

Stressing the World

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Only the future will tell us whether the stress test exercise that the banking sector has undertaken will prove to be relevant. Some commentators have called into question the validity of the hypotheses and the way banks and authorities are said to have negotiated the results, even to the point of predicting the apocalypse. Taking a look at the hypotheses, the results of the tests, and at the way expectations make the world go around, maybe, at the end of the day, the European strategy – not revealing the results of the stress tests – might be a good one.

The US Exercise

What if...

The recent past has demonstrated that many banks do not have sufficient financial backing to survive exceptional market conditions. But how do we know how strong the next shock will be? And supposing it happens tomorrow, then how will banks survive it?

Targets

In order to ensure that banks have adequate capital to face adverse conditions without running into insolvency and bankruptcy – and risk triggering another systemic crisis – the Federal Reserve ran a stress test analysis, based on the Supervisory Capital Assessment Program (SCAP).

The aim of the exercise was to measure risk, and to get banks to fund their potential capital needs, in a period when their nationalization was clearly a subject of controversy.

The SCAP is built to estimate Profit and Loss statements and reserve needs under adverse scenarios for eligible US bank holding companies (BHCs) with assets exceeding \$100 billion dollars. These stress tests allow us to ascertain whether the banks under scrutiny are able to fulfill their vital role in the economy.

Treasury plan

Banks have six months from May 7, 2009 to raise private capital or to benefit from the Capital Assistance Program (CAP) of the US Treasury.

The capital granted through the CAP will be preferential securities convertible into ordinary shares with a 10% discount off of the February 9, 2009 reference price. These preferential securities will pay a yearly coupon of 9% and will be convertible at the initiative of the issuer, with the consent of the regulating authority.

After a period of seven years, these securities will be automatically converted into ordinary shares, if they have not already been reimbursed or converted. No upper limit was defined concerning the amount that the Treasury might grant.

Within the framework of the Capital Purchase Program (CPP) and with the agreement of the regulating authority, banks will be allowed to ask for capital in preferential securities, in addition to previously received capital. A bank could exchange securities from its CPP into new CAP securities. CAP beneficiary banks will be subjugated to restrictions in terms of executive remuneration, dividends and acquisitions. They will also have to specify the foreseeable usage of their granted capital and of their credit activity volume.

Hypotheses

The potential losses were calculated based on a bank's assets, including those related to mortgages and contingent liabilities, over a two-year period, starting from 2009. Two economic stress scenarios were applied to the banks: a baseline scenario and a more pessimistic one (c.f. table 1).

Economic Scenarios

- The baseline scenario is based on the following hypothesis: a 2% contraction of the US economy in 2009, followed by growth of 2.1% in 2010. The considered unemployment rate would be 8.4% in 2009 and at 8.8% next year, and a drop in real estate prices by 14% in 2009 and a further 4% in 2010.
- The more adverse scenario anticipates an economic contraction of 3.3% in 2009, with only 0.5% growth in 2010, an unemployment rate of 8.9% this year and 10.3% in 2010, and a drop in real estate of 22% in 2009 and 7% the following year.

Table 1
Economic Scenarios : Baseline and More Adverse Alternatives
(Minus signs indicate negative values)

	2009	2010
<u>Real GDP</u>¹		
Average Baseline ²	-2.0	-2.1
Consensus Forecasts	-2.1	2.0
Blue Chip	-1.9	2.1
Survey of Professional Forecasters	-2.0	2.2
Alternative More Adverse	-3.3	0.5
<u>Civilian unemployment rate</u>³		
Average Baseline ²	8.4	8.8
Consensus Forecasts	8.4	9.0
Blue Chip	8.3	8.7
Survey of Professional Forecasters	8.4	8.8
Alternative More Adverse	8.9	10.3
<u>House prices</u>⁴		
Baseline	-14	-4
Alternative More Adverse	-22	-7

¹ Percent change in annual average

² Baseline forecasts for real GDP and the unemployment rate equal the average of projections released by Consensus Forecasts, Blue Chip, and Survey of Professional Forecasters in February.

