only at very high interest rates, then you will stifle the private sector and that will make it difficult for the economy to grow. What matters of course is not just the T Bill rate, the government lending rate, but the rate at which loans are made to the private sector. What are the determinants of the spread between the lending rate and the T Bill rate? And what can governments do to reduce that spread? It is important to not only keep the T Bill rate down but to also keep the spread down so that the rate at which firms can borrow is kept as low as possible. That is where the focus should be kept; maintaining the flow of credit and the terms at which credit is available. All this will require sound regulation and also a more level playing field.

I think that the issues we are talking about today are at the centre of successful development, of successful macro management of an economy and I think that the issues have identified some of the key issues in trying to get a financial system that is able to provide credit to all segments of society so that you can have vibrant long-term economic growth.