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## **Introduction to EASE-15:** Monetary Policy with Very Low Inflation in the Pacific Rim

Takatoshi Ito and Andrew K. Rose

This volume contains papers from the fifteenth annual *East Asian Seminar* on *Economics*. EASE-15 was held in Tokyo, Japan on June 25–27.

EASE-15 was organized around the topic of "Monetary Policy with Very Low Inflation Rates." Until about a decade ago, this would have seemed to be an issue of only academic—meaning negligible—interest. However, the advent of extremely low inflation since the late 1990s has brought this macroeconomic issue to the forefront of policy discussions. As usual, academic interest has responded to this demand with a lag. Academic interest in the area is particularly high in Asia, for a number of reasons.

First and foremost, a number of important Asian countries have experienced deflation in the last fifteen years. Japan is perhaps the most prominent of these countries, but mainland China, Taiwan, and Hong Kong amongst others have also experienced persistently negative inflation rates. Some of these episodes are the result of fast growth on the supply side of the economy, which seems to have relatively benign effects. But inadequate aggregate demand policy can produce what is commonly referred to as a "liquidity trap" where the presence of a "zero-lower bound" (ZLB) on interest rates makes conventional monetary policy ineffective. A decade ago the ZLB might have been treated as a theoretical curiosum, but in the intervening period it has become a binding constraint. Second, the expecta-

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tion of falling prices encourages agents to defer costly purchases, thereby discouraging growth. Third, inflation has fallen globally since the early 1990s, in large part as a result of newly independent central banks implementing explicit inflation targets strategies. Most of these policies have been successful, so that inflation rates above 3 percent are now rare in rich (and an increasing number of developing) countries. But inflation targets have been set low; perhaps so low that a few bad shocks can lead to the threat of deflation. For all these reasons, monetary policy in environments of very low inflation is a topic of great interest.

While most of the conference shared a domestic focus, certain international aspects of the topic are also relevant. For instance, a number of economists such as Lars Svensson have advocated the use of exchange rate policy during periods of deflation. Such policies resemble "beggar thy neighbor" devaluations and are therefore worthy of scrutiny (which economists like Svensson have supplied). Since monetary policy is first and foremost a domestic concern, the focus of EASE-15 was domestic. Nevertheless, the first paper in the volume relies on the international dimension of problem. McCallum is concerned with developing a monetary policy rule which helps the authorities to avoid deflation altogether. (This focus differs sharply from much of the recent literature which is oriented towards designing mechanisms to allow economies which are already in a liquidity trap to escape deflation in the presence of a ZLB.) McCallum's rule is based on a mainstream model and is simplicity itself. Monetary authorities in much of the world use the short interest rate as an instrument of monetary policy. McCallum argues that simply using a weighted average of the interest rate and the depreciation rate (with a small weight on the latter) provides a considerable amount of extra stabilization. Further study of the issue is warranted since his proposal bears a similarity to the much-denigrated "monetary conditions index" which has been almost universally derided of late. Still, his proposal is attractive since the presence of the exchange rate as a guide for monetary policy would be minimal except in the extreme circumstance of a ZLB. As such, his rule is worthy of serious study.

The second paper in the volume is by Robinson and Stone. They build on previous work which has recognized the fact that bubbles in asset prices present a tradeoff for the monetary authorities. On the one hand, asset bubbles (such as the technology bubble of the 1990s that so dramatically affected the NASDAQ) tend to both cause and predict inflation, leading central bankers to lean in the direction of tightening policy at times of bubbles. On the other hand, bubbles tend to collapse, leaving recessionary pressures in their wake. Since monetary policy takes effect only with a lag, a sensible central banker expecting an asset price crash might want to start loosening monetary policy in advance of the actual crash, so as to minimize the deflationary fallout from a meltdown. These countervailing forces are analyzed by Robinson and Stone; the innovation here is to explicitly recognize the complications that a low-inflation environment throws off in the form of a ZLB. Unfortunately their careful analysis delivers only weak results, since they find the offsetting effects of asset prices to be so finely balanced that small reasonable perturbations in the characteristics of the model lead to very different results. Alternatively expressed, only unusually confident central bankers should pay much attention to asset prices.

The third paper in the study is also concerned with instruments and strategies for monetary policy. Hur focuses on an uncommon target for the monetary authorities, namely the term structure of interest rates. This topic has been unfashionable since the American authorities in the 1960s tried unsuccessfully to raise short-term interest rates (to attract capital inflows) while simultaneously lowering long-term term rates (to stimulate investment) in "Operation Twist." However, since the policy interest rate became zero in 2001 in Japan, the quantitative easing in Japan produced flattening of the yield curve. The term structure became a focus of Japan's monetary policy under ZLB. Hur's empirical model uses U.S. data and shows how the interest rates of different maturities respond to the past monetary aggregate changes (taking account not only of growth rates but higher derivatives). The interaction and relationship between different interest rates, such as the expectation hypothesis, is not explicitly modeled. This paper will stimulate further research on the term structure as a monetary policy target when the short term rate becomes (near) zero.

