C.D. DESHMUKH MEMORIAL LECTURE

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Financial Innovation: Effects on Economic Performance

DR. LAWRENCE R. KLEIN

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CHINTAMAN DESHMUKH MEMORIAL LECTURES

Chintaman Dwarakanath Deshmukh, who passed away on October 2, 1982, was the first Indian Governor of the Reserve Bank of India. He later became the Union Finance Minister. In recognition of his meritorious services to the Reserve Bank and the nation and to perpetuate his memory, the Reserve Bank of India has instituted an annual lecture series styled Chintaman Deshmukh Memorial Lectures. So far three lectures have been delivered in this series, as mentioned below.

Lecture No.	Subject	Date
1. Professor Nicholas Kaldor	The Failure of Monetarism	January 18, 1984
2. Professor James Tobin	Central Banks and Government Budget	January 9, 1985
3. Professor Janos Kornai	State-Owned Firm, Bureaucracy and Market: Hungarian Experience	February 7, 1986

The fourth lecture is being delivered by Dr. Lawrence Klein on November 24, 1987.

Chintaman Deshmukh was born on January 14, 1896 at Nata, near Fort Raigarh, in Maharashtra, in a land-holding family with traditions of public service. Chintaman's father, Dwarakanath Ganesh Deshmukh, was a respected lawyer and his mother, Bhagirathibai, was a deeply religious lady.

Chintaman had an outstanding educational career. He stood first in the Matriculation examination of the University of Bombay in 1912, also securing the first Jagannath Sankersett Scholarship in Sanskrit. At the University of Cambridge he took a first in the Natural Sciences Tripos in Botany, Chemistry and Geology in 1917 winning the Frank Smart Prize in Botany. He appeared for the Indian Civil Service Examination, then held only in London, in 1918, and topped the list of successful candidates.

For most of his 21 years with the Indian Civil Service, Chintaman Deshmukh was with the then Central Provinces and Berar Government, where, among other things, he was probably the youngest

among those who held the positions of Revenue Secretary and Finance Secretary. While on leave overseas in London, he worked as one of the secretaries to the Second Round Table Conference in which Mahatma Gandhi participated. The memorandum submitted by the Central Provinces and Berar Government, which Deshmukh prepared, for the purpose of the enquiry by Sir Otto Niemeyer leading to the award on the financial relations between the Centre and the Provinces under the Government of India Act, 1935, won him high acclaim.

Chintaman Deshmukh's association with the Reserve Bank of India began in July 1939, when he was appointed Liaison Officer in the Bank to keep the Government of India in touch with the Bank's affairs. Three months later he was appointed Secretary of the Central Board of the Bank and two years later in December 1941, Deputy Governor. He was Governor from August 11, 1943 to June 30, 1949.

Chintaman Deshmukh proved to be an outstanding Governor. He presided over the transformation of the Reserve Bank from a private shareholders' bank to a nationalised institution and secured the enactment of comprehensive legislation for the regulation of banking companies and the establishment of the first financial institution for the provision of long-term credit to industry, namely, the Industrial Finance Corporation of India. He also initiated a number of steps for building up an adequate machinery for rural credit. Commenting on Chintaman Deshmukh's role in regard to the provision of rural credit, a leading co-operator wrote that he "brought about a complete change in the approach from one of hesitant conservatism or laissez-faire to that of a progressive outlook and adoption of positive steps to build up an institutional machinery to provide agricultural credit and for channelling Reserve Bank funds for development of agriculture." With nearly a decade's intimate association with the Reserve Bank, Chintaman Deshmukh reviewed central banking in India in a most thought-provoking Kale Memorial Lecture in 1948.

Chintaman Deshmukh played an important role in the Bretton Woods Conference in July 1944, leading to the establishment of the International Monetary Fund and International Bank for Reconstruction and Development. In both of these institutions, Chintaman Deshmukh was a Member of the Board of Governors for ten years and was the Chairman at the Joint Annual Meetings of these two institutions held in Paris in 1950.

In September 1949, Prime Minister Jawaharlal Nehru appointed Chintaman Deshmukh India's Special Financial Ambassador to America and Europe, in which capacity he conducted the preliminary negotiations for a wheat loan from the U.S.A. Towards the end of the year Jawaharlal Nehru asked Chintaman Deshmukh to work on the organisation of Planning Commission and appointed him member of it when it was set up on April 1, 1950. Shortly thereafter, Chintaman Deshmukh joined the Union Cabinet as the Finance Minister and held that office with distinction till he resigned from it in July 1956. His stewardship of the country's finances was marked by prudence as well as humane perspective and vision, dealing imaginatively with the changing financial needs of a developing country. Financial policy was directed towards facilitating the achievement of rapid growth, social justice and economic stability. He made significant contributions to the formulation and implementation of the country's First and Second Five Year Plans. He was also primarily responsible for such important landmarks in the area of social control of the financial structure as the enactment of a new Companies Act and nationalisation of the Imperial Bank of India and life insurance companies.

The departure from the Union Cabinet marked the beginning of a different phase of public service by Chintaman Deshmukh in the realms of education and social service. He was Chairman of the University Grants Commission from 1956 to 1960, helping to lay a solid foundation for the improvement of the standards of university education in the country. He was Vice-Chancellor of the University of Delhi from March 1962 to February 1967, building it up as an outstanding institution of higher learning.

Chintaman Deshmukh also gave generously of his time and energies to the building up of other important institutions devoted to the cause of education and research. He was President of the Indian Statistical Institute (ISI) from 1945 to 1964. It was during the period he was both the President of the ISI and the Union Finance Minister that the National Sample Survey, to be conducted by the ISI, was instituted (1951-52) and the Central Statistics Office established. He was President of the Institute of Economic Growth, New Delhi, from 1965 to 1974. He served as the honorary Chairman of the National Book Trust from 1957 to 1960. He founded the India International Centre in 1959, of which he was Life President. He headed the Court of Governors of the Administrative Staff College of India,

Hyderabad, from 1959 to 1973 and was Chairman of the Indian Institute of Public Administration, New Delhi, in 1963-64. Other bodies with which Chintaman Deshmukh was associated included the Indian Council of World Affairs (1960-67) and the United Nations Institute for Training and Research (1965-70). Along with his wife, Durgabai, Chintaman Deshmukh participated in multifaced social service work, especially in the functional literacy and family planning work undertaken by the Andhra Mahila Sabha, Madras and Hyderabad, a social organisation of which Smt. Durgabai was the Founder President. He became its President after Smt. Durgabai's death.

