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# SISTEMSKI RIZIK: KAKO SE NOSITI S NJIM?

## Rezime

Ovaj materijal analizira sistemski rizik i razmatra odgovarajuće politike za njegovo smanjenje. Ispituje sistemski rizik kao negativnu eksternost u dve dimenzije: poprečnoj i vremenskoj. Politike za umanjene eksternosti u poprečnoj dimenziji traže ograničene štete koja može da proizađe iz međupovezanosti i zajedničkih izloženosti. Politike za rešavanje procikličnosti u vremenskoj dimenziji nastoje da izgrade sigurnosne margine kapitala i likvidnosti tokom rasta iz kojih se može vući u periodu pada. Materijal dalje tvrdi da politike finansijske regulative nisu dovoljne za rešavanje sistemskog rizika. Druge politike - naročito monetarna i fiskalna politika - takođe imaju ulogu. Isto tako tvrdi da je bitna koordinacija politika, na nacionalnom planu između monetarne, fiskalne, makro i mikroprudencijale politike, kao i na međunarodnom planu. Već je Bazelski komitet za bankarsku superviziju u saradnji sa Bordom za finansijsku stabilnost, ostvario veliki progres na rešavanju regulatornih nedostataka koje je istakla finansijska kriza.

# SYSTEMIC RISK: HOW TO DEAL WITH IT?

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## Summary

This paper analyses systemic risk and considers appropriate policies to reduce it. It examines systemic risk as a negative externality in two dimensions: the cross-sectional and the time dimension. Policies to reduce externalities in the cross-sectional dimension seek to limit the damage that can arise from interlinkages and common exposures. Policies to address procyclicality in the time dimension seek to build up capital and liquidity margins of safety during the upswing that can be drawn upon in the downturn. The paper further argues that financial regulatory policies are not enough to address systemic risk. Other policies - especially monetary and fiscal policy - also have a role to play. It also argues that policy coordination is essential, nationally among monetary, fiscal and macro- and microprudential policies, as well as internationally. Already, the Basel Committee on Banking Supervision, working with the Financial Stability Board, has made great progress in addressing the regulatory shortcomings highlighted by the financial crisis.

**M**eđunarodna finansijska kriza naterala je sve nas da ozbiljnije mislimo - ne samo o tome šta znači sistemski rizik, već i o tome šta on znači za politiku. Sistemski rizik bio je potcenjen svuda pre ove krize. Bili smo suočeni sa nezamislivim kada je jedan broj vrlo velikih institucija bankrotirao, uprkos ranijoj reputaciji na osnovu bilansne snage i vođstva u upravljanju rizicima. Hvatanje u koštac sa sistemskim rizikom je značajno jer je objedinjeni rizik sa kojim je suočen sistem mnogo veći od prostog zbira pojedinačnih rizika u finansijskim institucijama, proizvodima i tržištima.

Prema radu MMF, FSB i BIS za G20, sistemski rizik se može definisati kao "rizik poremećaja finansijskih usluga koji je uzrokovan pogoršanjem celokupnog ili delova finansijskog sistema i ima potencijal da stvori ozbiljne negativne posledice za realnu ekonomiju". Ako banka izgubi novac u rizičnom investiranju, to nije sistemski stvar. Ali bankrotstvo institucije, blokada tržišta ili čak oštar rast troškova finansijskih usluga mogu da imaju ozbiljne negativne implikacije za mnoge učesnike na tržištu. U ovakvim slučajevima postoji sistemski dimenzija. Takve negativne eksternalnosti i značajna preliivanja na realnu ekonomiju predstavljaju suštinu sistemskog rizika i razlog za intervenciju politike.

Prevođenje ovog opšteg pogleda na praktične politike sigurno je vrlo teško. Ono što bih želeo da učinim jeste da izložim neka razmišljanja iz BIS i da predočim šta bi to moglo da znači za politiku. Prvo, sa konceptualne tačke gledišta, sistemski rizik ima dve dimenzije, tj. poprečnu dimenziju i vremensku dimenziju. U poprečnoj dimenziji, struktura finansijskog sistema utiče na to kako on reaguje na šokove i možda ih pojačava. Takvi efekti preliivanja mogu da nastanu, na primer, iz zajedničke izloženosti institucija ili iz mreže međupovezanosti. Problem politike je kako rešavati takve zajedničke izloženosti i međupovezanosti između finansijskih institucija. U vremenskoj dimenziji, narastanje rizika tokom vremena povezuje se sa makroekonomskim ciklusom. S tim povezan problem politike je kako rešavati procikličnost finansijskog sistema.

Drugo, i sa gledišta politike, politike finansijske regulative predstavljaju bitan deo

rešenja, ali one same nisu dovoljne da reše sistemski rizik u svojoj kompleksnosti. Druge politike - naročito monetarna i fiskalna politika - takođe imaju ulogu. Treće, bitna je koordinacija politika - ne samo na nacionalnom planu između monetarne politike, fiskalne politike i makro i mikro prudencijalne politike - već i na međunarodnom planu.

Najzad, mada se ovaj materijal ne bavi njima, postoji četvrta grupa vrlo važnih mera koje se odnose na tržišnu disciplinu, transparentnost, upravljanje, podsticaje, integritet tržišta, zaštitu potrošača, itd, koje bi isto tako bile relevantne za podršku poverenja, negovanje tržišta i institucionalnu otpornost, kao i suzbijanje ekscesa kod uzimanja rizika.

Ključna poruka je da je veliki progres već ostvaren, ali reformska agenda je i dalje velika i njena primena će se ubrzati ove godine. U prvoj sekciji, materijal ukratko izlaže koncept sistemskog rizika. Druga sekcija se odnosi na regulatorne politike koje su u pripremi za rešavanje tog rizika. Treća i četvrta sekcija bave se pristupima monetarne i fiskalne politike istom riziku, dok peta sekcija izlaže ulogu međunarodne koordinacije. Poslednja sekcija zaključuje sa nekoliko završnih napomena.

## Koncepti sistemskog rizika

Kao što je već napomenuto, sistemski rizik ima dve dimenzije, poprečnu i vremensku. Svaka od njih ima različite implikacije za politiku.

Prva dimenzija sistemskog rizika - zajedničke izloženosti/međupovezanosti u poprečnom preseku - odnosi se na to kako se specifičan šok u finansijskom sistemu može proširiti i postati sistemski. U središtu je pitanje kako se rizik distribuira unutar finansijskog sistema u datoj vremenskoj tački.

Šok može da se javi u dva glavna oblika:

- Finansijski sistem je mreža međusobno povezanih bilansa. Kao rezultat toga, sve kompleksnija mreža dnevnih transakcija znači da šok koji pogađa jednu instituciju može da se proširi na drugu instituciju koja je sa njom povezana i da postane sistemski. Krize sa Heršatom i Kontinental Illinois počele su sa problemima u jednoj konkretnoj finansijskoj instituciji. Zbog saldiranja i

The international financial crisis has made us all think much harder - not only about what systemic risk means, but also about what it means for policy. Systemic risk was underestimated across the board before this crisis. We were faced with the unthinkable when a number of very large institutions failed, despite their previous reputation for balance sheet strength and leadership in risk management. Coming to grips with systemic risk is vital because the aggregate risk facing the system is much higher than the simple sum of the individual risks attending financial institutions, products and markets.

Following the work of the IMF, FSB and BIS for the G20, systemic risk can be defined as “a risk of disruption to financial services that is caused by an impairment of all or parts of the financial system and has the potential to have serious negative consequences for the real economy.” If a bank loses money from a risky investment, that is not systemic. But institutional failure, market seizure, infrastructure breakdown or even a sharp rise in the cost of financial services can have serious adverse implications for many other market participants. In these cases, there is a systemic dimension. It is such negative externalities and the significant spillovers to the real economy that are the essence of systemic risk and which make a case for policy intervention.

