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**Karim M. Abadir**

Imperial College London

The Rimini Centre for Economic Analysis (RCEA)

# IS THE ECONOMIC CRISIS OVER (AND OUT)?

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The Rimini Centre for Economic Analysis

Legal address: Via Angherà, 22 – Head office: Via Patara, 3 - 47900 Rimini (RN) – Italy

[www.rcfea.org](http://www.rcfea.org) - [secretary@rcfea.org](mailto:secretary@rcfea.org)

# Is the economic crisis over (and out)?

Karim M. Abadir

Imperial College London

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## 1 Introduction and plan

A global recession has happened and we need to ask ourselves some fundamental questions:

1. Was it predictable? Many observers and economists (including econometricians) were taken by surprise by the advent and strength of the recession.
2. What were its causes, and how did they manifest themselves? Keep in mind that causes and symptoms can differ. For example, many believe the recession was *caused* by the financial crisis, but this is only partly true as we shall see.
3. Is the recovery robust? What should we expect next? Can policymakers learn any lessons to soften the next recession (there will certainly be another one) and to come out of this one without hiccups?

This note presents some answers to these questions in an accessible way. Reference is given to the technical work underlying this note.

## 2 Patterns and predictions

The crisis was predicted by a few, including myself on two public occasions. The first of these was my inaugural lecture at Imperial College on 21 June 2007, the second being a Bank of England (BoE) seminar on 15 August 2007, before the subprime crisis hit the US. Back then I said that a recession will happen if the US does not reduce interest rates, and it will be transmitted to the rest of the world.

Lest the reader thinks I am a prophet of doom, the recovery was also predictable and I did so in a Distinguished Visiting Professor's general talk at the American University in Cairo on 22 April 2009. I said then that the US will recover first, within a year, but that Europe will take longer and will be worse off in the meantime. The lecture is available on their website and mine.

These are not crystal-ball predictions! In Abadir and Talmain (2002), the solution of a micro-founded general equilibrium model of the economy presented us with a new type of dynamics not seen hitherto in the academic literature. The paper demonstrated the need for new and unconventional econometric techniques that were later introduced in Abadir, Caggiano, and Talmain (2005) for single variables, then Abadir and Talmain (2008) for multiple variables. This line of work is summarized in Abadir and Talmain (2010).

Policymakers must be able to read what the data say, if they are to act in a timely *and* proportionate way. If there is a practical message to be retained from Abadir et al. (2005) in particular, it is the following. Our model predicts that changes in economic policy take time to work through the system, but not in a gradual way as was previously thought. Instead, there is a long sequence of small signs of a slowdown, then a seemingly abrupt decline. Existing models cannot cope with these patterns. When only the small signs have appeared, no-one using existing models would be able to guess the substantial turning point that is about to occur. This is because these models misinterpret the inertia and project it into the future, hence missing the ‘sudden’ turns.

What are the implications of the model for policymakers? If a policy intervention is needed to counter the signs of a slowdown, the stimulus that is applied to the economy:

1. should be timed to start *well* before the abrupt decline;
2. will take a long time to have an impact (and will eventually wear off);
3. should be sufficiently aggressive to achieve the objective, but take into account the increments that will keep occurring afterwards; and
4. revert to a neutral stance well before the objective is achieved, letting the economy ease onto its intended path.

Consequently, a gradualist macroeconomic policy will not yield the desired results: it will be a case of too little and too late.

### 3 Causes and symptoms

So where did the crisis come from, on the ground, and how would it show up in the calculations? This can be summarized in three subsections, two about the sectors where the crisis hit, and one about the interaction between them.

#### 3.1 The real economy

The initial trigger was a macro slowdown that occurred as early as 2006, possibly due to the increasingly high oil prices and other factors. The sequence was:

1. **Profit warnings and restructuring announcements.** There was a series of unusually large number of such announcements, coming from a wide cross-section of US-listed corporations that are a bellwether for the economy. As a result of these, *future* layoffs were already announced and their effect was inevitable. Before we go on to analyze these effects, we remind the readers that our model is a micro-founded one where economy-wide shocks are the most potent source of disturbance that gets amplified; see Abadir and Talmain (2002, pp. 763, 770).
2. **Income reduction.** Apart from profits coming in lower than expected, on a national level, the announced layoffs would affect the labour force, especially at the lower-income end where the propensity to consume is highest.
3. **Housing crisis.** With the dip in income came a dip in demand for housing and inability to pay back mortgages (including defaults). The

reduction in house prices started a bursting of the financial bubble.