Chintaman Deshmukh's old college at Cambridge, Jesus College, elected him an Honorary Fellow in 1952 in recognition of his distinguished contribution in the areas of Indian and international finance and administration. He was co-recipient in 1959 of the Ramon Magsaysay Foundation's Award for distinguished Government Service. A number of prestigious universities and institutions, international as well as Indian, conferred on him doctorates honoris causa; these included the Universities of Princeton (U.S.A.), Leicester (U.K.), Pune, Delhi, Allahabad, Nagpur and Osmania (India), as also the Indian Statistical Institute.

Chintaman Deshmukh had a great love for gardening and horticulture was his special hobby. He continued to be a deep student of Sanskrit and published a volume of his poems in that language in 1969. He was proficient in a number of foreign languages also.

Chintaman Deshmukh died in his 87th year at Hyderabad where he had finally settled down. With his rare combination of qualities of head and heart, idealism and objectivity, culture and science, integrity, dedication and imagination, Chintaman Deshmukh will always rank high among the eminent sons of India.

WELCOME ADDRESS
Shri R.N. Malhotra
Governor, Reserve Bank of India

Dr. Klein, Shri Jha, Ladies and Gentlemen,

It gives me great pleasure to welcome you all to the Fourth Chintaman Deshmukh Memorial Lecture. As many of you are aware the Reserve Bank instituted this series of lectures to commemorate the late Shri Chintaman Dwarakanath Deshmukh who passed away on 2nd October 1982. He was the first Indian Governor of the Reserve Bank of India.

Shri Deshmukh, who was born on 14th January 1896, had a brilliant academic career which culminated with a first in Natural Sciences Tripos from the Cambridge University. He was a very distinguished member of the Indian Civil Service for 21 years. Shri Deshmukh joined the Reserve Bank in 1939 and became its Governor in 1943 — a position he held with great distinction till the middle of 1949. During this crucial period, the Reserve Bank was transformed from a private shareholders' bank to a nationalised institution. A comprehensive legislation for the regulation of banking was enacted, the Industrial Finance Corporation of India was established and the foundation for the development of a sound institutional structure for rural credit was laid. He made a significant contribution in the Bretton Woods Conference of July 1944 which led to the establishment of the International Monetary Fund and the International Bank for Reconstruction and Development. He was a Member of the Boards of Governors of both these institutions for ten years besides being the Chairman of the Joint Annual Meetings of the two institutions held in Paris in 1950. He played an important part in the setting up of the Planning Commission also. Shri Deshmukh was the Union Finance Minister from 1950 to 1956.

Both as Governor of the Reserve Bank and the Union Finance Minister, Shri Deshmukh steered the country's finances with vision and pragmatism. Growth, social justice and economic stability were the aspects to which he attached great importance in the formulation of policies.

After his departure from the Union Cabinet Shri Deshmukh remained active in several other areas of public service, especially education and social service. He held the posts of Chairman of the University Grants Commission, Vice-Chancellor of the University of Delhi and President of the Indian Statistical Institute, to mention just a few. He was a recipient of number of honours, national and international. Among them I can mention his election as an Honorary Fellow in 1952 by his **alma mater** the Jesus College and the Ramon Magsaysay Foundation's Award for distinguished government service in 1959.

A man of deep culture, humanity, versatility and high values Shri Deshmukh is remembered with respect, regard and affection.

We have been fortunate in attracting many eminent speakers to give lectures in this series. The first lecture on the "Failure of Monetarism" was delivered by Prof. Nicholas Kaldor in 1984, the second lecture on "Central Banks and Government Budget" by Prof. James Tobin in 1985 and the third lecture on "State-owned Firm, Bureaucracy and Market: Hungarian Experience" by Prof. Janos Kornai in 1986. We are extremely happy to have today with us Dr. Lawrence Klein to deliver the Fourth Chintaman Deshmukh Memorial Lecture on "Financial Innovation: Effects on Economic Performance".

Dr. Klein is too well known an economist to need a formal introduction to this distinguished gathering. Starting with his doctoral dissertation entitled "The Keynesian Revolution", which has over the years remained a standard work of reference on the subject, his contributions to Economics have been far reaching and seminal in character. He is a prolific writer and his research output covers a wide area that is of interest to the academics and the policy makers. But it is above all macro-model building with which one has come to associate Dr. Klein's name. His pioneering work in this area has been followed by others in the United States and in many other countries. This contemporary research activity has rightly been acclaimed as marking the "Age of Klein in Model Building". As an economist he has been pushing the research frontiers with a view to getting a better understanding of the working of the economic system and addressing problems in policy making. Since 1958 he has been at the University of Pennsylvania where he has developed the Wharton model. Dr. Klein's vision as a macro-economist is truly global. His project LINK attempts to bring together economic macronodels for different countries including the industrial, communist

and developing countries, in order to portray an integrated model representing a total system of the world economy. Dr. Klein has taught in many Universities in the U.S.A. and abroad. Of particular interest to this audience is the fact that many Indian macro-model builders were his students.

Dr. Klein's distinction as an economist has been recognised through many Awards, the most outstanding of which was the Nobel Prize for Economic Science for 1980. He won this award for "the creation of econometric models and their application to the analysis of economic fluctuations and economic policies."

Dr. Klein has chosen to speak to-day on a subject which is very topical. Recent years have seen a phenomenal increase in the number of financial innovations. These have important implications for policy making and are of particular significance to Central Banks, Governments and financial institutions. Dr. Klein's lecture should be of great interest not only to this audience but to others in this country and abroad.

We are indeed privileged to have Shri L.K. Jha, Member of Parliament, to preside over this function. Besides being an eminent administrator, he is an economist in his own right. Successive Governments in this country have turned to him for advice on a wide range of matters. As you are well aware, he was Governor of the Reserve Bank during a crucial period. We are proud to claim him as a member of the RBI family. We are most grateful to him for agreeing to preside over this function and offer comments on Dr. Klein's lecture this evening.

I once again welcome you all to this function and may I now request Dr. Klein to deliver his lecture?