Translating this general insight into practical policies is of course very difficult. What I would like to do is to outline some of the thinking at the BIS and suggest what this might mean for policy. First, from a conceptual point of view, systemic risk has two dimensions, ie a cross-sectional dimension and a time dimension. In the cross-sectional dimension, the structure of the financial system influences how it responds to, and possibly amplifies, shocks. Such spillover effects can arise, for instance, from common exposures across institutions or from network interconnections. The policy problem is how to address such common exposures and interlinkages among financial institutions. In the time dimension, the build-up of risk over time interacts with the macroeconomic cycle; the associated policy problem is how to address the procyclicality of the financial system.

Second, and from a policy point of view,

financial regulatory policies are an essential part of the solution, but they alone will not suffice to address systemic risk in all its complexity. Other policies - especially monetary and fiscal policy - also have a role to play. Third, policy coordination is essential - not just nationally among monetary policy, fiscal policy and macro- and microprudential policies - but also internationally.

Finally, although this paper does not address them, there is a fourth group of very important measures bearing on market discipline, transparency, governance, incentives, market integrity, consumer protection, etc, that would also be very relevant to supporting confidence, fostering market and institutional resilience, and curbing excesses in risk-taking.

A key message is that a lot of progress has already been achieved, but the reform agenda is still large, and its implementation will speed up this year. In the first section, the paper briefly discusses the concept of systemic risk. The second section focuses on the regulatory policies in the pipeline to address that risk. The third and fourth sections deal with monetary and fiscal policy approaches to the same risk, while the fifth section outlines the role of international coordination. The last section concludes with a few final remarks.

## Concepts of systemic risk

As already mentioned, systemic risk has two dimensions, cross-sectional and time. Each has very different policy implications.

The first dimension of systemic risk - the common exposures/interlinkages in the cross section - relates to how a specific shock to the financial system can propagate itself and become systemic. The focus is on how risk is distributed within the financial system at a given point in time.

A shock may take two main forms:

- The financial system is a network of interconnected balance sheets. As a result, an increasingly complex web of daily transactions means that a shock hitting one institution can spread to the other institutions that are connected to it and become systemic. The Herstatt and Continental Illinois crises both started with problems in one specific

međubankarskih veza, bankrotstvo svake od ovih posebnih firmi pretilo je širim problemima za povezane institucije koje su inače bile zdrave.

- Alternativno, šok može da ima široke posledice i postane sistemski zbog neposrednih zajedničkih izloženosti. Po svojoj prirodi, pad tržišta komercijalnih nekretnina ili stambenih objekata teži da ima ovakav karakter. Kao što je nedavna kriza pokazala, takve zajedničke izloženosti mogu da imaju dubok međunarodni zamah. Negativni egzogeni šok, ili, kao metafora, pad meteora ili "perfektna oluja", zaista je ono kako je mnogo praktičara videlo ovu krizu, barem na početku.

Prociklična dimenzija sistemskog rizika odnosi se na progresivno gomilanje finansijske krhkosti i na to kako se ukupan rizik razvija tokom vremena. Tokom ekonomskog ciklusa dinamika finansijskog sistema i realne ekonomije pojačavaju jedno drugo, povećavajući amplitudu buma i padova i potkopavajući finansijsku i makroekonomsku stabilnost. Tipično, usponi su periodi finansijskih inovacija. Kada stvari idu dobro, firme i pojedinci se osećaju (previše) sigurno i eksperimentišu sa uzimanjem rizika.

Oni stvaraju nove, neproverene instrumente koje je teško razumeti i vrednovati. Krediti rastu ubrzano, na osnovu cena aktive i doprinoseći višim cenama aktive. Na taj način se dimenzija zajedničke izloženosti/međupovezanosti tiče različitih međuveza unutar mreže finansijskih institucija. Nasuprot tome, dimenzija procikličnosti sistemskog rizika prikazuje rast rizika tokom vremena koji se nalaze u osnovi, skriveni su i ispod cene. Sa povećanjem pritiska, ranije nevidljivi rizici se materijalizuju, produbljavajući pad koji je već u toku.

U ovoj dimenziji procikličnosti, finansijski sektor endogeno generiše sistemski rizik i ovaj rizik može biti najviši upravo onda kada izgleda da je najniži. To je upravo zato što se tada krediti odobravaju najslobodnije i niska volatilitnost ohrabruje najviši leveridž. Samopouzdanost u pogledu rizika se sama pretvara u izvor rizika. Normalne margine sigurnosti, bilo da je to učešće kod kreditiranja nekretnina, herkat kod finansiranja hartija od vrednosti ili zaštitne klauzule u kreditima privredi, vide se kao nepotrebna smetnja ostvarivanju profita.

Politike za bavljenje sistemskim rizikom moraju da funkcionišu u obe dimenzije.



financial institution. Because of settlement and interbank linkages, the failure of each of these specific firms threatened wider problems for connected institutions that were otherwise sound.

- Alternatively, a shock can have wide ramifications and become systemic because of direct common exposures. By its nature, a nationwide downturn in commercial real estate or housing markets tends to have this character. As the recent crisis has shown, such common exposure can have a profound international sweep. A negative exogenous shock, or, metaphorically speaking, a meteor strike or perfect storm, is indeed how many practitioners viewed this crisis, at least initially.

The procyclicality dimension of systemic risk relates to the progressive build-up of financial fragility and how aggregate risk evolves over time. Over the economic cycle, the dynamics of the financial system and of the real economy reinforce each other, increasing the amplitude of booms and busts and undermining financial and macroeconomic stability. Typically, booms are periods of financial innovation. When things are going well, firms and individuals feel (over)confident in experimenting with and taking on risk. They create new, untested instruments that are difficult to understand and value. Credit grows rapidly, based on, and contributing to, higher asset prices. In this way, the common exposures/interlinkages dimension concerns the various interconnections among the network of financial institutions. By contrast, the procyclicality dimension of systemic risk highlights the underlying build-up over time of risks that are hidden and underpriced. As strains develop, previously unseen risks materialise, deepening the retrenchment that is already under way.

In this procyclicality dimension, the financial sector endogenously generates systemic risk and this risk can be highest precisely when it looks lowest. It is precisely then that credit is extended most freely and that low volatility encourages the greatest leverage. Complacency regarding risk itself turns into a source of risk. Normal margins of safety, whether down payments in real estate lending, haircuts in securities financing or covenants in corporate

loans, are seen as unnecessary hindrances to profit.

Policies to deal with systemic risk must operate in both dimensions.

### **Policies to deal with system-wide interlinkages and with too-big-to-fail and moral hazard issues**

Turning first to the cross-sectional dimension of systemic risk, the policy task is to capture system-wide risk and to adjust prudential tools based on individual institutions' contribution to that risk. It is a continuous approach, which does not require one to draw up a list of systemic institutions.

Let me highlight six key building blocks in setting policies to mitigate this common exposures/interlinkages aspect of systemic risk:

*More and better capital/liquidity:* Firms that contribute to systemic risk must internalise the externalities that they create. Higher prudential standards would be one way to do this.

Capital and liquidity buffers need to be higher across the board. The Basel Committee's recent reform package is aimed at improving the banking sector's ability to absorb shocks arising from financial and economic stress - whatever the source - thus reducing the risk of spillover from the financial sector into the real economy. The Committee's proposals include a series of measures to raise the quality, consistency and transparency of the regulatory capital base. In particular, they aim to strengthen the component of the Tier 1 capital base that is fully available to absorb losses on a going concern basis. This will contribute to a reduction of systemic risk from the banking sector.

The Committee's proposals also seek to strengthen the capital framework's risk coverage. Failure to capture major on- and off-balance sheet risks, as well as derivatives-related exposures, was a key destabilising factor over the past two and a half years. Therefore, in addition to the trading book and securitisation reforms announced in July 2009, the Committee is proposing to strengthen capital requirements for counterparty credit risk exposures arising from derivatives, repos and securities financing activities.

