

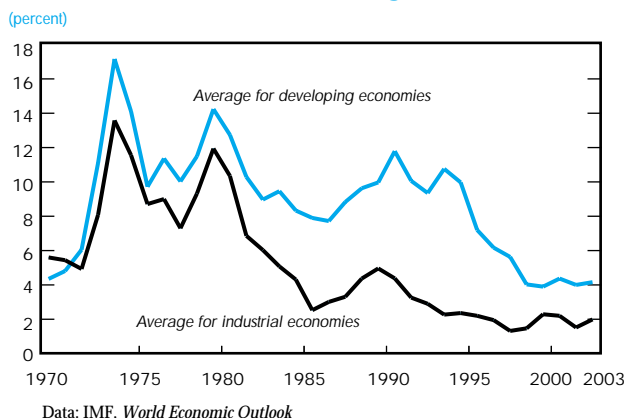
### IMF Economic Forum

## Should we be worried about deflation?

Against a background of the continuing effects of the sharp declines in recent years in global equity markets, widening output gaps, and weak business and consumer confidence, concerns about deflation in both industrial and emerging market economies have mounted in recent months. With Japan already suffering from deflation and China and several other Asian economies experiencing deflationary pressures, the worry is that these could deepen and even spread more widely. Panelists at a May 29 IMF Economic Forum assessed the risks and debated appropriate policy responses, using a newly released staff report "Deflation: Determinants, Risks, and Policy Options," as a springboard. The panel, moderated by Kenneth Rogoff (IMF Economic Counsellor and Director of the Research Department), comprised Laurence Ball (Professor of Economics, Johns Hopkins

University), Manmohan S. Kumar (Advisor, IMF Research Department), Vincent Reinhart (Director of Monetary Affairs, U.S. Federal Reserve System Board of Governors), and (Please turn to the following page)

### Low inflation reduces buffer against deflation



### Interview with Daniel Citrin

## Investment climate holds Indonesia's future

After an especially deep financial crisis, Indonesia has succeeded in restoring macrostability—inflation is down, the exchange rate has strengthened considerably, and interest rates have declined sharply. In addition, the country's fiscal position is on a sus-

tainable path, the banking system has been stabilized, and progress has been made on structural reforms—albeit not as quickly or as thoroughly as everyone would have liked. Now that the basic groundwork for recovery and growth has been laid, what does Indonesia need to do to accelerate growth? Daniel Citrin (Senior Advisor, Asia and Pacific Department and head of the IMF team that has been working with the Indonesian authorities) suggests that creating a stronger investment climate is the crucial next step.

**IMF SURVEY:** Indonesia has a large and youthful population. Is its economy now in a position to create more jobs and do more to reduce poverty?

**CITRIN:** Since the crisis, Indonesia has not yet had growth that's been rapid enough to begin to reduce unemployment and poverty in a meaningful way. But it has registered a reasonable 3–4 percent growth pace over the past few years, and this has taken place in the face of severe (Please turn to page 173)



Eyes on the future. More investment and higher growth rates are essential.

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## Risks of global deflation are low

(Continued from front page)

*Kim Schoenholtz (Chief Economist, Citigroup Global Markets). Panelists voiced varying degrees of concern about current risks, but all agreed that the best way to defeat deflation was to prevent it from setting in.*

As Manmohan Kumar, the lead author of the IMF study (see box on page 172 for additional information) noted, deflation can be both costly and difficult to anticipate. It can result from either demand shocks (such as a sharp fall in demand reflecting a severe cyclical downturn, the bursting of an asset price bubble, or excessively tight policies) or supply shocks (arising, for instance, from technological innovation and productivity growth). While temporary deflation may not entail major costs, sustained deflation is seldom benign. It leads to a redistribution of income from debtors to creditors, depressed demand, and, potentially, a severe distortion of credit intermediation as collateral loses value. The biggest concern is that a temporary period of declining prices settles in and becomes a sustained and self-enforcing deflationary spiral. And, since nominal interest rates cannot fall below zero, the effectiveness of monetary policy can be constrained—a particular concern when output is weakening.

The toll that deflation can take is apparent from history. The most extreme case of a deflationary spiral, Kumar indicated, was the worldwide deflation and catastrophic collapse of activity in the late 1920s and early 1930s. But even the milder but sustained deflationary episodes of the nineteenth century were generally associated with rising debt burdens and bankruptcies, social and political unrest, financial crises, and significant output volatility. History also highlights how difficult it is to anticipate deflation. There were forecasts of inflation in Japan in the mid- to late 1990s, for example, even as deflation was setting in.

### Profile of vulnerability

Do current conditions warrant concerns about deflation? The IMF's Kenneth Rogoff saw relatively low risks of global deflation but added that there were risks of deflation intensifying in Japan, and considerable risks of mild deflation in Germany. Kumar added that in a number of countries the risk of an onset of deflation is relatively high and has drifted upward over the past several years. Asian economies—Japan in particular, but also Hong Kong SAR and Taiwan Province of China—are at risk of worsening deflation. Deflation expectations appear to be entrenched in these countries, and in Hong Kong SAR, policy is constrained,

partly by fiscal considerations. In China, the strong pace of growth and policy stimulus already in the pipeline are likely to mean that deflationary pressures should continue to ease over the course of the year as some transitory factors fade. However, some longer-term factors, including expansion in capacity and excess labor, could continue to weigh in on prices.

In the euro area, risks of deflation appear low in all major countries except Germany, which is suffering from a weak macroeconomic environment, large and increasing output gaps, high unemployment, and financial sector strains. Outside the euro area, Switzerland appears to face a moderate risk but has more scope for policy measures than does Germany. In the United States, despite lingering effects of the bursting of the equity price bubble, the risk of deflation appears low, reflecting an expected narrowing in the output gap, relief provided by the recent depreciation of the U.S. dollar, resilience in the financial sector, the availability of policy stimulus, and the explicit willingness of policymakers to take preemptory action.

Is there a risk that deflation vulnerabilities, particularly in Japan and Germany, can be transmitted to other regions and result in global deflation? Kim Schoenholtz of Citigroup termed that risk remote, provided policymakers are alert to the threat of contractionary shocks from abroad. The idea that deflation can be exported in the normal course of international trade, he said, is a relic of truly fixed exchange rates. To be sure, he added, a deflationary spiral in a major economy could trigger a substantial shock elsewhere. Similarly, deflationary instability in one region could be transmitted through international capital markets, for example, if a weakened financial system triggered massive capital repatriation. But even in these instances, offsetting policy actions, administered early and aggressively, ought to prevent the spread of sustained deflation. In any case, he stated, while a low-inflation world is associated with some risk of temporary deflation, that risk does not make low inflation significantly less desirable as a policy goal.

Laurence Ball of Johns Hopkins University, expressing broad support for the IMF study, thought that the main concern with deflation is the liquidity trap—which he defined as a combination of a large output gap, which calls for a monetary stimulus, and interest rates falling to zero, which prevents a conventional monetary stimulus. All the other panelists, however, disagreed with this assessment, arguing that there were a variety of other important channels, including nominal wage rigidities and distortions in credit intermediation, through which deflation



Rogoff: We see risks of deflation intensifying in Japan and considerable risks of mild deflation in Germany.



Kumar: "While temporary deflation may not entail major costs, sustained deflation is seldom benign."



Schoenholtz: "The idea that deflation can be exported in the normal course of international trade is a relic of truly fixed exchange rates."