The next four papers concern the deflation experience in Japan. Japan is not only the second-largest economy in the world, but also the country that has been most obviously and importantly affected by deflation, the ZLB, and the liquidity trap. Accordingly, it is natural and appropriate that four EASE-15 papers are concerned with Japanese monetary policy. We present them in order from the broadest and most backward-looking historical summary, to the most abstract and forward-looking hypothetical experiment.

Ito and Mishkin provide a long comprehensive survey of Japanese monetary policy over the last two decades (though their focus, along with that of the others, is on the deflationary experience of the last decade). Ito and Mishkin provide a comprehensive history of monetary policy. While they pay attention to fiscal policy, they are especially and appropriately interested in monetary policy. While the collapse in asset prices (especially stock and housing market) since 1990 helped to precipitate the crisis, it has been the ineffective efforts of the Bank of Japan (BOJ) to reflate the economy that are mostly criticized for recent slow Japanese growth. Ito and Mishkin are thus highly critical of numerous aspects of BOJ policy.

Fukao's interest is also monetary in nature, but his focus is more on determining the causes of the Japanese deflation. Using a Phillips curve equation that links inflation and output, Fukao decomposes the slow-down into its ultimate causes. While the growth in productivity has not been trivial, Fukao's analysis attributes most of the slowdown to a financial crisis in Japanese banking which results from non-performing loans. He also quantifies the considerable fiscal strains that the slowdown has caused for the governments budget, and produces fascinating (if terrifying) Japanese budget forecasts.

The critical approach is shared by Iwamura, Kudo and Watanabe, who are also interested in Japanese policy but over a shorter period of time. Iwamura et al. use both theoretical and empirical tools to analyze Japanese macroeconomic stabilization over the past five years. They are even more critical of the Japanese authorities, since their evidence indicates that bond market participants did not expect monetary policy to remain loose, undermining the efficacy of official BoJ policy of late. But they also direct some of their fire towards the fiscal authorities. Loose fiscal policy is the standard "Keynesian" policy recommendation during a period of deflation. Indeed, that is the textbook prescription when an economy is affected by the ZLB and liquidity trap. There is a critical caveat though; "Ricardian Equivalence" must not hold. Since government bonds represent discounted claims to expected future taxes, consumers can, in principle, treat government bonds as equal and offsetting claims and liabilities. When Iwamura et al. test for Ricardian equivalence, they find the standard result, namely that it has limited empirical relevance. Accordingly, they allocate shared responsibility for slow Japanese growth and the continuing deflation to the monetary and fiscal authorities.

Like Iwamura et al., Ball is also interested in the interaction between monetary and fiscal policy for Japan. The Ball chapter addresses another important policy tool, fiscal stimulus, in a "liquidity trap" situation. An important practical objection to fiscal stimulus in the case of Japan has been the already-large Japanese public debt. The question is whether the debt/GDP ratio could be lowered eventually by temporary fiscal stimulus. He adopts a hybrid methodological approach, calibrating and simulating a simple new Keynesian macroeconomic model. Starting from initial conditions similar to those actually prevailing for Japan, he shows that an expansionary fiscal policy completely financed by money creation could have favorable short-run effects for Japan. The "helicopter drops" of money are substantial but not unprecedented and are envisaged to take place over three years. He finds that such a policy could reflate Japanese macroeconomic growth and raise interest rates to positive levels without dire longrun fiscal consequences.

The next three papers are also concerned specific topics in Japan, Korea, and Taiwan. Choi and Cook are concerned with the Japanese stock market, while Cho is interested in the Korean housing market. These are the two most important asset markets for two of the most important economies in East Asia, providing us with a highly complementary set of papers.

Choi and Cook are interested in the effects of stock market liquidity.

They use a now-conventional technique to measure the liquidity of individual stocks traded on Japanese equity markets. They use a methodology developed by others, but are primarily concerned with the results of low liquidity at both the firm level and, more interestingly, for the economy as a whole. They use the conventional macro-econometric VAR technique and show that negative shocks to liquidity result in significant downturns in the macroeconomy, lowering growth, investment, employment, and inflation.

Cho discusses the effect of a Korean housing institution mechanism known as *chonsei*. A chonsei is essentially an interest-free loan made from a renter to a landlord for a period of two years. The ratio of chonsei to housing prices is thus determined by economic factors such as inflation and interest rates. Thus, monetary policy has a strong effect on the chonsei/housing price ratio, and the resulting implicit wealth transfers. Cho analyzes the determinants of chonsei prices using a simple theoretical model. He finds that chonsei may lead the central bank to conduct looser, less aggressive monetary policy in order to minimize costly chonsei price volatility.

The Yang and Shea paper describes the deflation experience in Taiwan, and how monetary policy was conducted to mitigate the problem. Several factors are identified to be causes of the deflationary trend in Taiwan, including political tension with Mainland China, declining goods prices in the world market, appreciation of the currency, and bursting of the IT bubble in Taiwan. Monetary policy responded to deflationary pressure by lowering the interest rate aggressively, but its effectiveness was limited.

All in all, the volume provides new innovative approaches to deflationary problems in Japan and East Asian countries. Various aspects on why prices have been falling, on the role of asset markets in price movements, and on the role of monetary policy to fight deflation were examined in the papers in this volume. We hope that the papers collectively enhance understanding of deflationary problems and remedies not only in East Asia but potentially in other regions in the world in the future.