## Politike za bavljenje međuvezama širom sistema i sa pitanjima "suviše veliki da bi propali" i moralnog hazarda

Okrećući se najpre poprečnoj dimenziji sistemskog rizika, zadatak politike je da kontroliše rizik širom sistema i da prilagodi prudencijalne alate zasnovane na doprinosu pojedinih institucija tom riziku. To je trajni pristup koji ne zahteva pravlanje liste sistemskih institucija.

Dozvolite mi da prikažem šest ključnih gradivnih blokova za postavljanje politika za ublažavanje ovog aspekta zajedničkih izloženosti/međuveza sistemskog rizika.

Veći i bolji odnos kapital/likvidnost: firme koje doprinose sistemskom riziku moraju da internalizuju eksternalnosti koje stvaraju. Viši prudencijalni standardi bi predstavljali jedan način da se to uradi.

Kapitalni amortizeri i amortizeri likvidnosti svuda moraju da budu viši. Nedavni paket reformi Bazelskog komiteta ima za cilj unapređenje sposobnosti bankarskog sektora da apsorbuje šokove koji proizilaze iz finansijskog i ekonomskog stresa - bilo koji da je izvor - umanjujući na taj način rizik preliivanja iz finansijskog sektora u realnu ekonomiju. Predlozi Komiteta uključuju seriju mera za podizanje kvaliteta, konzistentnosti i transparentnosti baze propisanog kapitala. Naročito im je cilj jačanje komponente kapitalne baze iz Tier 1 koja je u potpunosti na raspolaganju za apsobovanje gubitaka na bazi *going concern*. Ovo će doprineti umanjenu sistemskog rizika iz bankarskog sektora.

Predlozi Komiteta takođe teže jačanju pokrića rizika kapitalnim okvirom. Neuspeh da se kontrolišu veliki bilansni i vanbilansni rizici, kao i izloženosti povezane sa derivatima, bio je ključni destabilišući faktor tokom poslednje dve i po godine. Otuda, pored reformi u pogledu knjige trgovanja i sekjuritizacije objavljenih u junu 2009. godine, Komitet predlaže jačanje zahteva za kapitalom za izloženosti kreditnom riziku partnera iz derivata, repoa i aktivnosti finansiranja hartija od vrednosti.

Još značajnije, ove reforme takođe imaju neophodno makroprudencijalno usmerenje, odnoseći se istovremeno na rizike širom

sistema i njihovu procikličnost tokom vremena. Jedan od načina da se sistemski značajne institucije navedu da internalizuju rizike koje predstavljaju je da se od njih zahteva da drže više kapitala i više likvidnosti u poređenju sa drugim firmama. Takva dodatna terećenja bi se kalibrirala doprinosom date institucije sistemskom riziku na trajnoj osnovi, sa ciljem da se umanji njena verovatnoća neizvršenja i povezani sekundarni efekti. Pored toga, njen čisti koeficijent leveridža služice kao podrška merama rizikom ponderisanog kapitala.

*Režim reorganizacije:* bankrotstvo sistemski značajne institucije treba rešavati na propisan način. Adekvatni režimi reorganizacije treba da se ustanove da bi se zaustavio gubitak širom sistema koji nastaje kada propadne takva institucija. Jedan od važnih aspekata je da se obezbedi da partneri značajne institucije ne budu zaštićeni od gubitka u slučaju propasti, tako da se tržišna disciplina jača *ex ante*. Ovo može dalje da pomogne ograničenu verovatnoće neizvršenja.

Međutim, postavljanje adekvatnog režima reorganizacije nije laka stvar. Napredak je ograničen i rad FSB i Bazelskog komiteta se nastavlja. Jedan od razloga je što su pravni problemi kompleksni, kao što nas podseća tekuća likvidacija Lehman Brothers. Druga poteškoća koju je osvetlila nedavna kriza na Islandu odnosi se na problem učešća u troškovima više zemalja. Ipak, novi standardi za prekogranične okvire za reorganizaciju već su razvijeni. Aktivno se radi na konkretnim predlozima da se olakša regularna reorganizacija bankrotirane firme i napredak se može očekivati ove godine.

*Struktura finansijske industrije:* nedavna finansijska kriza bila je znak tržišnih neuspeha unutar finansijske industrije. Moraju se usvojiti mere za izbegavanje naopakih podsticaja koji guraju leveridž i ganjanja kratkoročnog profita. Bankarski supervizori rade na predlozima za jačanje upravljanja u firmama i za ohrabrivanje zdrave prakse kompenzacija. Pored toga, jedan broj zemalja razmatra korake za ograničavanje veličine/strukture finansijskih grupa, ili postavljanje ograničenja na neke od njihovih poslovnih aktivnosti. Moramo da prihvatimo da nikad neće biti potpune saglasnosti preko granica o tome šta bankama treba, a šta ne treba

More importantly, the reforms also have the necessary macroprudential focus, addressing both system-wide risks and their procyclical amplification over time. One way to get systemically important institutions to internalise the risks that they pose is to require them to hold more capital and more liquidity than other firms. Such additional charges should be calibrated to a given institution's contribution to systemic risk on a continuous basis, with a view to reducing its probability of default and related knock-on effects. In addition, a straightforward leverage ratio will serve as a backstop to risk-weighted capital measures.

*Resolution regime:* The failure of a systemically important institution should be managed in an orderly manner. Adequate resolution regimes should be put in place to hold down the system-wide loss that arises when such an institution fails. One important aspect is to ensure that the counterparties of an important institution are not sheltered from loss in the event of failure, so that market discipline is strengthened ex ante. This can further help to limit the probability of default.

However, setting up adequate resolution regimes is no easy matter. Progress has been limited, and work by the FSB and the Basel Committee continues. One reason is that the legal problems are complex, as the ongoing Lehman Brothers liquidation reminds us. Another difficulty highlighted by the recent crisis in Iceland relates to the problem of cost-sharing across countries. Nevertheless, new standards for cross-border resolution frameworks have already been developed. Concrete proposals to facilitate the orderly resolution of a failing firm are actively being worked on, and progress can be expected this year.

*Structure of the financial industry:* The recent financial crisis was a sign of market failures within the financial industry. Measures must be adopted to avoid perverse incentives that spur leverage and the pursuit of short-term profit. Bank supervisors are working on proposals to strengthen governance within firms and to encourage sound compensation practices. In addition, a number of countries are considering steps to limit the size/structure of financial groups, or to place curbs on some of their

business activities. We have to accept that there will never be total agreement across borders on what banks should and should not be allowed to do. There have always been differences in the business lines permitted to banks in different countries and there probably always will be. Hence, there can be a wide range of approaches, depending on the particular circumstances. But all measures should be consistent with internationally agreed standards to ensure that the playing field is level and that systemic risk is reduced.

*More robust market infrastructure:* A key way to lessen the systemic risks created by large, interconnected firms is to put in place more resilient market structures. Trading of financial derivatives on organised exchanges is one way. Another is to replace the web of bilateral exposures with robust central counterparties (CCPs). This can reduce the risk of common exposures in several ways. A CCP is an entity that interposes itself between the two sides of a transaction, becoming the buyer to every seller and the seller to every buyer; this contributes to greater liquidity in the market and reduces contagion effects. A CCP also addresses default risk by requiring each participant to hold a margin account in which the balance is determined by the value of the participant's outstanding contracts: the more volatile the market, the larger the required margin balance and the more expensive it becomes to hold large positions. Furthermore, channelling transactions through a single platform enhances the collection and dissemination of information. This in turn allows market participants and the authorities to monitor the concentration of individual exposures and the linkages that they create.

*Taxation:* Another building block added recently to the debate is the idea of taxing bigness or interconnectedness. While this deserves study as a classic means of dealing with an externality, many questions arise. Would the tax end up being paid by customers, or even by shareholders if their control over management is weak? Wouldn't higher capital and liquidity requirements for systemic institutions, or prudential incentives for simpler structures, be preferable?