June 16, 2003

exerted adverse effects. Citing Japan's economic troubles over the past decade or so, Ball said "history shows that the self-correcting forces in economies are not terribly strong, and if traditional policy tools are lacking, there's a substantial risk that an adverse shock could lead not just to a temporary downturn but to long-term stagnation."

### Prevention is the best medicine

How can policymakers best deal with deflation? Panelists discussed various policy options but stressed, in particular, the need to prevent the onset of deflation. Once entrenched, it becomes much more difficult to deal with because the traditional relationships between policy and economic variables may be altered, thereby curtailing the effectiveness of policy.

Kumar pointed out that preventing deflation in a low-inflation environment requires preemptive action, with monetary policy playing a particularly key role. Fiscal policy, tailored to credibly boosting aggregate demand, can also offer protection against deflation, as can structural reforms and an open trading system, although this last protection is much greater under flexible than fixed exchange rates. He also underscored the need for a clear communication strategy that highlights the ability and commitment of policymakers to containing deflation, particularly if financial institutions come under stress—for example, following the bursting of an asset price bubble.

In this context, Kumar observed, the monetary policy regime plays an important role. A regime with an explicit inflation target, for instance, should aim for an adequate buffer zone to reduce the risk of inflation falling so close to zero that the economy becomes susceptible to deflation. Ball agreed, stressing that central banks should set their inflation targets, whether explicit or implicit, at a reasonably high rate. This, he said, suggests that the European Central Bank's target of less than 2 percent is too low. Rogoff agreed, saying that it would be better for the ECB to have a target of around 2.5 percent. Ball suggested that the ideal target may even be a bit higher. A target of 3 percent or 4 percent, he said, greatly reduces the chance of hitting the zero interest rate bound and falling into a liquidity trap.

### Room to maneuver

Even when the economy is in a liquidity trap, there are various unconventional monetary measures that central banks can use, Kumar said, such as lowering long-term interest rates by purchasing bonds and widening the range of central bank assets by purchasing equities or foreign currency-denominated assets.

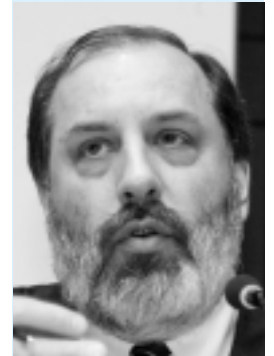
These measures can pose operational challenges because their impact may be uncertain, but the risks are likely to be small compared with the costs associated with entrenched and deepening deflation expectations. Ball, however, was less optimistic. "We learned from Japan," he said, "that simply pursuing fairly aggressive open-market operations and expanding the monetary base at 30 or 40 percent a year is not enough to lift the economy out of a liquidity trap." But Vincent Reinhart of the U.S. Federal Reserve felt that monetary policy can still be effective in a liquidity trap. Rogoff agreed, but said that golf provided a better analogy. "We shouldn't be talking about liquidity traps, but sand traps," he said. "If you hit the ball hard, with skill, and in the right direction, you can get it back toward the green."

Turning to the U.S. situation, Ball expressed some concern. With the target federal funds rate at 1.25 percent, he observed, "there isn't a lot of room for error or ability to deal with some unforeseen shock." He believed the Federal Reserve currently lacked the ability to undertake a major expansion of monetary policy, but Reinhart disagreed. The current federal funds rate places the Federal Reserve in a region that it has not visited in a half century, he admitted, but a central bank can alter the size and composition of its balance sheet to influence the current short-term interest rate and its expected future path. He suggested three somewhat overlapping forms of monetary stimulus:

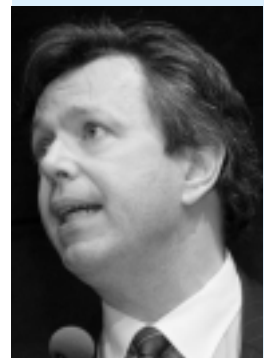
**Shaping expectations.** Central banks can provide impetus to the economy at an unchanged short-term interest rate by encouraging investors to lower their expectations of short rates. They can do this by offering some form of commitment to the public, such as pledging to hold short-term rates at a low level for a certain period of time. In an environment where investors inappropriately expect a tightening of monetary policy, such stimulus would presumably pass through the yield curve and boost other asset prices.

If a central bank is reluctant to tie its hands by making promises about its future actions, an alternative would be to make such a promise conditional on economic developments rather than linking it to the calendar. Under such a conditional commitment, a central bank could pledge to hold short rates at a low level until a certain development occurs. However, a central bank might be concerned that the public could lose confidence in its performance if it set an overly ambitious trigger that could not be met quickly.

**Altering the composition of the central bank balance sheet.** Although the caveats about manipulating a central bank's balance sheet are numerous, policies aimed at changing its composition could underscore



Ball: With the U.S. interest rate at 1.25 percent, "there isn't a lot of room for error or ability to deal with some unforeseen shock."



Reinhart: "The Federal Reserve has at its disposal tools that will allow it to continue to provide monetary policy impetus, if needed."

the strength of a commitment to keep short-term rates low. Acquiring longer-term securities might be a way of conveying the central bank's belief that there is little likelihood that monetary policy would have to be put on a tighter path (given that the value of those longer-term securities would decline if the policy rate turns out to be firmer than anticipated). Apart from influencing expectations, shifting the composition of the portfolio could lower premiums on longer-term Treasury securities. Simply put, when a large purchaser shifts its demand, it shows up in relative prices.



Left to right: Manmohan Kumar, Kenneth Rogoff, Laurence Ball, Vincent Reinhart, and Kim Schoenholtz all agreed that with regard to deflation, prevention is the best policy.

### *Expanding the central bank balance sheet.*

Another form of policy stimulus, Reinhart noted, could be to expand the size of the central bank's balance sheet. In most cases, central banks ease monetary policy by expanding the stock of commercial banks' reserves, with most calibrating that easing by targeting the price of reserves (a short-term interest rate). A central bank could switch its focus from the price of reserves to the quantity of reserves or the growth of that reserve aggregate. Essentially, this relies on the observation that rapidly increasing reserves ultimately lead to a rise in the overall price level. However, long-run association does not provide much guidance about the short-run performance of the economy, implying it would be difficult to gauge policy effects, and it might risk confusing market participants.

The bottom line, Reinhart insisted, is that the Federal Reserve has at its disposal tools that will allow it to continue to provide monetary policy impetus, if needed. But, he added, a conventional forecast, such as that in the latest IMF *World Economic Outlook*, would strongly suggest it will not be needed. Schoenholtz contrasted the policy flexibility and aggressiveness in the United States with policy hesitancy in Japan and the constraints in Germany.

U.S. policymakers, both fiscal and monetary, have put in place an enormous stimulus program that is likely to boost economic activity. These preemptive actions help make credible the Federal Reserve's rhetoric about a symmetric policy that aims to secure price stability and maximize sustainable economic growth over the long run.

### Experience with deflation

The world has had limited experience with deflation in the postwar period, but there are reasons to believe, Schoenholtz suggested, that aggressive policy actions that influence expectations of the future price level can halt sustained deflations even after they have begun. He viewed the risk of deepening deflation in Japan as a matter of great concern and noted that while Germany may avoid even temporary deflation, it has few policy options in the event of new, sizable contractionary shocks. Germany's fiscal policy is constrained by the European Union's Stability and Growth Pact, which keeps a lid on spending, and monetary policy is controlled by the European Central Bank. "To some extent structural reform really is its first line of defense at this point," Rogoff said. That may be, Schoenholtz added, but while growth-oriented supply reforms in Germany might revive investment outlays, the political will to undertake unpopular reforms appears limited.