FINANCIAL INNOVATION: EFFECTS ON ECONOMIC PERFORMANCE

Dr. Lawrence Klein

Your Excellencies, Guests and Colleagues,

It is a pleasure and honour to be here to honour Dr. Deshmukh and to renew acquaintances with colleagues and Indian scholars with whom we can exchange interesting ideas. To-night I am going to address the subject of financial innovation and I am not, of course, going to talk about the subject in terms of your own banking or financial system, but I am going to try to make it as general as possible, as a matter that now confronts the world economy. However, I think it is only natural that I will make my examples and most complete references to the case of the United States, which is perhaps typical among the industrial countries as to the effect of financial innovations. But what would be happening in industrial countries will soon be spreading through the world.

Now to begin, what do we mean by financial innovation?

The Meaning of Financial Innovation

The financial system is rapidly undergoing technological change. Computer and telecommunications facilities are the vehicles of this change. They are the hardware components that make change possible. Associated with the new hardware, we find appropriate software coming into use. Most of the specific changes in hardware and software are well known to you. But we are experiencing actual contact in our daily business and financial routines with this material. In this lecture, I shall enumerate some of the effects of these changes only to try to make the presentation self contained. My principal purpose is to try to point out some of the economic consequences of these changes. Many of the points raised are controversial, and they merit discussion at some length.

Now as you know the computer enables banks to accomplish more **traditional** bookkeeping and accounting work with fewer and fewer employees. This might mean that banks can do more business with a stationary number of employees or take on more employees to do new things and allow the automatic processors to do the routine things that people used to do. Record keeping of credits, debits, balances, and periodic statements are now automated. The

actual transactions, not only the record keeping, are being increasingly carried out by automatic teller machines (ATM). Banks with extensive branches, which are the norm in most of the advanced countries and also in some developing countries, can and often do permit ATM access to accounts from widely dispersed geographical locations, whether they are with branches or with the head office. Without any necessary association with a branch, banks may be participating in computer networks that allow access to particular accounts from any of a variety of locations. To give an example, at points all over the United States, I can access my account in Philadelphia, provided I use an ATM in a computer system that includes my bank. This may be at the present time only for fund withdrawal, but eventually will be used for deposits and withdrawals.

The ATM system has expanded rapidly and at some future time, a bank customer will be able to negotiate debits and credits at any place within a country, where machine installations are located. The next step, of course, is to do this across national boundaries. This can already be done on a limited basis, and the day will undoubtedly come when people can use ATM access anywhere in the world at the then prevailing exchange rate.

Some societies are still cash societies, where most transactions are made by coin or paper currency. Leading industrial countries, particularly the US, Canada and UK, quickly went to the cheque writing and accepting medium. The use of cheques and reduction in the use of coins or paper currency are taking place and gradually we will become a cash-less society. I mean by cash currency, and what we call cash in economic analysis includes bank deposits as well as currency. But we will become more and more a society where we have little use for currency.

The telephone, mail, and plastic card greatly facilitate the phasing out of carrying or using of physical cash. The practice of debiting and crediting of accounts by mail — either regular mail, telegraph, or electronic mail — has long been in use, but telephonic transactions and plastic card transactions are relatively newer. People prefer to use plastic cards to make transactions or access ATM machines, rather than carry coins and paper currency for use as required. In all but remote developing countries, credit cards are generally accepted for the making of transactions and for obtaining travellers cheques in a variety of currency denominations. Their use is already great but not universal. It will surely increase during this period of technological change.

By telephone, funds may be shifted, at instant notice, between accounts, especially between interest-bearing and non-interest bearing accounts, or between accounts that have differential interest rates. Salary payments, which used to be primarily in coin and paper currency deliveries (from the employer to the employee) are now commonly made by bookkeeping transfer from employer bank accounts to employee bank accounts. The signals for these transfers can be electronically transmitted.

Cheque clearing between banks still takes a few days, at best, nationally, and weeks on an international scale. This will surely be speeded up by the use of electronic clearing methods. Cheques will not have to be transported physically for the clearing process.

In some large retail markets, sales rung up at a cash register are automatically logged into bank accounts, where debits are entered for sales. Also the seller can send a direct message to a warehouse for inventory correction. Point-of-sale terminals will go beyond occasional and experimental use and eventually they will become quite general.

People still receive securities for bond and stock sales, but these will eventually become bookkeeping entries distributed electronically. Banks will eventually not provide scissors for the coupon clipping of bonds. Interest payments can be allocated automatically to designated accounts.

It will be a long time before banking is fully automated, but the degree of automation is increasing rapidly and the new generation of customers will rely on fewer and fewer bank tellers. There will, however, be loan officers, supervisors and employees for other bank activities, dealing with trust affairs and securities transactions.

Financial innovation extends far beyond banking; it covers credit markets as a whole, and this causes some problems in the interrelationships between banks and other financial institutions. Investment bankers or merchant bankers, brokers, managers of mutual funds, insurance companies, and general investment counsellors all use computers and telecommunications equipment to a highly refined degree. It speeds up their transactions, enables them to conduct more transactions, and puts one kind of financial institution into the business of another. The lines between the different segments of financial markets have been cut or blurred, thus creating conglomerates, which are literally "financial department stores."

A feature of these new tendencies has been the introduction of new instruments. That is truly at the heart of financial innovation. One might have seen the multiplicity of instruments coming when such things as Eurodollar markets, Eurocurrency markets, and certificates of deposit were introduced. Eurodollar markets grew up as countries began to accumulate large dollar balances while the dollar was still the key currency for the IMF system of fixed exchange rates, but as the era of the dollar shortage gave way to the era of the dollar glut and as the world shifted from fixed to floating currency rates, the concept of Eurodollars gave way to Eurocurrencies. In the United States, interest rate controls imposed some burdens on thrift institutions in their relation to commercial banks; so when the thrifts were allowed to introduce certificates pegged to market rates of interest, this new instrument generalized the whole range of banking activities.

Such small moves were only the beginning. Now index futures markets, options markets, markets for stripped securities (separation of capital value from interest), debt-equity swaps, junk bonds, zero-coupon bonds and many other devices opened up financial activities to a wider range of choice. Some of these instruments are sophisticated and complicated. Valuation formulas can be quickly computed electronically and transmitted far and wide. This is the way that technological change has been the handmaiden of financial innovation.