³ Annual average

⁴ Case-Shiller 10-City Composite, percent change, fourth quarter of the previous year to fourth quarter of the year indicated

Source: *The Supervisory Capital Assessment Program : Overview of Results - Board of Governors of the Federal Reserve System, April 24, 2009*

For both scenarios, a certain default rate is applied depending on loan categories, with higher estimates projected in the more adverse scenario (c.f. table 2).

Table 2
Indicative Loss Rates Provided to BHCs for SCAP
(cumulative two-year, in percent)

	Baseline	More Adverse
<u>First Lien Mortgages</u>	5 – 6	7 – 8.5
Prime	1.5 – 2.5	3 – 4
Alt – A	7.5 – 9.5	9.5 – 13
Subprime	15 – 20	21 – 28
<u>Second/Junior Lien Mortgages</u>	9 – 12	12 – 16
Closed-end Junior Liens	18 – 20	22 – 25
HELOCs	6 – 8	8 – 11
<u>C&I Loans</u>	3 – 4	5 – 8
<u>CRE</u>	5 – 7.5	9 – 12
Construction	8 – 12	15 – 18
Multifamily	3.5 – 6.5	10 – 11
Nonfarm, Non – residential	4 – 5	7 – 9
<u>Credit Cards</u>	12 – 17	18 – 20
<u>Other Consumer</u>	4 – 6	8 – 12
<u>Other Loans</u>	2 – 4	4 – 10

Source: The Supervisory Capital Assessment Program : Overview of Results - Board of Governors of the Federal Reserve System, May 7, 2009

Results

Focus on the worst-case scenario

The SCAP stress tests propose an estimated \$600 billion loss for the 2009-2010 period under the more adverse scenario. The lion's share of the loss was generated by accrual loan portfolios, for which the estimated loss is 9.1% of the assets of 19 banks over the two-year period. Trading and investment losses in the SCAP were estimated up to \$135 billion. Added to those already recognized as of mid-2007, we would then arrive at nearly \$950 billion in total losses for the 19 banks by the end of 2010.

Once the overall stress test calculation is applied, considering losses, revenues and reserve requirements, the 19 BHC will need to add \$185 billion to capital buffers, in order to be compliant with the SCAP target capital buffer requirements at the end of 2010.

This capital buffer estimate was calculated as of the end of 2008. However, since then a number of the 19 banks have already restructured their capital or assets that, quite often, have increased their Tier1 Capital.

In addition, the preprovision net revenues of many of the firms exceeded what was assumed in the more adverse scenario by billions, allowing them to build their capital bases. **The effects of this rendered the additional capital necessary to establish the SCAP buffer equal to some \$75 billion over a two-year period, as shown in the table below.**

Table 3
Estimated SCAP Buffer
(Billions of Dollars)

	Indicated SCAP buffer as of December 31, 2008	Less : Capital Actions and effects of Q1 2009 Results	SCAP buffer
AmEx	0	0.2	0
BofA	46.5	12.7	33.9
BB&T	0	0.1	0
BNYM	0	-0.2	0
CapOne	0	-0.3	0
Citi	92.6	87.1	5.5
Fifth Third	2.6	1.5	1.1
GMAC	6.7	-4.8	11.5
Goldman	0	7	0
JPMC	0	2.5	0
KeyCorp	2.5	0.6	1.8
MetLife	0	0.6	0
Morgan Stanley	8.3	6.5	1.8
PNC	2.3	1.7	0.6
Regions	2.9	0.4	2.5
State ST	0	0.2	0
Sun Trust	3.4	1.3	2.2
USB	0	0.3	0
Wells	17.3	3.6	13.7
TOTAL	185.1	110.4	74.6

Source: *The Supervisory Capital Assessment Program : Overview of Results - Board of Governors of the Federal Reserve System, April 24, 2009*