In both Japan and Germany, the key issue is the implicit lack of antideflation credibility, Schoenholtz explained. In Japan, the ballooning public deficit is widely perceived as constraining fiscal policy and, as a result, attention is focused on the Bank of Japan. Yet the experience of the past decade has persuaded many observers that the central bank is not symmetric with regard to upward and downward threats to price stability. Until that view has been altered, the chances of halting deflation appear slim. Indeed, he said, if the central bank is to halt deflation, the key transmission mechanism is likely to be asset prices. Unfortunately, the continued decline of asset prices over the past year is evidence that monetary policy remains insufficiently stimulative. ■

The staff report, "Deflation: Determinants, Risks, and Policy Options—Findings of an Interdepartmental Task Force," prepared under the general direction of Kenneth Rogoff, reports the findings of an interdepartmental task force comprising Manmohan S. Kumar (Head), Taimur Baig, Jörg Decressin, Chris Faulkner-MacDonagh, and Tarhan Feyzioglu. The full text of the report and the transcript of the IMF Economic Forum on deflation are available on the IMF's website ([www.imf.org](http://www.imf.org)). The report is also expected to be available in July as an IMF Occasional Paper.

## Indonesia sets course for future

*(Continued from front page)*

external shocks, such as the aftermath of 9/11, the Bali bombing last October, the regional SARS outbreak, and the Iraq war. The economy really has been quite resilient.

With Indonesia's significant achievement of stabilizing the macroeconomic situation and the progress made in restoring the health of the banking sector, the stage is now set for growth to accelerate to the 6 percent pace needed for unemployment to decline and poverty to be reduced substantially. But to achieve this, Indonesia will need to do a lot more to strengthen the investment climate. A stronger investment climate will require, among other things, legal reforms, anticorruption efforts, and appropriately balanced labor regulations—regulations that protect workers but allow for enough flexibility in the labor markets.

Fiscal and economic decentralization is another area that will need attention in this regard. It is an important part of the democratization process—something that the IMF has supported—but it has also led to a number of tax, trade, and other regulatory concerns. To work effectively, decentralization needs to be coordinated; otherwise, it will make it difficult for businesses to plan and operate in a stable environment. It will also be important to improve tax and customs administration. These are the sorts of areas that affect the investment climate—for foreign and for domestic investors—and it is where Indonesia now needs to shift its efforts.

### **IMF SURVEY:** Is the will there?

**CITRIN:** For many people in government, the will is there, but the big challenge is learning how to implement these reforms in a new democracy. The government certainly recognizes the problems and has the desire to change. But there are many areas, such as the legal system, where there is a need to fundamentally reform the way business is done and introduce efficient practices on the basis of good governance and accountability. While the country is well on its way to establishing the appropriate institutions, laws, and regulations, implementing these changes and having them really take hold is going to take time.

### **IMF SURVEY:** Is the size and power of China's economy also casting a long shadow?

**Citrin:** China's economic strength obviously poses new challenges, but it's not something that should necessarily be perceived as a negative for Indonesia

or the region. First of all, China's growth produces a vast export market for Indonesia. Also, it appears that there is now significant direct investment in Indonesia coming from China. A growing and emerging Chinese economy that is integrated with the rest of the world, including with southeast Asia, is a good thing for Indonesia—not something to be feared. But this does, of course, mean that Indonesia's economy must be flexible to adjust to this challenge.

**IMF SURVEY:** During the Asian financial crisis, Indonesia's banking sector was obviously a big issue. How effective has the restructuring effort been? And what role are foreign banks playing in this process?

**CITRIN:** The first requirement of the restructuring process was to stabilize and recapitalize the banking system. That's been done. The second phase involved returning ownership to private hands, because that's the best way to ensure that financial intermediation takes place on a commercial basis and with good governance.

This second phase got off to a very slow start, but over the past year and a half there's been a lot of progress. Since early 2002, Indonesia has sold majority stakes in three banks that it took over during the crisis. There are several still to be returned to private hands, which IBRA [Indonesian Bank Restructuring Agency] aims to do by early 2004. Indonesia has also started selling stakes in banks that had been under state ownership prior to the crisis.

The process has succeeded in injecting private ownership and expertise. IBRA's three bank sales have all entailed foreign investor participation, which has provided not only capital but also much-needed technical knowledge and expertise. The banks are now in a much better position to support the recovery by revitalizing their lending activities.

A key issue here is the need to improve risk management. You don't want banks to start lending without adequate supervision and without



Citrin: "With Indonesia's significant achievement of stabilizing the macroeconomic situation and the progress made in restoring the health of the banking sector, the stage is now set for growth to accelerate to the 6 percent pace needed for unemployment to decline and poverty to be reduced substantially."

adequate internal risk management systems in place. At the same time, there needs to be a pool of creditworthy borrowers out there that the banks can lend to. Some of these things will take time, but we already see a resumption of lending to consumers and to the small and medium-sized enterprise sector. From our perspective, the restructuring process is now at a point where the banks should increasingly be able to resume normal functions.

**IMF SURVEY:** During and after the crisis, there were criticisms that the IMF was overly strenuous in the demands made in connection with its support for Indonesia's adjustment program. True?

**CITRIN:** I don't think so. The IMF always tries to balance the need for adequate country ownership with the function we provide, which is conditional lending to encourage countries to make the right decisions and implement them, which is not always easy politically.

Indonesia's crisis was deeper than other crises in the region and complicated by political factors. Implementation of the program came in fits and starts for perhaps two to three years. You can always go back and think about how certain policies could have been designed differently, but even if a better policy had been possible in theory, the question is whether it could have been implemented in a chaotic political environment and with so little information available to the staff in so many critical respects.

But once political stability was restored and policy implementation became more even, we saw the program start to work. Over the past couple of years, implementation has been much improved, and we've seen the fruits of the government's hard work and the validity of the program's basic approach. As a result, the country is now at a point where, upon the expiration of the current IMF-supported program at end-2003, it may be possible to forgo another arrangement with the IMF and end its reliance on exceptional financing from the Paris Club. Those are reasonable objectives to shoot for, and would be an indication of the success of the program.

**IMF SURVEY:** Whether or not Indonesia enters into another adjustment program with IMF support, it will be entering an election cycle next year, and these cycles are notoriously dangerous. Politicians are tempted to make short-term and dubious economic decisions, and markets are typically skittish. What can Indonesia do to stay on track and calm nervous markets?

**CITRIN:** The authorities have to maneuver carefully through this period and work very hard in two ways—first of all, by making it clear to the public, including markets, that whether or not there's an IMF-supported program, they will continue to pursue stable macroeconomic policies and steady structural reforms. The Indonesians should make it clear that this commitment to sound policy is their own, not something they are doing because it is imposed by the IMF. Then they have to convince the public and the markets that they can pursue their stated policy course by, of course, backing up their words with actions. These are the big challenges the government faces.

**IMF SURVEY:** Assuming the country is doing its part, how can the IMF help, particularly if there is no IMF-supported program in place?

**CITRIN:** There are many ways we can support Indonesia. At the same time it's important that Indonesia signal to the world that it will continue to cooperate with the IMF, and the international community, in a constructive way. Ending the IMF program, if that's the course the country takes, is a sign that the recovery has reached a mature phase. We would expect thereafter the normal constructive dialogue between Indonesia and the international community to continue.

