The world's finance ministers met last year to draw plans against global financial crisis. We asked some econophysicists: how well did they do?

# A Global Strategy

Last December, finance ministers from twenty countries met in Berlin to work out how to prevent a particular type of world crisis: financial market meltdown. The financial crisis that began in Thailand and swept across South-East Asia in 1997, and those that lead to currency devaluations in Russia the following year, and last year in Brazil, were the sort of crises that worried the finance ministers (and not the kind threatened by a year 2000 computer bug).

This inaugural meeting brought together the world's richest countries and developing countries with the aim of defining a common strategy for avoiding financial emergencies. These emergencies can spread from one country to another, as happened in South-East Asia. Preventing this might need a consensus on policy.

Top finance officials from the G7 industrial nations (Canada, France, Germany, Italy, Japan, the United Kingdom and the United States) were joined by ministers from Argentina, Australia, Brazil, China, India, Indonesia, Korea, Mexico, Russia, Saudi Arabia, South Africa and Turkey, and also the European Central Bank President, the outgoing director of the International Monetary Fund, and the head of the World Bank. The brainchild of US Treasury Secretary Lawrence Summers, the group calls themselves the Group of 20 (G20). The meeting was chaired by Canada's finance minister Paul Martin.

After meeting, the officials drew up a one-page action plan. We sent the action plan to members of the scientific committee for this year's Applications of Physics in Financial Analysis conference (to be held in Belgium in June), and to some of the speakers, too, asking for comments. Most of these "econophysicists" are sure the action plan is far too light on details. We reproduce other comments here.

*They noted the importance of strengthening national balance sheets to help cushion against unexpected shocks. Econophysicists and economists are trying to understand the nature and causes of large fluctuations which come from intrinsic "noise" (rather than real economic reasons). Once these causes are understood remedies like the Tobin tax against speculation could be considered which would reduce the danger of crashes. I am old enough to remember the repeated dollar crises in the 1960s when American tourists in Paris could not exchange their dollars since a dollar devaluation was feared for the weekend. These crises where replaced by smooth (and thus more easily acceptable) variations of the dollar (after the Bretton Woods system of fixed exchange rates was abolished). Some smoothening like this should now be found again.*

**Dietrich Stauffer**

*They recognised that sound national economic and financial policies are central to building an international financial system that is less prone to crises. Well, I am glad they did. They recognised that unsustainable exchange rate regimes are a critical source of vulnerability, and that a consistent exchange rate and monetary policy is essential.*

*What we know is that new techniques (from physics) allow us to quickly monitor the evolution of financial data, and we don't have to wait months or years before changing policy. Even though our methods (detrended fluctuation analysis, or others like Zipf-variability, or even multifractals) are full of error bars, and have to be used with caution, these methods are nevertheless useful and have been shown to be quite good.*

**Marcel Ausloos**

*In the G20 report, globalisation is put forward as being the major vehicle for securing wealth and happiness. From the point of view of physicists working on complex systems, this forgets an essential point: that increasing interactions between sub-systems often lead to "critical points", ie major disruptions. The problems that the G20 are trying to cure may disappear, and the situation may transform into a more or less stable system on the intermediate time scale. But this would be punctuated by crises of an amplitude never before seen, due to the strong interconnection of all the economies—the modern interdependencies of the world's economies leads to a more vulnerable system.*

**Didier Sornette**

**The statement issued by the Group of 20 finance ministers and central bank governors:**

Finance ministers and central bank governors of the G20 held their inaugural meeting 15 to 16 December 1999 in Berlin, Germany.

**1** Ministers and governors welcomed the improvement in global economic conditions. They reaffirmed the importance of continued progress by the World Trade Organisation toward multilateral liberalisation of trade in goods and services that would bring broad-based benefits to the global economy.

**2** Ministers and governors discussed the role and objectives of the G20, and ways to address the main vulnerabilities currently facing their respective economies and the global financial system. They recognised that sound national economic and financial policies are central to building an international financial system that is less prone to crises. They noted the importance of strengthening national balance sheets to help cushion against unexpected shocks. They encouraged steps to strengthen sovereign debt management and greater attention to the impact of various government policies on the borrowing decisions of private firms. They recognised that unsustainable exchange rate regimes are a critical source of vulnerability, and that a consistent exchange rate and monetary policy is essential. They discussed a range of possible domestic policy responses to the challenges of globalisation, and exchanged views on the role of the international community in helping to reduce vulnerability to crises.

**3** They welcomed the important work that has been done by the Bretton Woods institutions and other bodies toward the establishment of international codes and standards in key areas, including transparency, data dissemination, and financial sector policy. They agreed that the more widespread implementation of such codes and standards would contribute to more prosperous domestic economics and a more stable international financial system. To demonstrate leadership in this area, ministers and governors agreed to undertake the completion of reports on observance of standards and codes ("Transparency Reports") and financial sector assessments, within the context of continuing efforts by the International Monetary Fund and the World Bank to improve these mechanisms. This commitment will help mobilise support for measures to strengthen domestic capacity, policies and institutions.

**4** Members of the G20 asked their deputies to consider existing work in other fora (including the Financial Stability Forum) and to examine further ways to reduce vulnerabilities to crises. Deputies will report on their progress at the time of the next meeting, to be held in Canada in autumn 2000. □





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