Major criticisms

Criticisms of the Hypotheses

For his part, Federal Reserve Chairman Ben Bernanke has defended the relevance of the tests. He pointed out the high level of loss rates on loans – which are even higher now than during the Great Depression. Despite Bernanke's support, and even if the man in charge of the "New New Deal," Larry Summers, the Director of the White House's National Economic Council, is a great figure in the world of economists, it is quite difficult to consider such hypotheses without any concern. The first major review sheds light on the hypothesis of economic growth – operating under the assumption of a growth rate of - 2% in 2009 seems quite strange when, for example, the OECD forecasts -4%. As an adverse scenario, -3.3% economic growth is a relatively benign hypothesis. The same arguments hold for the unemployment rate and for real estate price depreciation. In fact, the hypotheses underlying the stress test exercise have come under severe criticism: "All the ingredients they have so far are weak, and there are several missing ingredients," Joseph Stiglitz said in a recent interview. The people who designed the plans are "either in the pocket of the banks or they're incompetent." New York University Economics Professor Nouriel Roubini had similarly tough words about the process, as reported by Forbes Magazine: "Stress test results are not worth the paper they're written on." While both of these world-renowned economists are also well-known mavericks, their criticisms are fair points.

Criticisms of the "Bargain"

According to The Wall Street Journal, the Fed has significantly scaled back the size of additional capital needs, following hard negotiations with the banks. This has led to speculation of a secret bargain between banks and the government, and calls into question the relevance of the exercise, one of the foremost ambitions of which was precisely to dispel some of the uncertainty that hangs over American banks. The amounts renegotiated are indeed significant. For instance, the additional capital needed for Bank of America, initially around \$50 billion, is now around \$35 billion in the final result.

However, these types of adjusted figures are par for the course. Dialogue between regulators and the regulated is a normal step in any audit and prudential assessment process. Supervisors have to allow the supervised the chance to respond before establishing the final terms. Intimating that there was a "secret bargain" in play might be a fallacy, provided that the arguments deployed by the banks in the process are acceptable and transparent. Largely, the problem boils down information asymmetries in a classic principal-agent problem context. For instance, cost-cutting or revenue forecasts are likely to be more accurately and forensically evaluated and projected by each individual bank than by the outside regulator.

Criticisms of the Perimeter

We are facing a thornier problem of transparency, driven by not insignificant oversight on the part of the regulator to make a careful assessment - especially regarding the toxic financial products banks have in their books. Clearly, as Paul Krugman pointed out, the stress test exercise was not a rigorous audit.

Another major liability regarding the perimeter is the lack of a systemic risk component within the stress test set. Since the crisis broke, all the regulation research has turned to the macro-prudential dimension, as a driver of systemic risk. In this context, what about the "non-major" US banks and their position in the stress test exercise?

For example, as bankruptcies increase in number, how pertinent and realistic are scenarios from which the savings and loan associations and the regional banks are absent? In addition, the systemic component of the crisis is not limited to the domestic dimension. Also, local banks with significant risk exposure to commercial real estate market are, as counterparties to major banks, “another brick in the wall.”

Counterpoint: Joint Stress Testing From Back-Pocket Snapshots to 360° Views

“We could have left this problem as we found it and hoped that, over time, banks would earn their way out of the mistakes they had made. Instead, we chose a strategy to lift the fog of uncertainty over bank balance sheets and to help ensure that the major banks, individually and collectively, had the capital to continue lending even in a worse than expected recession.”

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Indeed, the criticisms referred to above challenge the real-world relevance of the results of the stress test exercise. But they still serve to plug another gap. At the moment, individual banks lack the credibility necessary to render a program of self-appraisal feasible. In this sense, the Assessment Program of the Federal Reserve is a step towards credibility. Indeed, the term “a step” is key; the notion of full credibility is not really feasible given the current state of affairs. As some commentators would say, these results provide a government-sanctioned and verified safe harbour for bank managers to give shareholders “what if” scenarios without being ridiculed or sued.