On the IMF's part, we will continue to exchange views and assess policies in the context of our annual Article IV review of members' economic policies, and ongoing surveillance through informal visits of headquarters-based staff as well as our resident representative office. We can continue to furnish technical assistance upon request. We currently provide Indonesia with technical assistance in tax and customs administration, public expenditure management, banking system supervision, and legal reform. With regard to the latter, we are helping Indonesia set up a commercial court system.

At the same time, and back to the issue of the program, as a member of the IMF, Indonesia should take advantage of our resources if the situation warrants, and the government should keep its options open. Of course, Indonesia is very aware that other Asian crisis countries have already graduated from IMF programs. So in that sense, it is understandable that it wants to stand on its own two feet. And it's something the IMF supports—it is, after all, a sign of the program's success.

But markets do get nervous. Thailand and Korea turned their financing arrangements into precautionary arrangements in 1999–2000. Other countries have asked for precautionary arrangements in similar

**"Whatever our formal relationship is, the IMF will do whatever it can to support Indonesia."**

—Daniel Citrin

circumstances. One concern had been the financing gap, but the other is what the Minister of Finance has coined as the “credibility gap.” Indonesians have to judge for themselves the best way to bridge that credibility gap. The important thing is that Indonesia’s

policy course needs to be what it is with or without an IMF-supported program. Ultimately, it’s all about their policies and their performance. Whatever our formal relationship is, the IMF will do whatever it can to support Indonesia. ■

### IMF Working Paper

## Weak banks: to close or not to close . . .

*One way to deal with problem banks is to close them. Yet, to avoid disruption, country authorities often take extraordinary measures, such as injecting public funds, to prop up nonviable banks. In a recent IMF Working Paper, “What Happens After Supervisory Intervention? Considering Bank Closure Options,” Michael Andrews and Mats Josefsson argue that well-planned and implemented bank closures (which can include sale of all or part of the bank) can preserve essential functions performed by failing banks, mitigating disruption.*

Whether dealing with a weak bank in normal times or systemic banking problems in crises, economies in all stages of development have opted to close banks. Citing a study of the measures used in 24 countries—20 of which were developing or transition economies—Andrews and Josefsson note that 80 percent of the countries that made substantial progress in resolving financial crises used bank closures as part of their strategy. In the 1990s, 12 transition economies in the Baltic States, Eastern Europe, and the Commonwealth of Independent States closed hundreds of banks, largely without contagion, high costs, or social problems.

Why, then, do supervisors often appear reluctant to close weak banks? Supervisors hesitate for many reasons: concerns about potential disruption to depositors, borrowers, creditors, and the payment system; the possibility that closure might trigger runs at other banks; and reluctance to impose losses on depositors, especially in the absence of deposit insurance or a government guarantee. But all these concerns, according to Andrews and Josefsson, can be mitigated by timely, well-planned bank closures. Extraordinary measures to avoid closure may be used in a systemic crisis to preserve some portion of a widely insolvent banking sector, but there are significant risks. The use of public funds, the authors caution, can distort the market and create perverse incentives, ultimately weakening rather than strengthening the banking sector.

### Dealing with a weak bank

Bank closure is not meant to punish shareholders or the bank, nor is the decision to close a bank generally an isolated or sudden event. Although serious problems can surface without warning, the decision to close a weak bank is usually the culmination of efforts over time to remedy its problems.

When dealing with an individual weak bank, Andrews and Josefsson stress that the solution must address the underlying problem—namely, microeconomic causes (generally poor banking practices), macroeconomic shocks (such as the 1970s oil crisis), or systemic or structural causes (for example, market

### Procedures for supervisory intervention and takeover of a weak bank

The key steps during an intervention are

- Appoint an administrator and a support team whose first responsibility is to get control of all the key functions in the bank as quickly as possible.
- Suspend authority of existing management immediately, particularly the powers to contract, sign, and move money.
- Issue statements to the press, important clients, and the public.
- Secure and seal SWIFT and telex systems, dealing rooms, and terminals.
- Secure cash and vaults at both headquarters and branches, and freeze all balances with correspondent banks.
- Secure computer systems and make sure there are backups with off-site storage and disaster recovery provisions.
- Secure all documents, particularly board minutes, loan files, and collateral agreements.

Once the administrator and support team have full control of the bank, they should address more time-consuming issues such as assessing the financial condition of the bank, staffing needs, auditing, and reporting.

distortions arising from state ownership of banks or directed credits). Only in the rare case of a macro-economic shock striking an otherwise sound bank, they argue, is a grace period to allow the bank to rebuild capital likely to be sufficient to deal with a weak bank. In all other cases, restoring the health of the bank will necessitate actions to address the fundamental problems.

Despite a supervisor's best efforts, there will be cases where a bank is unable to continue its operations without jeopardizing the safety of depositors' funds. In such a case, the supervisor must intervene—that is, assume control of the bank, taking over the powers of management and shareholders. Following supervisory intervention, the operations and financial condition of the bank must be immediately assessed and the options available to it reviewed (see box on page 175). These actions need to be completed quickly—typically within a few hours of the intervention.

The review of a bank in which the supervisor has intervened may indicate that restructuring is feasible, but this recommendation needs to be critically examined. Although restructuring may improve the bank's attractiveness to investors, it may be more cost-effective to sell all or parts of the bank. And if the problem bank is a large one? Andrews and Josefsson explain that dealing with a large problem bank is much the same as dealing with a smaller bank, although the resolution will be more complicated and difficult.

#### When the crisis is systemic

Different assessments are needed during a systemic crisis than when there is an individual bank failure. In both cases, however, nonviable banks should be closed.

In a systemic crisis, a number of immediate steps—which may include liquidity support, a blanket guarantee to prevent bank runs, and the prompt closure of nonviable financial institutions—are required to stabilize the system. It is difficult to quickly identify all of the nonviable institutions during a crisis, so a second round of closures, Andrews and Josefsson point out, may be needed once the banking system has been stabilized.

In dealing with a systemic crisis or when there has been intervention in a number of banks, the authorities should formulate a comprehensive strategy to explain clearly to the public what is required. Seemingly ad hoc measures increase public unrest and can magnify the problems. No decision on the use of public funds or on a policy of forbearance (allowing undercapitalized banks to continue to operate) should be taken until such a strategy has been developed. The strategy should lay out the process for dealing with the banking problems, including clear rules as to which banks will be eligible for extraordinary assistance (with proper safeguards for the funds invested) and which banks should be closed.

#### Indonesia's banking crisis

Indonesia is a good example of what not to do when closing banks, and doing it right the second time around. On November 1, 1997, Indonesia closed 16 small, insolvent banks but soon thereafter saw runs on its other banks. These bank runs were fueled mainly by partial guarantees of depositors of the closed banks and the perception that other weak banks remained in the system. At the time, there was no restructuring strategy in place.

On March 13, 1999, the authorities implemented a second round of closures against the background of a three-point plan entailing a blanket guarantee of deposits, creation of the Indonesian Bank Restructuring Agency, and introduction of a framework for corporate restructuring. This second round of 38 bank closures was managed so that most deposits were transferred over a weekend, resulting in minimal disruption for depositors. The interventions and closures were well publicized through the electronic and print media, with customers getting full information about how they could access their funds from the banks that had received the transferred deposits.