*Supervision:* Finally, more proactive



biti dozvoljeno da rade. Uvek je bilo razlike u linijama poslovanja dozvoljenih bankama u raznim zemljama i verovatno će ih uvek biti. Otuda može biti širok spektar pristupa, zavisno od specifičnih okolnosti. Ali sve mere treba da budu konzistentne sa međunarodno dogovorenim standardima da bi se obezbedilo da igralište bude ravno i da sistemski rizik bude umanjen.

*Robustnija tržišna infrastruktura:* ključni način da se umanje sistemski rizici koje stvaraju velike interkontinentalne firme jeste postavljanje otpornijih tržišnih struktura. Trgovina finansijskim derivatima na organizovanim berzama je jedan način. Drugi je da se zameni mreža bilateralnih izloženosti robusnim centralnim partnerima (CCP). Ovo može da smanji rizik zajedničkih izloženosti na nekoliko načina. CCP je subjekt koji se umeće između dve strane u transakciji, postajući kupac svakom prodavcu i prodavac svakom kupcu.

Ovo doprinosi većoj likvidnosti na tržištu i umanjuje efekte zaraze. CCP takođe rešava rizik neizvršenja zahtevajući od svakog učesnika da drži račun margine na kome se saldo određuje prema vrednosti učesnikovih ugovora u opticaju: što je tržište volatilnije, to je veći zahtev za saldom margine i time postaje skuplje držanje velikih pozicija. Dalje, kanalisane transakcije kroz jedinstvenu platformu jača prikupljanje i širenje informacija. Ovo sa svoje strane omogućava učesnicima na tržištu da monitorišu koncentraciju pojedinačnih izloženosti i veze koje one stvaraju.

*Porezi:* drugi gradivni blok koji je nedavno dodati jeste ideja o veličini poreza ili međupovezanosti. Mada ovo zasluhuje da se razmatra kao klasično sredstvo rešavanja eksternalnosti, otvaraju se mnoga pitanja. Da li će porezi završiti tako da ih plaćaju klijenti ili čak akcionari ako njihova kontrola nad menadžmentom bude slaba? Zar ne bi

viši zahtevi za kapitalom i likvidnošću kod sistemskih institucija ili prudencijalni podsticaji za jednostavnije strukture bili poželjniji?

*Supervizija:* najzad, mnogo proaktivnija supervizija sistemskih institucija je neophodna da bi se osiguralo da perimetar finansijske regulative bude dovoljno širok za supervizore da mogu da vide celinu finansijske institucije, bez obzira na to kakva može biti zakonska konfiguracija. Interesantno pitanje koje je postavila nedavna kriza jeste zašto je ista regulativa proizvela različite rezultate u različitim zemljama. Bankarski sistemi u Australiji i Kanadi, na primer, ostali su relativno otporni tokom nedavne krize. Očigledno je bilo mnogo razloga za razlike koje su viđene u raznim jurisdikcijama uključujući razlike u strukturi i poslovnim modelima



supervision of systemic institutions is necessary to ensure that the perimeter of financial regulation is wide enough for supervisors to be able to see right through a financial institution, no matter what the legal configuration may be. An interesting question posed by the recent crisis is why the same regulation produced different results in different countries. Banking systems in Australia and Canada, for instance, remained relatively resilient during the recent crisis. There were obviously many reasons for the differences seen across various jurisdictions including differences in the structure and the business models of the financial system. Still, another relevant factor was that regulation was not implemented across countries with the same rigour. So a key lesson is that good regulation will not work without adequate supervision that looks through both the business cycle and the structures of financial institutions.

But this is easier said than done. The recent crisis has highlighted the difficulties of setting a consistent perimeter of regulation over time and across jurisdictions. Moreover, the problem of the shadow banking system remains a challenge. Ongoing work to ensure greater consistency across sectors and jurisdictions in the key respects of capital, liquidity and resolution regimes will be essential to address these issues.

## **Policies to deal with procyclicality**

Let me now turn to policies that deal with systemic risk in the time dimension, the so-called procyclicality aspect.

The first, and obvious, lesson is that capital and liquidity buffers need to be higher on average over time, as was outlined in the previous section.

A second element of the macroprudential response to procyclicality consists in building up and running down buffers over the cycle. The guiding policy principle must be to build up safety margins of capital in good times, when it is easier and cheaper to do so. These can restrain risk-taking. In bad times, the margins can be run down, allowing the system to absorb emerging strains more easily and dampening the feedback mechanisms. At the level of individual banks, the maintenance of

appropriate buffers can be achieved through capital conservation measures when the buffers are inadequately replenished, including actions to limit excessive dividend payments, share buybacks and compensation; these buffers can then be used when periods of stress arise. At the macroprudential level, an operational framework has to be set up that relies on adequate indicators signalling the build-up of risks in the financial system.

A third element is to encourage banks to use forward-looking provisioning based on expected losses instead of more backward-looking provisions based on realised losses. This will promote early identification and recognition of credit losses in a more robust manner. It will better reflect the reality of the financial performance and risk of financial institutions, by incorporating a broader range of credit information, both quantitative and qualitative. This should be done in a transparent way and be subject to appropriate internal and external validation by auditors.

Finally, it should be acknowledged that other macroprudential policy tools can be used to limit or prevent the emergence of macroeconomic and financial imbalances. Indeed, they have long been part of the arsenal, particularly - but not only - in Asia. For example, tighter provisioning norms against rapid credit expansion have been used in China to counter potential vulnerabilities from excessive credit growth or asset price bubbles. Other prudential tools have been used as automatic stabilisers, that is, to forestall the emergence of such imbalances. In India, for instance, a long-standing prudential requirement is that banks must hold a relatively large part of their assets in risk-free liquid securities. Several other Asian economies place limits on credit exposures or otherwise restrict concentration risks towards banks. Korea, for instance, has announced loan-to-deposit requirements that aim to limit the exposure of its banks to wholesale funding markets.

Because it can be difficult to set general rules that cut across all sectors, some countries have also used sectoral policies to regulate credit terms, as well as capital or provisioning requirements for loans to specific borrowers or sectors. For instance, loan-to-value (LTV)

finansijskog sistema. Ipak, drugi relevantni faktor je da regulativa nije bila primenjena po zemljama sa istom oštrinom. Otuda je ključna lekcija da dobra regulativa neće dejstvovati bez adekvatne supervizije koja sagledava poslovni ciklus i strukture finansijskih institucija.

Ali ovo je lakše reći nego učiniti. Nedavna kriza je pokazala poteškoće postavljanja konzistentnog perimetra regulative tokom vremena i po jurisdikcijama. Dalje, problem bankarskog sistema u senci ostaje kao izazov. Tekući rad na tome da se obezbedi veća konzistentnost po sektorima i jurisdikcijama u ključnim aspektima kapitala, likvidnosti i režima reorganizacije biće bitan za rešavanje ovih pitanja.

## Politike za rešavanje procikličnosti

Dozvolite mi da sada govorim o politikama koje se bave sistemskim rizikom u vremenskoj dimenziji, sa takozvanog procikličnog aspekta.

Prva i očigledna lekcija je da je potrebno da amortizeri kapitala i likvidnosti budu u proseku viši tokom vremena, kao što je izloženo u prethodnoj sekciji.

Drugi element makroprudencijalnog odgovora na procikličnost se sastoji od gradnje i snižavanja amortizera tokom ciklusa. Vodeći princip politike mora biti izgradnja sigurnosnih margina kapitala u dobrim vremenima, kada je lakše i jeftinije da se to čini. Ovo može da ograniči uzimanje rizika u lošim vremenima, margine mogu da opadnu, dozvoljavajući da sistem apsorbuje nastajuće deformacije lakše i da se povratni mehanizmi uspore. Na nivou pojedinačnih banaka, održavanje odgovarajućih amortizera može da se postigne merama konzervacije kapitala kada amortizeri nisu adekvatno popunjeni, uključujući akcije da se ograniče ekscesne isplate dividendi, reotkup akcija i kompenzacije. Ovi amortizeri se onda mogu koristiti kada nastanu periodi stresa. Na makroprudencijalnom nivou, mora da bude postavljen operativni okvir koji se oslanja na adekvatne indikatore koji signaliziraju rast rizika u finansijskom sistemu.