4. **Consumer spending dip.** This followed as a result of the previous two items. There was a double whammy of income and wealth effects on consumption.
5. **Cut in investments.** With reduced demand came further cuts in investments. Apart from it being the logical conclusion of the first round of the vicious circle, it was evidenced in the markets by further rounds of restructuring announcements being made by the same corporations, such as the telecom giant Nortel that eventually went bust. The short-term announcements carried the news of more layoffs, but also important was the longer-term effect of a reduction in investment: a shrinking productive capacity.

And the vicious circle went on.

### 3.2 The banking sector

The incentive systems in the financial sector were (and still are) based on returns only, and not on any measure of risk. Bonuses are paid within a year, whereas the riskiness of the deal (e.g. loan) is revealed over time, but it is too late to adjust the bonus. (The trader/manager may have even moved on elsewhere.) The result is a moral-hazard problem, encouraging risk-taking.

In the frail economy described in the past subsection, defaults increase in a snowball effect. The banks take a large hit (they need better *dynamic* measures of risk) and their reaction feeds back into the real economy as we shall see.

### **3.3 Feedback from the banking sector to the rest**

Then there is a knee-jerk reaction: banks wake up to ‘risks’ and cut lending. The banks holding back lending is effectively a contraction of the money supply, via the money-supply multiplier. This is equivalent to a more restrictive monetary policy, even if interest rates were kept constant by Central Banks (CBs). It needed to be neutralized by governments and CBs, with additional liquidity and loan guarantee schemes for banks (unusual) and depositors (mostly in existence already).

But what if the initial macro trigger was not there? The financial system would have continued to ‘work’ (a better description would be ‘limp along’). The financial markets would display excess volatility and overreaction to events. The real economy would have to cope with higher uncertainty: investment spending would be more volatile and/or less forthcoming, with negative effects on the productive capacity of the economy.

## **4 Lessons learnt? What next?**

As predicted, the recession is out in the US, while Europe struggles. Given the analysis listed earlier, can we say that the crisis is resolved? A recession will happen again (by the definition of high and low), but *this* type of crisis is different. Unfortunately, we have had only a fix, not the structural adjustment that is needed to prevent the same type of crisis from happening again.

## 4.1 Problems with current policy, 1: macro reaction

The resuscitation of a patient is harder than having stopped the bleeding in the first place! Prompt intervention can prevent problems from developing. The US apart, CBs were way too late and timid in their reaction. The US Fed reacted admirably once it had identified the problem, albeit with a delay of about a year. The lesson should be learnt for the next slowdown, and the correct macroeconomic model (hence predictor) should be used.

## 4.2 Problems with current policy, 2: banking regulation

There are two main points to address. The issue of moral hazard is still with us: the capping of boards' compensation is not the relevant answer, nor are share-option schemes<sup>1</sup> for employees. Incorrect risk *measurement* (hence incorrect risk management and monitoring) still prevails.

One simple solution for the moral hazard is deferred cash compensation (which exists already, but rarely): the bonus from a deal goes into a deposit that can be withdrawn after  $n$  years, but not before, and only if the deal is revealed not to be a write-off. The problem in its implementation is that financial institutions compete for talent, and this is why international regulation is required on this.

One solution for the risk measurement issue can be implemented relatively easily. The development of the relevant theory has progressed a lot:

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<sup>1</sup>These are subject to prisoners' dilemma: if your colleagues in the bank are taking risks, you'd better do the same and get a bonus regardless of whether or not the company survives.



from variance to value-at-risk (one-tail risk), extreme-value theory (already well developed in statistics and implemented in a variety of real-life engineering problems); from i.i.d. models to ones with to heterogeneous firms that interact, and ones with dynamics (including predictive macroeconomic indicators). These developments are continuing. Regulators and firms should be at the forefront of these techniques and use them in their monitoring. It is impossible for regulators to muster the resources to match even a fraction of one of their watched banks. A large burden of supervision therefore falls internally on the firm. Shareholders should be informed of the latest benchmark measures and how their company is performing on these. Boards of directors should be made liable for large losses incurred by mismanagement of their firm.

### **4.3 Problems with current policy, 3: prospects of slipping back or inflation?**

Because of the shrinking productive capacity (see earlier) coupled with generous government spending and expansive monetary policy, there will be a risk of demand-pull inflation this time (unlike the cost-push of the 70's). Government deficits must be reduced, but not through tax increases across the board (beware of Ricardian equivalence). Fiscal constraints may require the reallocation of the tax burden. Already, Europe has started cutting budget deficits, but prematurely because the recovery has not taken hold and the early signs of overheating have not happened yet; cf. the first item of the sequence in Subsection 3.1. Europe and the US are on increasingly diverging paths with regard to fiscal restraint and recovery/inflation. Export-led

economies in Europe will do well, but the others will slow down again due to the fiscal cuts.

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