The best solution to a problem bank, Andrews and Josefsson conclude, occurs before the bank reaches a level of weakness that requires supervisory intervention. However, this will not always be possible and when intervention becomes necessary, they advise, supervisors should be ready to consider closing banks, whether in normal times or in systemic crises. ■

**Photo credits:** Dimas for AFP, page 169 and 174; Denio Zara, Michael Spilotro, and Pedro Márquez for the IMF, pages 170–73, 177–78, and 182–83; David O. Robinson, pages 179–80; and Julian Du, page 183.

Copies of IMF Working Paper No. 03/17, "What Happens After Supervisory Intervention? Considering Bank Closure Options," by Michael Andrews and Mats Josefsson, are available for \$15.00 each from IMF Publication Services (see page 181 for ordering details). The full text is also available on the IMF's website ([www.imf.org](http://www.imf.org)).



Tackling high and persistent inflation

## Would “cold turkey” work in Turkey?

Over the past decades, a number of developing countries have been plagued by high inflation, a few by hyperinflation. For policymakers, it is a major challenge to bring inflation down while avoiding economic disruption. The critical question they must address is how rapid disinflation should be. A recent IMF Working Paper, “Would ‘Cold Turkey’ Work in Turkey?” looks at the high and persistent inflation that country has experienced for several decades. To what extent is Turkey’s inflation inertial, and would a rapid approach to disinflation work? The authors, Oya Celasun, R. Gaston Gelos, and Alessandro Prati (all from the IMF’s Research Department), talk with the IMF Survey about their findings.

**IMF SURVEY:** How has Turkey, which has had chronic, high inflation since the 1970s, managed to avoid succumbing to hyperinflation?

**CELASUN:** It’s unlikely that there’s a single explanation for that; it’s more likely that a combination of factors prevented Turkish inflation from reaching hyperinflationary levels. Although our study doesn’t specifically focus on that issue, it may shed some light on it. One of our main findings is that backward-looking indexation mechanisms played only a minor role in price setting in Turkey in the 1990s. When indexation is heavily used, as it was in several other high-inflation countries, the effect of an inflationary shock tends to be perpetuated, lasting longer than the duration of the shock itself. Such stickiness in the inflation rate may imply that policymakers have to resort to ever-increasing inflation rates to levy an inflation tax. With firms setting prices in a mostly forward-looking manner, such rigidities seem to have been absent in the case of Turkish inflation, which may have helped it avoid hyperinflation.

**IMF SURVEY:** Turkey’s high inflation has been described as inertial. What does this imply for disinflation?

**PRATI:** The degree of inertia in inflation is an important indication for the speed at which disinflation should proceed. If inertia and backward indexation play an important role in price setting, then the gradualist approach to disinflation is preferable. If, instead, inertia and indexation play a limited role in price setting, there is scope for a more rapid approach. The two approaches differ in terms of output costs, and policymakers want to keep an eye on achieving disinflation while minimizing output costs. That’s why hav-

ing a good assessment of the degree of inertia in price setting is crucial.

**GELOS:** Another consideration in the speed of disinflation is credibility. A lack of policy credibility may also contribute to inflation inertia. If price setting is forward-looking and the disinflation policy enjoys high credibility, it would be possible to bring inflation down rapidly without output costs. However, if credibility is low—that is, if expectations of future inflation remain high—there could be arguments both for and against rapid disinflation.

**PRATI:** If the duration of price and wage contracts is short and if price setters are believed to be learning, rapid disinflation is still preferable, to signal strongly the change in regime and therefore rapidly reduce inflation expectations. If contracts are of long duration, however, it may be necessary to proceed more slowly when credibility is low so as to avoid economic disruption.

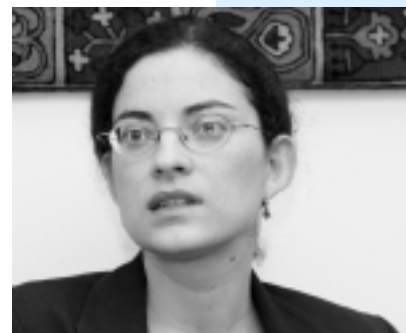
**CELASUN:** Perhaps we should mention the channels through which a slow adjustment in inflation gives rise to output costs. When the exchange rate is used as a nominal anchor in the disinflation process, the failure of inflation to come down to the targeted level leads eventually to an overappreciation of the real exchange rate. Output costs are associated with the overappreciation because it hurts the export sector, and this often results in an external crisis. If, instead, money is used as the nominal anchor in disinflation, inflation inertia would bring about a reduction in the supply of real credit, because prices would increase faster than the monetary aggregates. This liquidity crunch would also have an output cost.

**IMF SURVEY:** Why has disinflation become a priority for Turkey at this juncture?

**GELOS:** Output costs are always associated with high inflation rates. Bringing down inflation became a priority for Turkey in the late 1990s because high and volatile inflation resulted in a risk premium and high real interest rates. Toward the end of the decade, Turkey’s debt burden became an increasingly pressing



R. Gaston Gelos



Oya Celasun

issue, and, for this reason, bringing down inflation from its high levels and bringing down real interest rates became a priority.

Also, in the late 1990s, Turkey was among the few middle-income countries that still had very high inflation rates, which made it relatively unattractive to international investors. There's also some evidence that when inflation was higher in the 1990s—average annual inflation was close to 80 percent between 1990 and 1999—output growth in Turkey was indeed slower.



Alessandro Prati

**IMF SURVEY:** What is the role of inflation expectations?

**GELOS:** It is important to understand not only whether expectations are formed in a forward- or backward-looking manner, but what specific factors drive them. In the study, we looked at survey data to explain how people form expectations about future inflation. It turns out that, apart from

other factors—such as past price behavior—fiscal variables play an important role in driving inflation expectations in Turkey.

**CELASUN:** Essentially, by looking at what drives inflation expectations, we get some insights into what can help make a disinflation program credible. The viability of a rapid disinflation depends partly on how credible it is, as discussed before.

**IMF SURVEY:** What are the policy implications of your findings?

**PRATI:** Our study concluded that there is a backward-looking component in price setting in Turkey and,

thus, an inertial component. But the inertial component is not dominant, and it has been declining over time. This suggests that there is scope for a relatively rapid disinflation. But there is one important qualification. We found that Turkey's inflation expectations are driven to a large extent by fiscal variables—fiscal performance and expectations about future fiscal variables—so having a credible fiscal adjustment can contribute to lower inflation expectations and should be an integral part of a disinflation program, which it is.

**IMF SURVEY:** Disinflation strategies have been extensively examined. What does your study contribute to the disinflation literature?

**GELOS:** There are some contributions that go beyond the specific case of Turkey. First, one innovation was to work with survey data and get at the disinflation issue by looking not only at prices but also at expectations about future inflation. Second, we compare Turkey with two other countries that have had high inflation—namely, Uruguay and Brazil. Uruguay is similar to Turkey in that it had a longstanding problem with high but not exploding inflation, which it brought down successfully over the course of several years in the 1990s. Brazil also had high, persistent inflation but was different in that it was always perceived as having a lot of indexation mechanisms. We looked at these two countries prior to their stabilization efforts and compared the degree of inflation persistence with that in Turkey. We found that inflation is less persistent in Turkey.

**CELASUN:** Our analysis also documented that fiscal variables matter in the formation of inflation expectations in a country with a substantial debt problem. Also, we show that the behavior of price setters can change quite significantly over the duration of a disinflation program.