Treći element je ohrabivanje banaka da primenjuju anticipativno rezervisanje zasnovano na očekivanim gubicima umesto retrogradnog

rezervisanja zasnovanog na ostvarenim gubicima. Ovo će unaprediti ranu identifikaciju i priznavanje kreditnih gubitaka na robusniji način. To će bolje odražavati realnost finansijske performanse i rizika finansijskih institucija uključenjem šire skale kreditnih informacija, kvantitativnih i kvalitativnih. Ovo treba sprovesti na transparentan način uz odgovarajuću internu i eksternu validaciju revizora.

Najzad, treba uvažiti da drugi alati makroprudencijalne politike mogu da se koriste za ograničenje ili sprečavanje pojave makroekonomskih i finansijskih neravnoteža. Zaista, oni su dugo bili deo tog arsenala, naročito - ali ne jedino - u Aziji. Na primer, oštrije norme rezervisanja naspram brze ekspanzije kredita korišćene su u Kini da bi se sprečile potencijalne ranjivosti od ekscenog rasta kredita ili balona cena aktive. Drugi prudencijalni alati su korišćeni kao automatski stabilizatori, to jest, za to da se predupredi nastajanje takvih neravnoteža. U Indiji, na primer, dugo je u primeni prudencijalni zahtev da banke moraju da drže relativno veliki deo svoje aktive u nerizičnim likvidnim hartijama od vrednosti. Nekoliko drugih azijskih ekonomija ograničavaju kreditne izloženosti ili na drugi način smanjuju koncentraciju rizika prema bankama. Koreja je, na primer, objavila zahteve u pogledu odnosa kredita prema depozitima koji imaju za cilj ograničenje izloženosti svojih banaka prema vele-tržištima za finansiranje.

Zbog toga što može biti teško postaviti generalna pravila koja presecaju sve sektore, neke zemlje su isto tako primenile sektorske politike za regulisanje uslova kreditiranja, kao i zahteve za kapitalom ili rezervisanju za kredite specifičnim zajmoprimcima ili sektorima. Na primer, koeficijente kredit-prema-vrednosti (LTV) i restrikcije hipotekarnog kreditiranja često koriste vlasti u Aziji da bi rešavale zabrinutost u pogledu balona nekretnina. U Indiji, centralna banka aktivno koristi različite pondere rizika kod regulisanja kapitala i norme za protivciklično rezervisanje da bi usporila brzinu rasta bankarskih kredita specifičnim sektorima.

Mora se, međutim, priznati da neke od ovih mera mogu biti nametnute i imati neočekivane iskrivljene efekte. Pored toga, ostaje značajna

ratios and restrictions on mortgage lending have often been used by Asian authorities to address concerns about real estate bubbles. In India, the central bank has actively used differential risk weighting in capital regulation and countercyclical provisioning norms to slow the pace of growth of bank credit to specific sectors.

One must, however, recognise that some of these measures can be intrusive and can have unexpected distortive effects. In addition, significant uncertainty remains about how and under what circumstances these measures are likely to be effective. While discretionary sector-based prudential measures taken by Asian policymakers have proved quite successful in containing financial system damage as asset prices fall, generally they have been less effective in preventing or constraining asset price booms. It remains to be seen whether and how rule-based measures might counter the effect of distorted incentives and so prevent boom-bust cycles. Effective rules need to take into account the endogenous behaviour of financial institutions and their impact on credit extension, as well as the relationship between the financial and real sectors of the economy.

### **Regulation is not enough: monetary policy**

This brings me to my next point, that is: better regulation is essential, but even with the new macroprudential focus it may not be enough to prevent the build-up of systemic risks. Other policies, particularly monetary policy, must play a supporting role. The question is not whether monetary policy should target asset prices. It is rather what role monetary policy should play in leaning against the build-up of imbalances that contribute to systemic risk which can derail the economy.

It is tempting to make a neat Tinbergian assignment in which we would assign a single policy instrument to each policy objective. In such a world, interest rate policy is assigned to stabilise prices, while prudential policies, be they capital requirements or credit restrictions, are assigned to maintain financial stability. In reality, however, prudential policies will not suffice to maintain financial stability and

should be supported by monetary policy.

A key element is that monetary policy should take into account its effect on financial stability, for instance on financial innovation and the quest for yield. The current crisis has highlighted the hitherto neglected channel of monetary transmission, the “risk-taking” channel: the link between monetary policy and the perception and pricing of risk by economic agents. Such self-reinforcing dynamics were detected empirically in Spain, where lower short-term interest rates led Spanish banks to loosen their lending standards and to grant riskier loans. This and other research at the ECB suggests that this effect is related to the impact on the banks’ appetite for credit risk when interest rates are low.

As a result, the interest rate can affect the supply of credit through the bank lending channel and risk-taking through the search for yield, thereby influencing the pace of financial innovation. Asset price and credit cycles cannot be treated as exogenous when they are, in fact, inherently influenced by the monetary policy stance. A more symmetrical approach is needed: monetary policy should not act only when the bubble bursts, leading to a macroeconomic downturn; it should also act pre-emptively to limit the preceding phase of expansion.

This suggests that the reaction function of the monetary authorities should not be narrowly understood as aiming at controlling inflation over the short run. Rather, it must also take account of credit growth and asset information with the goal of promoting financial and macroeconomic stability over the medium term. In some circumstances, central banks may need to respond directly to this additional information, even if inflation deviates from its objective in the short run. This is because the trade-off between financial stability and monetary stability may be more apparent than real when the appropriate time horizon is considered. In the long run, the two goals are indeed likely to be complementary. For example, some restraint on the build-up of financial imbalances today may mitigate the severity of a subsequent financial crisis, preventing a future economic contraction and the undershooting of inflation targets.

Several recent experiences suggest that central

neizvesnost oko toga kako i pod kojim okolnostima ove mere verovatno mogu da budu efektivne. Mada su se prudencijalne diskrecione mere po sektorima koje su preduzeli donosioci politike u Aziji potvrdile kao potpuno uspešne za zaustavljanje štete za finansijski sistem kod pada cena aktive, generalno su bile manje efektivne u prevenciji ili obuzdavanju cenovnog buma. Ostaje da se vidi da li i kako bi mere zasnovane na pravilima dejstvovale protiv efekta poremećenih podsticaja i na taj način sprečile ciklus buma i pada. Efektivna pravila moraju da uzmu u obzir lokalno ponašanje finansijskih institucija i njihovog uticaja na odobravanje kredita kao i odnos između finansijskog i realnog sektora ekonomije.

## **Regulativa nije dovoljna: monetarna politika**

Ovo me dovodi do moje treće tačke, to jest: bolja regulativa je bitna, ali čak i sa novim makroprudencijalnim usmerenjem može se desiti da ona bude nedovoljna da spreči narastanje sistemskih rizika. Druge politike, naročito monetarna politika, moraju da imaju ulogu podrške. Pitanje nije da li monetarna politika treba da targetuje cene aktive. Reč je o tome kakvu ulogu treba da ima monetarna politika protiv narastanja neravnoteža koji doprinose sistemskom riziku koji može da poremeti ekonomiju.

Može se doći u iskušenje da se primeni čisto tinbergijanska dodela kod koje bismo dodelili jedan instrument politike svakom cilju politike. Na taj način, politika kamatne stope se namenjuje stabilizovanju cena, dok se prudencijalne politike, bilo da su u pitanju zahtevi za kapitalom ili ograničenje kredita, namenjuju održavanju finansijske stabilnosti. U stvarnosti, međutim, prudencijalne politike neće biti dovoljne da održavaju finansijsku stabilnost i treba ih podržati monetarnom politikom.