It is not only the computer that is widely used, but also the various devices of telecommunications. Transactions all over the world are instantaneously known in any large market. The 24 hour global market is the outcome and in fact is now a reality. National boundaries have been broken down, and financial instruments are traded everywhere. Securities are cross listed on many exchanges. Borrowing and lending take place along circuitous international paths, wherever conditions appear to be advantageous. Major financial institutions operate on many exchanges and have offices in many countries. Many international mergers and acquisitions unite firms from different nations. It is simply one big market. That is the key to the outcome of financial innovation.

Economic Implication

What are the economic implications of the event that is taking place? It is commonplace to note that the world has become highly interdependent. The process has not yet completed its course. At

first, during the 1950s and the 1960s, the main lines of interdependence were constructed through patterns of trade, mainly in visible merchandise. Economists then spoke of the transmission mechanism, and when project LINK was first organized in 1968, it was to deal with the transmission of cyclical disturbances from one economy to another. People were mainly concerned with transmission from the United States to other countries and from the industrialized countries to the developing countries. Towards the end of the 1960s, the Soviet Union and East European economies were also becoming more involved in world trade, and now we have the People's Republic of China becoming more and more involved in the world trading system.

The system was originally held together by the Bretton Woods mechanism of fixed exchange rate parities, but it broke down by 1969 because a glut of dollar holdings developed, and made the system more vulnerable to capital flows. The interdependence that is to be examined in the context of financial innovation, as it has been laid out for you a few minutes ago (in the previous section) is largely an interdependence of capital flows. The new technological developments make these flows massive and quick.

From the viewpoint of economic analysis, it means that one cannot simply look at an exchange rate against an average of all other rates or one interest rate against a single external rate. It is necessary now to look at whole vectors of exchange rates, interest rates, inflation rates, growth rates, and financial asset balances. The relevant analytical system is greatly complicated. In a country where we ordinarily look at M_1, M_2, M_3 we find now that it is not satisfactory any more because we must look at overseas balances, not simply the national balances, in order to be able to say in what direction monetary policy should go.

Exchange rates became free, with a degree of official intervention, by 1973, and we economists have had a difficult time appraising the mechanism of exchange determination. For the short run, such simplifying concepts as purchasing power parity or interest parity have been found to be terribly inadequate. I do believe that purchasing power parity holds in the long run over an average spectrum of currencies, but short run instability of individual rates has been at the centre of economic difficulties, and the analytical tools must be much more refined and complicated in order to deal with the situation.

It is necessary to get a full understanding of capital flows in order to deal with the short and the medium term situation. In the first

place, data are sparse on bilateral flows. Total flows, country by country, are available in the best cases for the leading industrial countries with well functioning capital markets, but even these limited data are not available for many developing countries and for many other centrally planned economies. Capital flight has been especially important for the relationship between developing and industrial economies, and even in this strategic case, basic data are lacking. Now there are many estimates, for example about the amount of capital that has moved from Mexico to the United States or from Brazil to the United States or to Europe, but these are just estimates and the precise flows — the details of the flows are still not known with great accuracy. The world debt problem and the relationship between debtor nations and the major creditors cannot be satisfactorily handled until we know better what these flows have been.

That economies are inextricably bound together was dramatically demonstrated after the stock market break on Wall Street on October 19, this year. The panic spread quickly, in less than one full day, to Tokyo, Sydney, Hong Kong, Singapore and Europe. Later in the next day London and Frankfurt were involved, with rolling repercussions on the second day in New York. Program trading, options markets, and new telecommunication devices are strongly suspected of causing great volatility, and many of the new methods or new instruments had to be suspended for trading sessions. In this respect, financial innovation appears to have been carried too far. It will have to be curbed. It will not be possible to roll back or even hold back technical progress — that never works — but it should be possible to regulate its use.

Proponents of financial innovation who look for less rather than more regulation argue that activities that are associated with or encouraged by the new instruments, such as speculation and arbitrage, tend to lead to faster and better market solutions. They would argue that speculation promotes stability, particularly in the long run. Whether or not the long run case can be made, there is no evidence that the speculation that we have been seeing during the recent period of financial innovation is stabilizing. We observe much wider and more frequent daily fluctuations than usual. Even if some long run aspects may be enhanced by speculation, it is not clear that we shall be permitted to reach the long run. In the short run, the destabilizing aspects create fear, panic, uncertainty, and widespread economic ill effects.

There were good grounds for looking towards an economic recession in the United States by late 1988 or 1989, but violent stock market swings during these very days since the end of October, create conditions that could enhance the possibility of a recession much sooner. Short run volatility itself is an undesirable property of markets, and I believe that unregulated financial innovation is a significant contributing factor to these movements.

At the same time that regulation is called for, coordination is also called for. If, as I strongly suspect, quarrelling and discord between American and German officials greatly aggravated the panic (or may be even caused it), then instead of moving interest rates perversely between the two countries (Germany started to raise rates and the US had to raise rates too in order to hold the dollar steady), the two countries might have been making credit easier at this time. Germany should have moved towards expansion and the United States should have moved towards a monetary accommodation of a fiscal contraction. Also the American Treasury Secretary should not have talked about bringing the dollar down. All the official actions before October 19 were uncoordinated. They were adversarial, and that set off a perverse chain reaction that encompassed all the interrelated markets.

It is possible that all the major industrial powers were sufficiently frightened by the episode that they will now move towards a more sensible coordination of policy, but only after much world wide damage has been done.

Some Institutional Regulations

Now let me discuss some of the institutional implications of financial innovation. At one end of the financial spectrum, we have institutions that are inherently risky; such as stock brokers, commodity brokers, and investment bankers. At the opposite end, we have supposedly secure institutions; such as commercial banks, thrift institutions, insurance companies, and public bodies (the central bank and the state treasury). In the "financial department store" we find all except the public institutions combined under one roof, with substantial intermingling of assets and liabilities. In this modern era of financial innovation, some markets or countries have become quite permissive. In the United States, there have been major changes, but banks are still restrained by legislation that was put into place during the Great Depression of the 1930s, and insurance companies are regulated by a multitude of state laws.

Let us examine these two traditionally conservative financial institutions — banks and insurance companies — in the light of innovation and the pressures for deregulation.