**PRATI:** There is one feature of the December 1999 stabilization program that may have contributed to the decline in inertia over time. The program changed the way the indexation of wages in the public sector worked: instead of being backward-looking, increases were indexed to the target inflation rate. This suggests that, in designing a disinflation program, you do not always take the degree of inertia as given, but you may try to take policy measures that reduce indexation and make price setting more forward-looking. ■

**Selected IMF rates**

Week beginning	SDR interest rate	Rate of remuneration	Rate of charge
June 2	1.66	1.66	2.19
June 9	1.60	1.60	2.11

The SDR interest rate and the rate of remuneration are equal to a weighted average of interest rates on specified short-term domestic obligations in the money markets of the five countries whose currencies constitute the SDR valuation basket. The rate of remuneration is the rate of return on members' remunerated reserve tranche positions. The rate of charge, a proportion of the SDR interest rate, is the cost of using the IMF's financial resources. All three rates are computed each Friday for the following week. The basic rates of remuneration and charge are further adjusted to reflect burden-sharing arrangements. For the latest rates, call (202) 623-7171 or check the IMF website ([www.imf.org/cgi-shl/bur.pl?2003](http://www.imf.org/cgi-shl/bur.pl?2003)).

General information on IMF finances, including rates, may be accessed at [www.imf.org/external/fin.htm](http://www.imf.org/external/fin.htm).

Data: IMF Finance Department

Copies of IMF Working Paper No. 03/49, "Would 'Cold Turkey' Work in Turkey?"—by Oya Celasun, R. Gaston Gelos, and Alessandro Prati—are available for \$15.00 each from IMF Publication Services. See page 181 for ordering details. The full text is also available on the IMF's website ([www.imf.org](http://www.imf.org)).

CIS conferences

## Trade reform, financial sector development keys to sustained growth in Kyrgyz Republic

**C**onferences in Bishkek on May 10 and May 12–13 celebrated the tenth anniversary of the Kyrgyz Republic's national currency and highlighted the economic progress that has been made in the countries of the Commonwealth of Independent States (CIS). But participants also had their eyes on the future. What would be needed to sustain the strong recent macroeconomic performance in the region? Boosting trade was high on the list of priorities, as was financial sector development.

Ten years ago, the Kyrgyz Republic became the first CIS country to leave the ruble zone and issue its own currency (the som). Like other CIS countries, it faced hyperinflation when prices were liberalized, but the authorities could do little to control monetary expansion because financial relations among the CIS countries lacked clarity. It was soon clear that the Kyrgyz Republic needed a national currency to facilitate its macroeconomic stabilization efforts.

But the actual decision to exit the ruble zone was a difficult political step. As President Askar Akaev noted, the Kyrgyz people had had money in circulation since ancient times, but now steps were being taken to create a national currency, perhaps for the first time in several millennia. Ten years after making that decision, Akaev stated with complete confidence “that the introduction of the som was an absolutely correct and timely step.” And the data bear witness to this. Inflation has declined to 2.3 percent in 2002 from 929 percent in 1993; economic growth in 1996–2002 averaged 4.7 percent; and the exchange rate has, apart from the period of the Russian financial crisis of August 1998, been fairly stable and has appreciated relative to the U.S. dollar over the past three years.

### Sustaining strong growth

What could the Kyrgyz Republic do to continue to grow at a higher rate than the world economy? Clearly, strong policies and determined implementation of needed reforms would be essential. In his remarks, IMF Deputy Managing Director Eduardo Aninat highlighted three key steps for further progress:

- Liberate the business and investment climate from poor governance and corruption;
- Speed up financial sector reform by showing no tolerance for substandard banking performance. Banks that do not meet prudential banking standards, he said, must simply be closed down; and

- Eliminate the quasifiscal deficit of energy companies; otherwise, prudent fiscal policies will be undermined.

### Regional perspective

Looking beyond the Kyrgyz Republic, John Odling-Smee (Director, IMF's European II Department) noted that most countries in the CIS have recorded strong macroeconomic performances since the 1998 financial crisis in Russia. Oil-exporting countries and countries that have made headway in implementing market reforms have done particularly well.

The challenge now, Odling-Smee said, is to sustain growth, and in this regard, trade reform is key. Trade openness in the CIS region is low, representing just 12 percent of GDP in 2002. This contrasts with 32 percent in other transition countries and 49 percent in the European Union (EU). Such a low level of trade, he explained, restricts growth opportunities. The direction of causality between trade liberalization and growth may still be the subject of hot debate, he added, but no country has achieved sustained prosperity under autarky or by restricting trade. Calculations suggest that the CIS as a whole should have 50 percent more trade than it currently has; for the Kyrgyz Republic, trade could be four times higher.

So, asked Shamshad Akhtar (Deputy Director General, Asian Development Bank), what's holding the CIS back? She pointed to a whole host of constraints, principally a lack of diversification (both in terms of products and markets), poor infrastructure, and weak border and transit links, in part due to deficiencies in customs organizations. Easing these constraints, she indicated, would require enhanced regional cooperation; the pursuit of purely national strategies is just not effective.

### Developing the financial sector

Trade is not the only area in which there is significant scope for improvement. Despite strong macroeconomic performance throughout the past several years, the CIS-7 (Armenia, Azerbaijan, Georgia, the Kyrgyz Republic, Moldova, Tajikistan, and Uzbekistan) have had a significantly lower level of monetization (relying on the use of money rather than barter) and a sharply slower pace of remonetization than other transition countries. Why the level of financial intermediation has remained so low in these economies was the focus of the May 12–13 conference, which





was held with financing assistance from FIRST (an umbrella organization of bilateral donors that delivers financial sector technical assistance). One reason cited for the low level of financial intermediation has been continued large spreads between deposit and lending rates, with both rates remaining high in real terms. High real lending rates have, predictably, meant a low level of credit to the private sector, and many enterprises still rely on their own resources for investment financing (see table below).

Gianni De Nicoló (Senior Economist, IMF's Monetary and Financial Systems Department) argued that the region's high real interest rates for loans can be traced to a combination of low depositor trust in the banking system and high credit risk. And the high credit risk is not, he said, related to macroeconomic conditions. Among the problems fueling the high

Kazakhstan had moved rapidly to set up a deposit insurance scheme while simultaneously strengthening the banking system. The Kyrgyz Republic has been taking steps to strengthen banking supervision ahead of the introduction of deposit insurance.

Strengthening the banking system also entails getting the state out of the banking business. Tunc Uyanik (Sector Manager, World Bank) advised governments to limit their role in the sector to creating the necessary institutions, mechanisms, and incentives to ensure prudent banking practices and proper regulation and monitoring of the banking system. Each of the CIS-7 countries started with a fully state-owned banking system, but most have since moved out of commercial banking. At present, only Azerbaijan and Uzbekistan maintain a significant stake in the banking sector, and Azerbaijan is in the process of divesting its

holdings. Vadim Kubanov (Deputy Chair, Azerbaijan National Bank) explained that state holdings would be largely eliminated following the planned sale of the International Bank of Azerbaijan (which holds about 60 percent of banking sector assets) to a combination of strategic and local investors.

And how was private sector banking faring in the region? Initial experience with private banks—that is, through 1995–96—was disappointing. Private banking typically consisted of a few former state banks that had changed their names but little else and a large number of pocket banks with low capitalization tied to specific enterprises or individuals. The situation has improved since then, argued Adalbert Winkler (Senior Economist,

European Central Bank). Private banks have begun to grow in size as macroeconomic stabilization has taken hold and banking supervision has been strengthened.