Ključni element u tome je što monetarna politika treba da uzme u obzir svoj efekat na finansijsku stabilnost, na primer na finansijske inovacije i potragu za profitom. Tekuća kriza je izdvojila do sada zanemaren kanal monetarne transmisije, kanal "uzimanja rizika": veza između monetarne politike i percepcije i

određivanja cene rizika ekonomskih agenasa. Takva samopojačavajuća dinamika bila je empirijski opažena u Španiji, gde su niže kratkoročne kamatne stope vodile španske banke u labavljenje svojih standarda kreditiranja i odobravanje rizičnijih kredita. Ovo i drugo istraživanje ECB ukazuju na to da je ovaj efekat povezan sa uticajem na apetit banaka za kreditnim rizikom kada su kamatne stope niske.

Kao rezultat, kamatne stope mogu da pogode ponudu kredita kroz bankarski kanal kreditiranja i uzimanje rizika kroz traganje za prinosom, utičući na taj način na brzinu finansijske inovacije. Cena aktive i kreditni ciklusi ne mogu se tretirati kao egzogeni kada su u stvari neodvojivo pod uticajem stava monetarne politike. Potreban je simetričniji pristup: monetarna politika ne treba da dejstvuje samo kada mehur puca, vodeći u makroekonomski pad. Ona treba isto tako da dejstvuje preventivno da bi ograničila prethodnu fazu ekspanzije.

Ovo ukazuje na to da funkcija reagovanja monetarnih vlasti ne treba da bude usko shvaćena da ima za cilj kontrolu inflacije na kratak rok. Umesto toga, ona takođe mora da uzme u obzir informacije o rastu kredita i aktive sa ciljem unapređenja finansijske i makroekonomske stabilnosti na srednji rok. U nekim okolnostima, centralne banke bi morale da neposredno reaguju na ove dodatne informacije čak i kad inflacija odstupa od njenog cilja na kratak rok. Ovo je zbog toga što isključivost između finansijske stabilnosti i monetarne stabilnosti može biti više prividna nego realna kada se uzme u obzir odgovarajući vremenski horizont. Na duži rok, ova dva cilja će verovatno biti komplementarna. Na primer, neko ograničenje rasta finansijskih neravnoteža danas može ublažiti oštrinu finansijske krize koja sledi, sprečavajući buduću ekonomsku kontrakciju i podbacivanje ciljeva inflacije.

Nekoliko nedavnih iskustava ukazuje na to da centralne banke postaju opreznije na razvoj na tržištima aktive. U 2003. godini, na primer, kamatna politika Rezervne banke Australije sasvim je adekvatno "grešila" na strani strogosti suočena sa snažnim rastom kredita i povećanjem cena stambenih nekretnina, čak iako je inflacija potrošačkih cena ostala mirna.

banks are becoming more alert to developments in asset markets. In 2003, for instance, the Reserve Bank of Australia's interest rate policy quite appropriately erred on the side of tightness in the face of strong credit growth and housing price increases, even though consumer price inflation remained muted. The RBA also made public statements highlighting the risks in the rise in housing prices. There is little doubt that this subsequently contributed to the levelling-out of house prices. In the euro area, the monetary pillar - that is, broad money and credit growth - also helped the ECB to take difficult interest rate decisions in 2004 and 2005.

### **Regulation is not enough: fiscal buffers and tax policy**

Fiscal policy can also be called upon to promote financial stability, not least because of the sheer scale of the financial resources that the public sector can call upon in times of stress. One obvious mechanism is to let fiscal automatic stabilisers play their part in difficult times, alleviating the impact of economic weakness on business activity and employment.

Moreover, government can play the role of a kind of insurer by building fiscal room for manoeuvre in good times. When bad times come, these "reserves" can be used for financial stability purposes. Governments have mobilised massive resources in the financial rescue programmes set up in response to the recent financial crisis. This implies that government debt should be maintained at reasonably low levels in good times so that additional debt can be taken on in times of stress without unsettling financial market conditions.

As with monetary policy, it is also important to take into account how fiscal policy affects financial stability. In good times, procyclical policies can serve to heighten complacency and encourage the build-up of financial imbalances. This is even more the case when rapid credit growth and high asset prices flatter the fiscal accounts during the upturn. All this implies that fiscal policy may have to err more on the side of tightness, preparing for the realisation that part of what appears to be sustainable revenues may be subject to a payback. Of course, this strongly reinforces the case for reducing government debt in relation to GDP in good times. That said, we should recognise the political economy



RBA je isto tako izdala javna saopštenja izlažući rizike iz rasta cena kuća. Nema sumnje da je ovo kasnije doprinelo izravananju cena kuća. U evro zoni, monetarni stub - to jest, rast novca i kredita - takođe je pomogao ECB da donese teške odluke o kamatnim stopama u 2004. i 2005. godini.

## **Regulativa nije dovoljna: fiskalni amortizeri i poreska politika**

Fiskalna politika takođe može biti uključena u unapređenje finansijske stabilnosti, ne najmanje zbog same veličine finansijskih resursa koje javni sektor može da prikupi u vremenima stresa. Jedan očigledan mehanizam je dozvoliti da fiskalni automatski stabilizatori imaju ulogu u teškim vremenima, ublažavajući uticaj ekonomske slabosti na poslovnu aktivnost i zaposlenost.

Dalje, vlada može da ima ulogu nekog osiguravača stvaranjem fiskalnog prostora za manevrisanje u dobrim vremenima. Kada dođu loša vremena, ove "rezerve" mogu da se koriste za svrhe finansijske stabilnosti. Vlade su mobilisale masivne resurse u programima finansijskog spašavanja postavljenih u odgovor nedavnoj finansijskoj krizi. Ovo implicira da vladin dug treba da se održava na razumno niskim nivoima u dobrim vremenima tako da se dodatni dug može uzeti u vremenima stresa bez uznemirenja uslova na finansijskom tržištu.

Kada je reč o monetarnoj politici, isto tako je važno da se uzme u obzir kako fiskalna politika utiče na finansijsku stabilnost. U dobrim vremenima, prociklične politike mogu da služe za podizanje samozadovoljstva i rast finansijskih neravnoteža. Ovo je još više slučaj kada brzi kreditni rast i visoke cene aktive pune fiskalne račune tokom rasta. Sve ovo implicira da fiskalna politika možda mora da greši više na strani strogosti, kako bi pripremila da se shvati da onaj deo koji izgleda kao održiv prihod može biti podvrgnut otplati. Naravno, ovo snažno pojačava argument za smanjenje vladinog duga i odnosu na BDP u dobrim vremenima. Uzevši to u obzir, treba da priznamo problem političke ekonomije koji je Adam Smith izložio u svom tretmanu javnog duga.

Na kraju, poreska politika se može takođe koristiti za rešavanje sektorskog razvoja sa

potencijalnim implikacijama za finansijsku stabilnost. Videli smo kako makroprudencijalni alati mogu da se koriste za ograničavanje ekscenog rasta kredita u specifičnim oblastima kao što je stanogradnja. Poreska politika isto tako može biti od koristi ovde. Ključan način da se obezbedi da poreski zakon radi u prilog a ne protiv finansijske stabilnosti bilo bi smanjenje ili eliminisanje njegovog predubedenja prema dugu i protiv kapitala. Nedavna kriza je pokazala nesretne rezultate koje ova predubedenja mogu da imaju na cene aktive i leveridž, naročito na stambenim tržištima. Ovo nije mesto za detaljno istraživanje kako poreski zakon može da se učini ravnomernijim. Dovoljno je reći da odbacivanje poreskog podsticaja za leveridž može da učini lep doprinos finansijskoj stabilnosti.

## **Institucionalni okvir sistemske regulative**

Dabismo sumirali potrebno je da obezbedimo da sve javne politike - naročito monetarna, fiskalna i makro i mikro prudencijalne politike (praćene adekvatnom supervizijom) - postanu deo konzistentnog okvira makrofinansijske stabilnosti projektovane da preteknu finansijske ekscese i seriju ciklusa buma i pada.