Financial innovation has led to the introduction of a large volume of transactions that are bypassing traditional banking; that is why banks want to act as investment bankers and also as stock brokers. The unfortunate experience ot many trusted American banks during the period leading up to the Great Crash of 1929 and the subsequent Great Depression convinced Congressional investigators in the United States that the activities of security affiliates in cooperation with their parent banks were factors in worsening the crisis and in abusing the public's trust in the financial system. Some people would argue that this relationship between securities affiliates and banks caused the crash and the Depression. Now I would not say that it was the cause, but I think it is clear that it aggravated the situation. Accordingly legislation was passed and that is known in the United States as the Glass-Steagall Act after Senator Glass who was one of the founders of the American Federal Reserve System and Congressman Steagall who was the author of the Deposit Insurance System, and those were very great moves in American financial history. The legislation was passed that instituted deposit insurance, separated investment from commercial banking, barred banks from going directly into the mutual fund (unit trust) market, and prevented commercial banks from underwriting security issues.

Through openings in various state laws, liberal interpretations of the bank holding company statute in the United States, and through foreign operations, American banks have circumvented many of the restrictions of the Glass-Steagall Act. Also many countries permit their banks to engage in a very wide variety of financial market activities. Nevertheless, the fact is that American banks at the present time are pressing very hard for a lowering of the barriers, and other countries do not perceive apparent dangers in this new era; that is what stimulates my interest in taking up these issues at the present time. I would say maybe more rather than less regulation is needed. The general attitude, certainly in the financial press and among most of my academic colleagues is to deregulate. And I say let us reconsider that position. I would certainly agree that technical change is taking place, that the working environment has changed, and that regulation must be adapted to this new situation, but that does not mean that more and more market freedom in a deregulated environment is appropriate now.

Prior to the greatest steps in financial innovation we came through an unusual period in commercial banking. The large money centre banks, and this was true all over the world, accumulated large reserves in connection with their role in re-cycling the OPEC surplus. It is as though the OPEC nations during the 1970s transferred part of the risk of investing their surplus from their own shoulders to those of the world's money centre banks. The banks, in turn, made extremely large loans to developing countries. Some banks, the German banks for example, made large loans to Poland and to other East European countries. Some of these loans were made to sovereign loans borrowers and some to private companies. The East European countries and developing countries were generally unable to service these loans when interest rates rose to unprecedented levels as a consequence of anti-inflationary policies adopted by officials in the creditor countries.

Banks realized good returns for a few years and congratulated themselves on doing so well in the re-cycling activities. In the end, however, the banks became seriously exposed. Some failed; some were rescued; and some have survived with reduced profitability.

In this new environment of financial innovation, banks have seen a fresh chance for realizing new profits. It has become evident that large gains were to be made from acquisitions and mergers, the preserve of investment bankers, from issuance of commercial paper as a substitute for ordinary bank loans, for managing mutual funds, for underwriting new issues, and for trading in the new instruments. To substitute for the poor performance with respect to LDC loans and to substitute for other poor loans particularly in the United States for farms, real-estate and oil properties, American banks have wanted to do all the things that their international competitors are doing and enter the new financial world under a wider umbrella.

Banks argue that they are like other businesses and should be allowed to seek profits on an equal footing with other enterprises in a market-oriented economy. My argument, as indeed it has been the argument of many students of banking, is that banks are special; they are not like any other business. What are the special aspects of a bank? Banks are:

1. The main conduit for monetary policy.
2. They are the custodians of other peoples' money.

Let us consider the first point — monetary policy.

In a fractional reserve system, which most market economies have now, commercial banks can create money. It is through control over

bank reserves that monetary authorities aim for targets for M_0, M_1, M_2, M_3, ... or whatever the target the country has chosen. I am not a monetarist and do not attach sole or excessive importance to monetary targeting, but I do recognise that monetary guidance and monetary control are important.

In this period of financial innovation, it is more difficult for monetary authorities to hit their targets. The meaning of money has changed. Banks are not the sole providers of the means of payment, but banks are still the most important institutions in this process, and the authorities of a well-run economy cannot disregard the importance of their influence on the banking system. The lines of influence should be strengthened and not weakened. Banks **do** create money even if they are not the only institutions with such powers. This makes banks special.

Now consider the second point — the custodianship nature of banks.

People place inherent trust in the banking system. I think I can speak very well about what the typical American citizen thinks. It is that the bank is a safe place. Of course they were upset when banks failed during the Great Depression, but then they began to recover the confidence in the security in the banking system under the insurance network that we now have. When people make a decision to buy equity shares they are prepared to accept risk. When they purchase private debt instruments they know full well that they face possible default or arrearages. They look upon banks as a safe place to keep funds, not entirely safe but nearly safe — next to some gilt edged securities, gold or other real assets. In the United States, they have the Federal Deposit Insurance Corporation to fall back on, together with similar bodies in the thrift sector. This aspect of banking makes them special.

It is fully recognized that money centre banks are private institutions, with a few exceptions. In some countries the banks are nationalized or occasionally they are state based institutions, but, for the most part, we are talking about the regulation of privately owned banks. Being privately owned, banks have responsibilities to their share holders to return profits — the **best** possible profits. This makes banks very special because they have dual responsibilities — to the depositors and to the shareholders. The question is which priority is paramount.

It is not enough to say that depositors are protected in the United States by the deposit insurance system because all deposits are not

protected. Even when a bank fails and makes restitution to the depositors through the deposit insurance system, there is waiting and anxiety. Also the system is not absolute because it is not adequately funded for massive failure of several money centre banks together. The thrift institutions deposit system is now a net debtor. It needs an infusion of funds and the commercial banking system could withstand a single failure or two failures; it would not withstand several failures all at once. Outside the United States, formal insurance systems may not exist; therefore banks must be limited to those transactions that enable them to fulfil the obligations of custodianship. Banks, in performing their custodial duties, often have an inherent conflict of interest. They have confidential information about their business depositors from bank records. If banks get involved with equity markets, takeovers, mergers and other activities that directly involve their depositors, it creates a very sensitive situation that is best avoided.

Bankers will argue that they need deregulation in order to compete effectively and earn profits. Yet in the United States, where we do have thousands of competing depositary institutions, the degree of competition is keen, and those banks who concentrate on being good at banking, as such, do very well. Regional banks, who are less into the sophisticated new instruments, who properly oversee local collateral, and who fully understand their regional economic activities, do, in fact, enjoy good banking profits. Their profitability rates have been good, and their average share prices have outperformed the indices for large money centre banks.