Indeed, Winkler suggested, the development of private sector banking mirrored experience in the more advanced transition countries, except for the role of foreign banks. In some EU-accession countries, foreign banks hold up to 80 percent of bank assets and led the development of the sector. In contrast, foreign banks have played a modest role in the CIS-7 with little apparent impact on the quality of banking services or in stimulating competition. Suerkul Abdybaly (Member of Board, National Bank of the Kyrgyz Republic) noted that most of the foreign banks in the Kyrgyz Republic operate as payments/settlements systems for their clients. Representatives from other central banks cited similar experiences in their countries.

**Underdeveloped financial sectors constrain CIS-7 economies**

(percent)

	1996	1997	1998	1999	2000	2001	2002
<b>M2/GDP ratio</b>							
CIS-7	12.6	13.0	11.9	12.0	12.6	12.9	13.8
Other CIS	11.0	11.6	12.9	14.4	16.2	18.1	22.1
CEE+B <sup>1</sup>	40.0	42.2	42.2	43.7	45.5	48.1	49.3
<b>Domestic currency lending-deposit spread</b>							
CIS-7	25.2	27.3	28.1	15.3	18.3	15.2	12.6
CEE+B <sup>1</sup>	8.5	6.7	6.3	6.5	6.0	5.4	5.3
<b>Real deposit interest rates</b>							
CIS-7	0.0	11.1	16.0	5.7	2.9	6.6	6.0
CEE+B <sup>1</sup>	-2.4	0.1	1.7	2.3	1.5	1.3	1.2
<b>Real lending rates</b>							
CIS-7	25.2	38.4	44.1	21.0	21.2	21.8	18.6
CEE+B <sup>1</sup>	6.1	6.8	8.0	8.8	7.5	6.7	6.5

<sup>1</sup>Central and Eastern Europe plus the Baltics.

Data: IMF, *International Financial Statistics*

credit risk are difficulties in assessing credit (due to weak auditing and accounting standards), weak legal environments that offer limited protection of creditor rights; and poor risk-management practices in banks. Martin Raiser (Director for Country Strategy and Analysis, European Bank for Reconstruction and Development) cited another important factor—opening a bank account made an enterprise visible to the tax authorities. Given current incentives for remaining in the shadow economy, many businesses opt to stay outside the formal banking system.

One means of encouraging deposits is to offer deposit insurance. But as is well known, there are moral hazard risks associated with introducing deposit insurance in an underdeveloped banking system with weak banking supervision. Conference delegates were divided on both the desirability and the appropriate timing for the introduction of such a scheme.

While effective banking sector regulation and supervision were acknowledged to be an essential part of a stable banking system, commercial bankers participating in the conference expressed concern over what they termed a clear trade-off between policies to strengthen bank solvency through tighter and closer bank supervision and the cost to borrowers. In their view, regulation was already tight and was fueling the development of nonbank financial institutions that went largely unregulated.

Finally, given the interest in spurring private sector enterprise, the discussion turned to the issue of how to help fledgling businesses take off and small and medium-sized enterprises find the capital needed to expand. At present, all agreed, micro, small, and medium-sized enterprises had very little access to bank finance.

According to Ira Lieberman (Senior Policy Advisor, World Bank), microfinance institutions were begin-

ning to develop in the region, but these are currently dominated by nongovernmental organizations that rely on donor funding rather than local savings. These microfinance institutions are also concentrated, he said, in the urban areas rather than in the rural areas that are crucial in many CIS-7 economies. Isaac Svartsman (IMF Advisor to the National Bank of the Kyrgyz Republic) ended on a practical note, cautioning that it was important to remember that microfinance can achieve only so much and effective supervision of these institutions will be necessary, too. ■

David O. Robinson  
IMF European II Department

The full text of the presentations and background papers for the conferences are available, in English and Russian, on the website of the National Bank of the Kyrgyz Republic ([www.nbkr.kg](http://www.nbkr.kg)).

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## Invigorated public-private partnership is key to restoring confidence in global economy

*What can policymakers and market participants do to rebuild confidence in the global economy and in financial markets? On June 4, IMF Managing Director Horst Köhler addressed the Institute of International Finance (IIF) in Berlin, noting that much can be done in the public sector to boost trade, safeguard the international financial system, strengthen crisis prevention, and ensure more effective crisis resolution. But he also called on the private sector to shoulder more responsibility in restoring public trust and rebuilding confidence in the global financial system. Below are edited excerpts of his remarks; the full text of the address, "A Public-Private Partnership for Confidence-Building," is available on the IMF's website ([www.imf.org](http://www.imf.org)).*

I believe we agree that it is best for capital allocation to rely mainly on the private sector, its sophistication and financing power. It is critical then to maintain a basic fabric of trust and confidence between savers, borrowers, and financial institutions. This is true in mature as well as emerging market economies. It is the responsibility of the official sector to establish a reliable and credible institutional framework. Global markets function better if there are coherent rules across geographical boundaries as well as industry sectors. If not uniform, such rules should at least be compatible along the lines of same business, same risks, same rules.

Individuals placing their retirement savings in the hands of private money managers require a leap of faith. In this respect, the record of the recent past has not been spotless. The bursting of the equity bubble has exposed greed and sometimes outright fraudulent behavior that have undermined some of the trust so essential for well-functioning financial markets. The resulting loss of reputation may differ from region to region and from culture to culture. But looking for culprits only on the other side of the fence does not help to restore confidence in the system. It will only delay necessary action.

What is needed, in particular, is a visible process of reflection and correction by the private sector itself. It is in everybody's interest that the self-correcting forces of the market are shown to work. And this should apply not only to the correction of irrational pricing of financial assets but to irresponsible behavior as well. Recent experience has shown that a surge in economic productivity has not rendered obsolete the law of gravity in finance. And we have witnessed the pitfalls of focusing excessively on short-term earnings expectations. As a "new realism" replaces the culture of the "go-go years," what is fundamentally needed is a new culture of

responsibility—a renewed sense of ethical responsibility and a broadly based recognition of the need to nurture a culture of more sustainable value creation.

I am a firm believer in the self-correcting forces of the market. But these do not come free or automatically. Boards, senior managements, and risk committees have a crucial role to play in this regard by exercising prudent oversight and self-restraint. This not only requires appropriate incentives but also the courage to take contrarian views when herd behavior prevails. It is in the private sector's own interest not to wait for legislators and regulators to be told what to do. I personally would certainly prefer to trust in the private sector's ability to come up itself with answers to conflicts of interest and on how to develop or improve circuit breakers that effectively prevent things from getting out of hand.

Of course, the recent failures of both public and private systems of checks and balances have underscored the need for more than just a little more enlightened self-discipline. What is also important, however, is not to have the pendulum of regulatory action swing too far from one extreme to the other. Ultimately, we should want to see private initiative and risk taking encouraged, not overwhelmed, by bureaucratic procedure. With this in mind, we need to strike the right balance between as much regulation as necessary and as little as possible. Here, trade associations such as the Institute for International Finance have an important role to play in helping to strengthen the link between public policy objectives and practicability in the daily business of finance and commerce.

I am not at all pessimistic. We have many of the ingredients needed to achieve stronger sustained global growth with financial stability: plenty of capital; a quantum leap in technological progress; and ample evidence in emerging market and developing countries that it pays to stay the course of reform.