Da bi ovaj okvir bio efektivan, mora se pažljivo promisliti institucionalna organizacija i koordinacija. Ključno je uskladiti ciljeve, nou-hau i kontrolu nad raznim instrumentima politike, upravo zato što su odgovornosti za finansijsku stabilnost tako široko distribuirane. Institucionalna organizacija zato treba da bude zasnovana na jasnim mandatima i odgovornosti. Ona će morati da se oslanja na blisku saradnju između centralnih banaka i supervizijskih vlasti, unutar zemlje i prekogranično.

Uz sve ovo što je rečeno dozvolite mi da uvažim da neka važna pitanja ostaju otvorena.

Prvo otvoreno pitanje odnosi se na strukturu upravljanja i tok informacija u regulisanju sistemskog rizika. Kriza je pokazala da centralne banke imaju odlučujuću ulogu u sistemskom regulisanju. Ali nije sasvim jasno kako centralne banke moraju da budu opremljene da bi ostvarile ovu ulogu. Naročito tamo gde centralna banka nije supervizor banaka, važno je da cilj bude dobro definisan,

problem that Adam Smith highlighted in his treatment of the public debt.

Lastly, tax policy could be also used to address sectoral developments with potential financial stability implications. We have seen how macroprudential tools can be used to limit excessive credit growth in specific areas such as housing; tax policy could also be of use here. A key way to ensure that the tax code worked for rather than against financial stability would be to reduce or to eliminate its bias towards debt and against equity. The recent crisis has shown the unfortunate results this bias can have on asset prices and leverage, especially in housing markets. This is not the place to explore in detail how the tax code might be made more even-handed. Suffice it to say that getting rid of the tax incentive to leverage could make a handsome contribution to financial stability.

## **The institutional framework of systemic regulation**

To summarise, we need to ensure that all public policies - especially monetary, fiscal and macro- and microprudential policies (complemented by adequate supervision) - become part of a consistent macrofinancial stability framework designed to pre-empt financial excesses and serial boom and bust cycles.

To make this framework effective, careful thought must be given to the institutional setup and to international coordination. It is crucial to align goals, know-how and control over the various policy instruments, precisely because the responsibilities for financial stability are so widely distributed. The institutional setup should therefore be based on clear mandates and accountability. It will need to rely on close cooperation between central banks and supervisory authorities, both within and across borders.

All that said, let me recognise that some important questions remain open.

A first open question pertains to the governance structure and flow of information in systemic risk regulation. The crisis has shown that central banks play a decisive role in systemic regulation. But it is not entirely clear how central banks need to be equipped

to play this role. Especially where the central bank is not the bank supervisor, it is important that the goal be well defined, the instruments understood and the exchange of information with other authorities appropriate - including detailed supervisory information on individual firms. Financial supervisors can also benefit from information collected by central banks in the context of their liquidity operations.

A second open question is how to balance rules and discretion. In principle, we should rely as far as possible on rules and automatic stabilisers rather than discretion. Rules can help avoid errors that can stem from difficulties in identifying threats to financial stability contemporaneously - dynamic provisioning is a good example of a rule that can help in dealing with procyclicality. In addition, clear rules can allow the authorities to commit themselves *ex ante* to responses, thereby facilitating international coordination and enlisting the understanding, and even the anticipation, of market participants. For instance, market participants, including rating agencies, may not necessarily permit capital and liquidity that is built up in good times to be used in bad times. In this case, clear rules communicated by supervisors will help drawdowns be accepted in the marketplace. Lastly, and perhaps more importantly, rules reduce the enormous political pressures on policymakers to refrain from intervening against booms.

However, rules may not be enough: discretion has a role to play as it can help tailor intervention to varying, and often unpredictable, circumstances. This is why we should accept that some degree of discretion is inevitable.

While these open questions have still to be dealt with, I would like to emphasise that important progress has been made in the international coordination of systemic regulation. Indeed, we emerge from the global financial crisis with a brand new structure. The crisis gave further evidence that financial stability cannot be assured by each neighbour keeping his own house in order. This is necessary but not sufficient. Exposures to a neighbour's losses can bring down one's own house.

The Financial Stability Board has taken up a key role in coordinating the work of



instrumenti dobro shvaćeni i razmena informacija sa drugim vlastima odgovarajuća - uključujući detalje supervizorske informacije o pojedinačnim firmama. Finansijski supervizori mogu takođe da imaju koristi od informacija koje prikupljaju centralne banke u kontekstu svojih operacija likvidnosti.

Drugo otvoreno pitanje je kako izbalansirati pravila i diskreciju. U principu, treba da se oslanjamo koliko je moguće na pravila i automatske stabilizatore a ne na diskreciono pravo. Pravila mogu pomoći da se izbegnu greške koje bi proizilazile iz poteškoća da se identifikuju pretnje finansijskoj stabilnosti blagovremeno - dinamičko rezervisanje je dobar primer pravila koje može pomoći rešavanju procikličnosti. Pored toga, jasna pravila mogu da omoguće vlastima da se posvete *ex ante* odgovorima, olakšavajući time međunarodnu koordinaciju i pridobijajući razumevanje i čak anticipiranje učesnika na tržištu. Na primer, učesnici na tržištu, uključujući agencije za rejting, ne moraju nužno da dozvole da se kapital i likvidnost akumulirani u dobrim vremenima koriste u lošim vremenima. U ovakvom slučaju će jasna pravila kojima komuniciraju supervizori pomoći da se povlačenja prihvate na tržištu. Poslednje, možda i najvažnije, pravila umanjuju enormne političke pritiske na donosiocima politike da se uzdrže od intervencije protiv buma.

Međutim, pravila ne moraju da budu dovoljna: diskrecija ima ulogu jer može pomoći da se intervencija prilagodi raznovrsnim i često nepredvidivim okolnostima. Zato treba da prihvatimo da je neki stepen diskrecije neizbežan.

Mada se ovim otvorenim pitanjima mora još uvek baviti, želeo bih da naglasim da je ostvaren značajan napredak na međunarodnoj koordinaciji sistemske regulative. Zaista izlazimo iz globalne finansijske krize sa sasvim novom strukturom. Ova kriza dala je nove dokaze da se finansijska stabilnost ne može osigurati time što će svaki sused održavati svoju kuću urednom. To je neophodno, ali nije dovoljno. Izloženost susedovim gubicima može srušiti sopstvenu kuću.

Bord za finansijsku stabilnost preuzeo je glavnu ulogu u koordinisanju rada nacionalnih vlasti i donosioca standarda da se obezbedi

međunarodna konzistentost. Novi mehanizmi su razvijeni da bi podržali razvoj vežbi ranog upozorenja MMF-FSB, da bi se povećala saradnja preko granica i između supervizora, kao i da bi se sprovedila praksa ekspertskih pregleda. Obuhvatajući tematske pristupe i pristupe zemlja po zemlja, takva praksa predstavlja novi instrument koji će jačati pridržavanje međunarodnih standarda.

Ključni input u koordinisani rad Borda za finansijsku stabilnost proizilazi iz proširenog Bazelskog procesa, koji koordinira postavljanje standarda na međunarodnom nivou. Kakve god bile razlike na nacionalnom nivou u pogledu veličine i obuhvata finansijskih firmi, međunarodni sporazumi o minimumu kapitala i likvidnosti se doteruju. Počele su vežbe ekspertskih pregleda da bi se obezbedilo pridržavanje ovih standarda u svakoj jurisdikciji.