In cases where American banks have strayed into new fields of activity, the results have been disappointing, and, in some cases, disastrous. During the 1970s, large banks became involved in Real Estate Investment Trusts (REITs), which were permitted under the interpretation of the Bank Holding Company statutes. These were effectively equity funds in real estate, not unlike mutual funds or unit trusts. The fears that prompted bank regulators to disallow activities of security affiliates were appropriate. The intermingling of bank funds with REIT funds became a reality when troubles arose for the REITs. There is a tendency for a parent bank to save a Real Estate Investment Trust that would bear the name of the bank in order to keep a good face to the public.

A second venture of banks, noted above, was the movement into sovereign loans to LDCs and by this I mean the North American banks in making loans to Latin America, the Japanese Banks, the

European Banks in making similar loans and particularly, as I mentioned earlier, the German Banks in making loans to Poland. This has been an even bigger financial disaster. Banks were effectively risking depositors' funds on the basis of flawed forecasts of oil and other commodity prices. When these prices softened, the loans became nonperforming. Many of the borrowers, being sovereign, had no obligation under international law to surrender assets to creditors. PEMEX in Mexico or the State Oil Company in Indonesia had no obligation to surrender collateral to private bankers who had loaned money to these Corporations. In this respect, bankers moved into an area of finance that they did not fully understand. They had no business being there in the first place.

Bankers can be as good businessmen as others, yet the American ventures into REITs and LDC loans, together with similar loan operations from other money centres, showed that bankers were not fully prepared for the activities in which they were engaged. Bankers can learn, just as other businessmen learn, from their mistakes, but the question is whether bankers should have the privilege of learning while they are performing a custodianship service. My answer is unqualifiedly no! As long as they are working with other people's money it should not be a learning process.

This position has strong international implications because American bankers argue that they are subject to more severe restrictions than are foreign bankers that do business in the United States. By one observation, it should be noted that foreign banking is a two-way street, and American bankers enjoy many offshore freedoms. But not only are banking practices carried out along two-way streets, regulation need not move in only one direction. Re-regulation is a strong possibility, and an international scale of stronger regulation is worth looking at. Banks are special all over the world.

What has been said about banks can also be said, to a certain extent, about life insurance companies. People depend on insurance companies for retirement, for security, and conservative investment policies. Insurance companies are not directly involved in the creation of money, and they may not be as high in people's minds on the custodianship scale, but they do occupy a position of very high trust.

Insurance companies must maintain conservative portfolios. Their equity investments are and should be limited. In the "department store financial institution" there may be both banks and insurance companies. I would argue for these two special financial institutions'

not being there. Also, it is not only their separation from other, more risky, forms of financial institution that is at issue. It is also a question of keeping them separate from commercial and industrial business.

When the United States occupied Japan after the Second World War, our authorities examined Japan's economic history and concluded that Zaibatsu were an unhealthy form of business organization that lumped together industry, commerce, shipping, trading, banking, and other activities. Perhaps in your own history, the East India trading company was like that. The American authorities wisely took steps to break up the Japanese Zaibatsu, and I believe that we should now adhere to the same set of principles.

What does this mean for the international monetary system?

The International Monetary System

The present international financial crisis is in no small way related to the foreign exchange value of the US dollar and to fluctuations in many currencies. Financial innovation is practised as much on world money markets as in stock, bond, and commodity markets. Exchange rate stability will contribute much to world financial stability.

It may be argued that American economic policy was ill chosen from the period 1981 to the present. It may also be argued that proper coordination of policy was well understood by economists but not by political decision makers. It is worth while, then, to seek institutional arrangements that will overcome ill-considered policy decisions or at least isolate them for the world community.

The extreme of flexible rates — free markets in all currencies with unregulated market forces working as much as possible — does not seem to be a good system. In this era of innovation, the technical changes are likely to bring wide swings in the short run. People want more stability, particularly more predictability, for exchange rates. On the other hand, they should not want complete rigidity, as under the strict gold standard, because they would not want to face up to the required economic adjustments (sometimes wrenching) that are needed for the working of that system.

European nations have chosen a good compromise in the form of the European Monetary System (EMS). Under the EMS, the cross rates among the various Common Market countries have been kept in bounded alignment with one another, subject to occasional realignment as pressing needs require. Even sterling, which is not included in the EMS, has kept fairly well in line with movements of other Common Market currencies. The two principal outsiders are

the Japanese yen and the US dollar. Wide fluctuations in the dollar, in fact, stimulated the idea of the EMS as a protective device. The system of the future may well be an extended EMS in which the yen and the dollar are brought into the joint alignment, with somewhat more flexible and adjusted boundaries of movement.

Among practitioners, but not necessarily among theoretical economists, there is broad agreement that the EMS has worked well, as a very practical system. Business and financial participants in the Common Market appear to like the predictability of rates of exchange.

Lessons of experience with the wildly fluctuating dollar and the narrowly fluctuating currencies of the EMS are instructive, particularly with respect to the matter of policy coordination.

Benelux countries, Germany, other Common Market countries, and also the US (outside the EMS) succeeded in bringing down the rate of inflation. France resisted, early in the Mitterand administration, and Italy also did not follow suit. New Common Market members such as Greece and Spain also maintained inflationary policies at the beginning. Greece and Spain are of course in the Common Market but not in the EMS. However, discordant policies were soon realized to be unworkable under a well functioning EMS and Common Market, and to save the systems, France and Italy (and more recently Spain and Greece) have had to deflate. The better degree of coordination of policies, **whether these policies were optimal or not,** facilitated the working of these two systems — the EMS and the Common Market.

On another occasion, we could see the need for coordination but it was not realised, because it involved joint decisions of the United States, Japan, and the EMS members. During 1981-82 there was a worldwide recession associated with the strong anti-inflation policies of the major industrial powers. During this period the US dollar gained unusual strength and continued to appreciate until the beginning of 1985. America served as a world locomotive, but other industrial countries, especially those in the Common Market, stagnated and watched unemployment grow. Some of the European countries wanted to reflate through a monetary stimulus; they did not favour a fiscal stimulus because they had budgetary deficits. It was not possible, however, for them to reflate through easier monetary conditions because at reduced interest rates they would have experienced an even more serious capital outflow towards dollar

assets. This would have strengthened the US dollar even more and worked against the goals of the European countries in fighting inflation. Further depreciation of their own currencies plus increases in money supply would have undone, partially at least, their anti-inflation gains. The American policies of huge fiscal stimuli accompanied by severe monetary constraint were not only unbalanced but also out of harmony with what was needed for international monetary coordination.