What is needed now is the critical spark that reignites confidence across regions and sectors. This requires bold policy leadership in the major economies: placing U.S. fiscal policy back on a track that achieves balanced budgets over the business cycle; accelerating the process of structural change, in particular in Europe and Japan; and achieving a decisive breakthrough in removing barriers to international trade. At the same time, leaders in the world of business, finance, and commerce must live up to their responsibilities by reinforcing a culture of trust, sound risk taking, and entrepreneurship. This is a public-private partnership well worth all our energies.

**"As a 'new realism' replaces the culture of the 'go-go years,' what is fundamentally needed is a new culture of responsibility."**

—Horst Köhler

## Does insider trading raise stock market volatility?

**S**tock market volatility is not news, but why does the degree of volatility vary across countries? According to Julian Du, an Assistant Professor at the Chinese University of Hong Kong, and Shang-Jin Wei, an Advisor in the IMF's Research Department, it has a lot to do with insider trading. In a new IMF Working Paper, they conclude that countries with more insider trading have more volatile stock markets, even after taking into account the liquidity and the maturity of their markets and the volatility of real output and monetary and fiscal policy developments. Du and Wei spoke with the IMF Survey about their findings.

### IMF SURVEY: How do you define insider trading?

Surely, the criteria must vary across countries.

**WEI:** The general definition of insider trading is fairly clear. It refers to the trading of stocks by people who through their professional work have access to information that is relevant to the value of the company and, hence, the price of the stock. What is less clear is its precise boundary in practical applications.

The United States has arguably the most stringent regulations with regard to insider trading, and its definition of insider trading has evolved over time.

Traditionally, regulators in the U.S. viewed corporate officers—the chief executive officer, the chief financial officer, and other corporate officers—and major shareholders as insiders. This definition was expanded to include people who, through their professional

work, may have access to privileged information, such as a company's lawyers, accountants, or others who have certain information that the public does not. U.S. regulators expanded this definition further, still, to include people who have no professional association with a company but might, nonetheless, have access to privileged information. These insiders might, for example, be the spouse of a company officer, or someone working in a photocopy shop. The underlying concern is that they can also trade stocks based on this "inside" information. In most other countries, the definition of insider trading is considerably less broad.

### IMF SURVEY: How do you measure the extent of insider trading?

**DU:** Our measurement makes use of the results of a survey conducted jointly by the World Economic Forum, which is a global network of corporations, and Harvard University's Center for International Development. Among other things, this survey asks corporate executives around the world to assess the degree of insider trading in financial markets in which they have had extensive experience. Because insider trading tends to be illegal, it is difficult to measure directly. It's similar to measuring corruption or other under-the-table activities. You must use perceptions to estimate the degree of insider trading; you cannot count the amount of money changing hands.



Julian Du



Shang-Jin Wei

Available on the web ([www.imf.org](http://www.imf.org))

### Transcripts

Press Briefing by Managing Director Horst Köhler at the Burj Al Arab Hotel, Dubai, United Arab Emirates, June 6

### Press Releases

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- 03/76: IMF Managing Director Notifies Executive Board of Plan for a Fact-Finding Mission to Iraq, May 30
- 03/77: Statement by IMF First Deputy Managing Director, Anne Krueger, in Tokyo, June 4
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- 03/82: IMF Approves \$34 Million Three-Year PRGF Arrangement for Burkina Faso, June 11
- 03/83: IMF Completes First Review of Colombia's Stand-By Arrangement, Approves \$274 Million Disbursement, June 11

### Public Information Notices

- 03/65: IMF Concludes 2003 Article IV Consultation with People's Republic of China—Hong Kong Special Administrative Region, May 30
- 03/66: IMF Concludes 2003 Article IV Consultation with Switzerland, June 2
- 03/67: IMF Concludes 2003 Article IV Consultation with the Azerbaijan Republic, June 4
- 03/68: IMF Executive Board Approves Administrative and Capital Budgets for FY 2004, June 10

### Speeches

"A Public-Private Partnership for Confidence-Building," Horst Köhler, Managing Director, IMF, Institute of International Finance, Berlin, June 4



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**IMF SURVEY: What is the theoretical basis for the relationship between market volatility and insider trading?**

**WEI:** The prediction from the theory is ambiguous. On the one hand, insider trading can reduce volatility because it brings nonpublic information to the market more quickly. That is, it can bring potentially useful information to the market at a faster rate and might thus reduce the role of uninformed “noise” trading. On the other hand, theory also holds counterarguments that suggest, for example, that a permissive environment for insider trading may give corporate managers a perverse incentive to select a more volatile production method over a relatively smooth one. This would allow them to get to know—and benefit from—the ups and downs of the company’s performance and hence its stock price—a step ahead of the rest of the market. Alternatively, if production techniques are held constant, and if insiders have some discretion over how, when, and which type of information to release, they will have an incentive to release information in such a way that it will increase price volatility. These theoretical arguments suggest that an environment that is more permissive, more tolerant, of insider trading might induce insiders to take actions that will increase volatility.

**IMF SURVEY: How many countries did you look at, and where was insider trading more prevalent?**

**DU:** We looked at roughly 50 countries and found that the extent of insider trading varies greatly across the world. According to the Global Competitiveness Survey data set, Russia, Venezuela, China, India, and Mexico tend to have a relatively high degree of insider trading. The same data indicated that Denmark, Britain, Singapore, and the United States are among the countries having a relatively low degree of insider trading.

**IMF SURVEY: And what do your results show?**

**WEI:** They clearly show a positive association between the degree of insider trading and the degree of market volatility. Based on the statistical techniques we employed, we believe that this positive association shows causality as well. That is, more prevalent insider trading



*The true cost of insider trading? New research indicates it can increase stock market volatility.*

has probably caused an increase in market volatility. Furthermore, we find this effect to be quantitatively significant. For example, the Chinese stock market is much more volatile than the U.S. market. Our study suggests that the greater prevalence of insider trading in China has a lot more to do with this higher volatility than, say, more volatile economic fundamentals or economic policies in China.

**IMF SURVEY: Why is insider trading likely to cause more volatility?**

**DU:** As Shang-Jin said earlier, when company insiders or major shareholders can profit from insider trading and get away with it, they would have an incentive to manipulate the

content of the information about corporate operations and the manner that the information is released in such a way as to increase the ups and downs of the stock prices. This is probably the main reason why more insider trading may cause more stock market volatility in practice.

**IMF SURVEY: What should investors and country authorities take away from your study?**

**WEI:** The actual patterns of international investment already suggest that international investors tend to systematically avoid countries that are governance-challenged. These countries have trouble attracting investment of various kinds, particularly portfolio and foreign direct investment. From a government’s point of view, our research has implications for policy reforms. In particular, it suggests that improving institutions that regulate the market is likely to be at least as important as just improving economic fundamentals or macroeconomic policies. For countries trying to attract more investment, it may be more effective to try to improve governance than to offer tax concessions or tax holidays, which would mean giving up useful tax revenues. ■

Copies of IMF Working Paper No. 03/51, “Does Insider Trading Raise Market Volatility?” by Julian Du and Shang-Jin Wei, are available for \$15.00 each from IMF Publication Services. Please see page 181 for ordering details. The full text is also available on the IMF website ([www.imf.org](http://www.imf.org)) and will be published by *Economic Journal* in 2004.