Novi institucionalni aranžmani se istražuju da bi se jačala saradnja između supervizora na nacionalnom i međunarodnom nivou. Dozvolite mi da napomenem nekoliko primera. U slučaju najvećih firmi koje posluju prekogranično, kolegijumi supervizora dopunjuju Bazelski konkordat koji određuje respektivne uloge matičnih supervizora i supervizora domaćina. Drugi primer, drugačije prirode, predstavlja Evropski bord za sistemski rizik koji će pomoći koordinaciju mikro i makro pristupa i jačati međunarodnu saradnju. Ovo telo bi preuzelo makroprudencijalnu superviziju na evropskom nivou, izdavanjem upozorenja o rizicima i dajući preporuke o merama politike.

Na kraju, G20 ima sve veću ulogu na jačanju neophodne koordinacije makroekonomskih politika i obezbeđenju političke podrške finansijskoj regulatornoj reformi. Proces uzajamnog ocenjivanja jača obaveze nacionalnih lidera na zajedničku i koordiniranu akciju. Isto onako kako je finansijskoj stabilnosti potrebna pomoć monetarne i fiskalne politike na nacionalnom nivou, međunarodna finansijska stabilnost se ne može postići pri nekonzistentnim politikama na globalnom nivou. Vrlo je važno da lideri ostanu angažovani i obavezani na ovom naporu.

Nema sumnje da će ova međunarodna struktura nastaviti da se razvija. Izazov je da se održi bliska saradnja koju karakteriše Bazelski

national authorities and standard setters to ensure international consistency. New mechanisms have been developed to support the development of the IMF-FSB early warning exercises, to increase cooperation across borders and between supervisors, and to conduct peer review exercises. Comprising both thematic and country by country approaches, such exercises are a new instrument that will strengthen adherence to international standards.

Key input into the coordinating work of the Financial Stability Board comes from the expanded Basel Process, which internationally coordinates standard-setting. Whatever the differences at the national level regarding the scale and scope of financial firms, international agreements on minimum capital and liquidity are being refined. Peer review exercises have been launched to ensure adherence to these standards in each jurisdiction.

New institutional arrangements are being explored to enhance cooperation among supervisors both at the national level and across borders. Let me just mention a few examples. In the case of the biggest firms operating across borders, colleges of supervisors are supplementing the Basel Concordat that sets out the respective roles of home and host supervisors. Another example, of a different nature, is the proposed European Systemic Risk Board, which will help to coordinate micro and macro approaches and enhance international cooperation. This body would take charge of macroprudential supervision at the European level, issuing risk warnings and making recommendations on policy measures.

Lastly, the G20 is playing an increasing role to enhance the necessary coordination of macroeconomic policies and to ensure political support for financial regulatory reform. The mutual assessment process reinforces the commitment of national leaders to joint and coordinated action. Just as financial stability needs help from monetary and fiscal policy at the national level, international financial stability cannot be achieved in the face of inconsistent policies at the global level. It is very important that leaders remain engaged in and committed to this effort.

No doubt this international structure will continue to evolve. The challenge is to maintain



proces čak i kada proširuje napor u pogledu učesnika i pitanja. Približavajući se kraju svoje 80. godine, Banka za međunarodnja plaćanja se obavezuje da nastavi svoju podršku ovom projektu saradnje da bi se obuzdao sistemski rizik.

## Završne napomene

Pitanje sistemskog rizika je verovatno najvažnije i najteže sa kojim se suočavamo. Progres će zahtevati kombinaciju bolje regulative, veću makro orijentaciju prudencijalnih alata, bolje makroekonomske politike, pojačanu međunarodnu koordinaciju i jaču tržišnu disciplinu. Mnogo rada je uloženo i mnogo progressa je ostvareno. U nekim

oblastima, kao što su kapital i likvidnost, konvergencija mišljenja je već znatna. U drugim, kao što je bavljene sistemski značajnim institucijama, rad je uveliko u toku.

Mnoge ideje i predlozi su na stolu i na nama je da obezbedimo da tokom ovog rada ne dođe do toga da od drveća ne vidimo šumu. BIS će u potpunosti podržati Bazelski komitet i Bord za finansijsku stabilnost u njihovim obuhvatnim ocenama uticaja različitih predloga za jačanje finansijskog sistema pre nego što budu primenjeni. Ova ocena će razjasniti novi regulatorni okvir i obezbediti da tranzicija na novi i zahtevniji okvir bude ostvarena sa minimalnim mešanjem u tekući proces oporavka.

## Literatura / References

1. Guidance to assess the systemic importance of financial institutions, markets and instruments: initial considerations, October 2009.
2. C Borio and M Drehmann, "Towards an operational framework for financial stability: 'fuzzy' measurement and its consequences", BIS Working Papers, no 284, June 2009, pp 5–8.
3. R Alfaro and M Drehmann, "Macro stress tests and crises: what can we learn?", BIS Quarterly Review, December 2009, pp 29–41.
4. J Caruana, "The international policy response to financial crises: making the macroprudential approach operational", panel remarks, Jackson Hole, 21–22 August 2009; Bank for International Settlements, 79th Annual Report, Chapter VII, June 2009.
5. N Tarashev, C Borio and K Tsatsaronis, "The systemic importance of financial institutions", BIS Quarterly Review, September 2009, pp 75–87.
6. Basel Committee on Banking Supervision, Report and recommendations of the Cross-border Bank Resolution Group, September 2009.
7. Basel Committee on Banking Supervision, The insolvency liquidation of a multinational bank, December 1992.
8. P Tucker, "Shadow banking, financing markets and financial stability", speech to BGC Partners Seminar, 21 January 2010.
9. J Caruana, op cit; Bank for International Settlements, op cit.
10. Bank for International Settlements, "Addressing financial system procyclicality: a possible framework", Note for the FSF Working Group on Market and Institutional Resilience, April 2009.

the intimate cooperation that has characterised the Basel Process even as it widens the effort in terms of both participants and issues. As it approaches the end of its 80th year, the Bank for International Settlements pledges to continue its support for this cooperative project to tame systemic risk.

## Final remarks

The issue of systemic risk is probably the most important and most difficult that we confront. Progress will require a combination of better regulation, a more macro orientation of prudential tools, better macroeconomic policies, enhanced international coordination and greater market discipline. A lot of work has been done and much progress made.

In some areas, such as capital and liquidity, the convergence of minds has been already substantial. In others, such as the handling of systemically important institutions, work is well under way.

Many ideas and proposals are on the table, and we need to make sure that this work does not lose sight of the forest for the trees. The BIS will fully support the Basel Committee and the Financial Stability Board in their comprehensive assessment of the impact of the various proposals to strengthen the financial system before they are implemented. This assessment will clarify the new regulatory framework and will ensure that the transition to this new and more demanding framework is achieved with minimal interference to the ongoing recovery process.

11. Basel Committee on Banking Supervision, "Strengthening the resilience of the banking sector – consultative document", December 2009.
12. Bank of England, "The role of macroprudential policy: a discussion paper", November 2009.
13. C Borio and H Zhu, "Capital regulation, risk-taking and monetary policy: a missing link in the transmission mechanism?", BIS Working Papers, no 268, 2008; L Gambacorta, "Monetary policy and the risk-taking channel", BIS Quarterly Review, December 2009, pp 43–53.
14. G Jiménez, S Ongena, J Peydrò and J Saurina, "Hazardous times for monetary policy: what do twenty-three million bank loans say about the effects of monetary policy on credit risk-taking?", Bank of Spain, Working Papers, no 833, 2009.
15. J Caruana, "Monetary policy, financial stability and asset prices", Documentos Ocasionales, no 0507, Bank of Spain, 2005.
16. C Borio and P Lowe, "Asset prices, financial and monetary stability: exploring the nexus", BIS Working Papers, no 114, 2002.
17. A Cagliarini, C Kent and G Stevens, "Fifty years of monetary policy: what have we learned?", paper presented to the Reserve Bank of Australia Symposium, 9 February 2010.
18. The Wealth of Nations, Book V, Chapter III, "Of public debts", New York: Modern Library, 1937.
19. J Caruana, "Financial stability: 10 questions and about seven answers", speech to the Reserve Bank of Australia Symposium, 9 February 2010.