The prescription for better world policy coordination has been clear for some time: What do we want for coordination? At the present time we say,

(i) fiscal restraint in US, with monetary accommodation (easing) in US;
(ii) fiscal stimulus in Germany and Japan; monetary stimulus in Germany and Japan;
(iii) appropriate combinations of fiscal and monetary stimulus in other industrial countries;
(iv) permissiveness towards exchange appreciation in the newly-industrializing economies especially Taiwan and South Korea; and
(v) trade liberalization everywhere.

With these policies in place, we might have been spared the financial crises of the past few months. In any event, the coordination that we would like but have not had, now calls, at least, for severe fiscal restraint with monetary accommodation in the United States and monetary expansion elsewhere in order to hold down interest rates outside the United States in the hope of stabilizing the dollar.

To reach a better institutional mechanism for international exchange rate determination, it is necessary to approach a world equilibrium situation by taking the present turbulence out of world financial markets. This calls for some other fundamental changes such as improvements in US productivity and overall competitiveness. These fundamental changes are much more important than financial innovation in restoring exchange stability and equilibrium.

What have we learnt from October 19 Crash?

At this point, I thought I might take a few minutes to say what we have learnt from the recent events of the October 19 stock market crashes, in order to throw some light on financial innovation. For one thing, if nothing else, the concept of globalisation was clearly recognised. We already knew this, but we had to see it in action, and certainly we saw it in action. But the secondary effects of this

crisis have, as noted in very recent days, caused people to look more inwardly. They are most concerned about domestic investments rather than international investments and this may cut down, to some extent, the degree of international financial capital mobility that we have seen on such a large scale; at least it was sufficient temporarily.

Within theUnited States one of the major banks that has been in trouble because of what I would cite as bad banking practice — the Continental Illinois Bank of Chicago — was allowed to have a securities affiliate. This is in line with the idea that banks want to become broader in their participation in financial markets. It is certainly in line with the concepts of financial innovation. Their securities affiliate suffered badly during the stock market crash of October 19 and they went even further (as a bank with natural instincts) than they were permitted to do in trying to rescue the affiliate. That is precisely the kind of problem that gave rise to the Glass-Steagall Act in the 1930s because it was then done on a large scale. I would certainly argue that if we break down the barriers between banks and security operations again, we will simply be repeating history. The events that occurred in the last few weeks have shown that there is a certain danger.

At present, volatility is far beyond expectations both in securities and foreign exchange markets. It shows that financial institutions have over expanded. This may be a natural human frailty, but should banks be involved in this degree of over expansion? Some of the financial innovations had to be suspended. Program trading had to be curtailed. The Hong Kong Stock Exchange, where these financial innovations have been very highly developed, had to be closed down. It seems to me that the bulk of evidence so far is definitely that in the short run the innovations did not act as stabilising devices and the investigations that are now taking place may very well turn out to show that they were in fact destabilising. The issue now is that we must experiment more with study of more ways of regulating the financial sectors under these technical changes to get them to function in ways that will be constructive. It is, of course, a great challenge, but it does not mean that we should face this challenge by automatically adopting the rule of deregulation or of less and less regulation. But we should look very hard at the question: What kind of regulation is needed in the new technical era? And that could be either more or less regulation, but it certainly does not mean a completely free market. I think that would be dangerous for the world financial community.

PRESIDENTIAL REMARKS

Shri L.K. Jha,*
Member of Parliament

When Governor Malhotra invited me to preside over the Chintaman Deshmukh Memorial Lecture this year I accepted the invitation with alacrity because, in many ways, though not qualitatively but purely in a chronological sense, I was a follower of Deshmukh. I went to Cambridge long years after he did. I joined the Indian Civil Service long years after he did. I became Governor of the Reserve Bank long years after he did, and finally when he was the Finance Minister of India and I was an official of the Government in the Ministry of Commerce and Industry, I had occasions to work very closely with him. But I got a little hesitant about my suitability for performing this function when I learnt that Dr. Klein would be delivering the lecture. Dr. Klein had got his Nobel Prize, as I knew, for Econometrics and I belong to the pre-Econometric age. So I was very afraid that I may not be able to follow what he said. Then how could I follow him on the platform? Fortunately for me he has put me out of that agony. He has presented his arguments in plain persuasive prose without recourse to Mathematics and he has ended up on a note with which I find myself very much in agreement.

However, having said that, I would go on to say that in Economics, as in life, every answer to a problem gives rise to fresh questions and fresh problems. Therefore, starting from the point at which he has concluded and accepting it, as I said, I would like to pose one or two questions and speculate on their possible answers. Firstly, I do agree that you do need regulation and not permissiveness in the monetary system. But, that leaves the question: who is to do the regulation and who is to regulate the regulator? This is because much of the malfunctioning, or even the innovation which he referred to, is the result of the regulatory mechanism getting outmoded and innovative techniques coming into play to circumvent it. But it is more than that. The deeper question is that those who have the responsibility, the power and the authority to regulate can occasionally become, what Keynes said, slaves of a defunct economist to which I would add, in the contemporary scenario, victims of an upstart neo-economist. Now the problem does not end there. The

* Shri L.K. Jha expired on January 21, 1988.

deeper and more fundamental problem is the conflict in the mind of the regulator between national interest and international responsibility. Domestic monetary policy and fiscal policy may be influenced by a choice between three different sets of considerations, which have the priority, namely, control of inflation, reduction of unemployment and stimulation of growth and, if the country is significant enough or important enough, its policy will have impact on world economy and the economy of other countries. Now to dwell on this specific case which Dr. Klein so aptly cited — the policy conflicts between Germany and the U.S.A. In Germany, with the history of two bouts of inflation following the war years, to persuade people to go in for an expansionist policy is impossible. Therefore, the German psyche will militate against what may be very legitimately said to be the right policy from the global point of view. Likewise, for the US, it took a lot of time to accept the situation that the dollar might go down, that it might weaken — after all the currency of the mightiest nation going down seemed to be possible and acceptable.

Now, what is the answer to this kind of a conflict? Who can resolve it? You cannot expect that this will be resolved by summit meetings because these have been held — and they have failed. You cannot expect confidence to be inspired in a system where the most powerful nation can have certain changes in economic policy following four-yearly elections or even following the change in the incumbency of the Treasury Secretary. And for that country to lead the others is a difficult proposition. So accepting the need (a) for regulation and (b) for stability in exchange rates — I think it is very important to think again on the subject of exchange rates because while exchange rates at one time facilitated trade, to-day they have become the subject of trading in their own right. People trade in foreign currencies, not use foreign currencies for trade. This is a revolutionary change. So I go back again dating myself and making myself an obscurantist, if you like, to what Keynes had in mind and what was accepted at Bretton Woods. He recognised, particularly as the author of the Keynesian Revolution and deficit financing and its role in full employment, that for domestic reasons you may have to follow a policy which may result in a balance of trade deficit. And so in that situation with the permission of the International Monetary Fund you can alter your exchange rate, so that flexibility was there subject to international acceptance. So long as you do not use exchange depreciation as a means of export promotion as the Japanese

and the Germans did between the two World Wars, you have reasonable autonomy in the matter of domestic price and the second instrument of control which again the IMF accepted was control over long-term capital movements. While short-term payments were to be free, there was no obligation to make long-term capital movements free. And, I think, with these two being accepted, we might be much nearer the objective, which I fully share, of more stable exchange rates. The success of the European Monetary System has been possible because the countries concerned have a certain community of thinking and interest, apart from the fact they have formally become the European Economic Community. But, for them, Japanese manufactures are not nearly as freely acceptable. Nor is the holding of US dollars nearly as acceptable as it used to be. So to expect that Japan and Germany, Japan and the USA, will somehow come and begin to help in creating a European Monetary System on a global scale is, to my mind, a little difficult as a possible solution. This is particularly true when you realise — and again Dr. Klein is very conscious of it and has brought it out in his writing — that we live in and we talk of one world but we live in three worlds. The relationship between the three worlds is going to become increasingly more important. As we have seen, the debt crisis in the third world can lead to bank failures or threaten bank failures in the first world.

So, as I said, the great thing about this lecture is that not only it has come out with a frank appraisal of what is wrong with the world, but also with the lines on which the threat, the challenge, can be met and we have to meet it. We must all think about it. So, with these words, I would like to express my appreciation of the lecture with very clear perspective which we have just listened to.

VOTE OF THANKS

Dr. C. Rangarajan

Deputy Governor, Reserve Bank of India

We are indeed greatly honoured to have had Dr. Klein deliver the Fourth Chintaman Deshmukh Memorial Lecture. Dr. C.D. Deshmukh was a many-sided personality who left his mark on many spheres of human endeavours. He was an able administrator, a devout scholar and a keen thinker. It is for these reasons that the Reserve Bank of India felt that the best way of honouring him was to institute a series of lectures in his name to which can be invited eminent scholars who can talk to us on issues of critical importance. After Prof. Kaldor, Prof. James Tobin and Prof. Janos Kornai, we had the pleasure of listening to Dr. Klein this evening. Dr. Klein's varied contributions to economics, as we all know, received its recognition in the award of the Nobel Prize in 1980. Prof. Klein can rightly be regarded as the father of macro-economic model building. He created it, nurtured it and made it grow into adulthood. It is recognised now in almost every country that macro-economic model building is the most appropriate tool not only for understanding how an economy functions but also to find out the alternative implications of various policy prescriptions. And in the hands of Prof. Klein forecasting became as much of a science as it can ever become. From the days he wrote the 'Keynesian Revolution', Dr. Klein has been interested in problems of growth, development and fluctuations. His interest was not confined only to developed countries; it extended to the developing countries like India. He had always a soft corner for India and Indian students, of whom I am one. Scores of Indian students have passed through his hands to acquire the capability to understand and analyse critically the problems of growth. Prof. Klein chose the topic 'Financial Innovation: Effects on Economic Performance' almost six months ago. The events of October 19 have added additional significance to that topic. This speaks for Dr. Klein's forecasting abilities! Globalisation of markets and computer-aided trading and dealing have, like a hall of mirrors, magnified the impulses originating from one part of the world and computers, which are considered to be the ultimate in rationality, have become the instrument for substituting cool thinking by frenzy. As Dr. Klein pointed out this evening all financial innovations are not economically significant or even useful. In the financial de-

partment store, a felicitous expression of Dr. Klein, there are many activities which are inherently more risky than others. In the spectrum of financial institutions, banks and insurance companies, as he pointed out, stand apart — more particularly banks. Banks stand apart for two reasons. They are creators of money and, more importantly, they are custodians of other people's money. So long as they perform these custodial services, Dr. Klein's point is that more regulation, and not less regulation, is required. He also referred, in passing, to the conflicts of interest that can be faced by banks when they perform the normal function as lenders of credit and also the other functions like assisting take-overs and mergers. Dr. Klein's note of warning and caution is relevant not only to the United States but also to us in India. May I, on behalf of the Reserve Bank of India and all others assembled here, convey to you, Sir, our most grateful thanks for accepting our invitation and giving us a very stimulating address this evening?

Our grateful thanks are also due to Mr. L.K. Jha. It is only befitting that a seasoned administrator like him should preside over a lecture series instituted in the name of another eminent administrator, namely, Dr. C.D. Deshmukh. Like Dr. C.D. Deshmukh, Mr. Jha is also one who went beyond being an administrator. He is an economist in his own right, whose sage counsel and advice have influenced policy-making in this country for the past three decades. In the context of regulation, Mr. Jha raised the question "Who will regulate the regulator?" I wonder whether it is fair to raise such a question in the precincts of Reserve Bank. In the final analysis some institution has to take the responsibility of being a regulator. Obviously, there will be differences of opinion but ultimately you have to leave it to some regulator if chaos is to be substituted by some kind of order. May I once again, on behalf of the Reserve Bank of India, thank you, Sir, for accepting our invitation to preside over this evening and also to offer most incisive comments on Prof. Klein's address.

To all of you, who have responded to our invitation, we are greatly indebted and may I convey to one and all of you our sincere thanks for honouring us by your presence this evening?