Questions of the credibility and indeed the validity of the stress test results aside, significance also lies in the fact that it is a step away from a purely micro-prudential regulatory regime based on auto-regulation and self-assessment, moving towards a new one. And that’s a key point.

Within that framework, it becomes difficult either to agree or disagree with the assumptions used in the Assessment Program. In the current climate, being an opinion-maker carries a big risk. Putting forth ideas that led us to underestimate the potential for a crisis, two or even one year ago, has tarnished the reputation of several opinion-makers. In this sense the turnaround is spectacular, with nearly everyone trying and failing to differentiate themselves by crying wolf, fire and/or predicting the end of capitalism and market economies, or even the Western World. Furthermore, politicking by the IMF or within the EU, or between the US and the EU...is exacerbating the economic risks, the impact of which is already difficult to gauge, making it even more difficult to determine what’s really going on.

This crisis might be a major fracture in the development of our economy. It is therefore all the more important to be proactive, to try to control the pace and direction of change the best we can. To do that, cooperation is key and economic agents must agree on a baseline representation of the world economy.

The assessment program is a joint effort, banks working with other banks and countries working with other countries. Thanks to that, private investors now have additional information that they can use to rerun the calculations and come to their own conclusions.

Optimal Ambiguity

Since the results of the tests were published, two banks, Morgan Stanley and Wells Fargo, have executed successful public offerings. If Obama's bet was to persuade private investors to reinvest in the banking sector, he has already scored a partial victory.

Furthermore, it seems clear that the new US administration understands how to play the game with the media and the public-at-large. Through the stress test exercise, highly technical topics have invaded newspaper front pages, blogs and radio and TV shows. Credit risk dynamics, derivatives, liquidity risk and other terms that are normally the preserve of bankers, economists and quants are becoming household terms.

Is there anything wrong with this? Not really. Policy makers have to manipulate the expectations and beliefs of economic agents. Keynes understood that to help re-ignite the economy, firms have to expect demand. If so they invest, recruit and fulfil their own expectations by creating their own demand; indeed, the initial impulse comes from the public spending, but we have to see it as a signal for changing people expectations. From the neoclassic point of view, Rational Expectation Equilibrium theory provides us with many examples of dynamic to multi-equilibrium economies, depending on agents' expectations and beliefs.

Further, several economists have suggested that Central Banks may use what they call constructive ambiguity. The optimal public policy has not proved to be the one with absolute transparency, nor the one that lacks it.

European Thoughts

The European department of the IMF stated recently that public authorities have to regularly stress the financial institutions, in order to get a better assessment of their capital needs and solvency, and to impose on them to recapitalize if so needed. According to Marek Belka, head of the department, this is key to restore financial confidence: "recognizing losses in a forward-looking way, further recapitalization and address difficult-to-value impaired assets." The G-20 meeting last fall asked the IMF for such an initiative. However, not all European countries seem comfortable with that.

The Committee of European Banking Supervisors (CEBS) announced in May that supervisory authorities were carrying out a stress test exercise on the aggregate banking system of the European Union. They enhanced the aggregate side issue, stating that the target is not to identify recapitalization needs for specific banks: this point remains the responsibility of national authorities. The CEBS have built the tests on common scenarios and guidelines, in order to help policy makers obtain information "in assessing the European financial system's potential resilience to shocks and to contribute to the convergence of best practices in the EU."

But the point is that the outcomes are confidential. In fact, the methodology itself will remain confidential, and each national supervisor will choose its own. To the lack of transparency we thus add the problem of comparability, even if the results were to be made public. Last but not least, the final report will be completed in September 2009 – i.e. quite late...

The European exercise is therefore radically different from the American one. But the goal may also be different. A vulnerability test for the whole sector seems to be the focus of the European authorities. Stress testing might then be a way to identify fragilities in order to prepare and act appropriately when the time comes.

A Few Words About Macro

The main point to conclude on is that the crisis last fall was a liquidity crisis, and not triggered by capital shortage. The worldwide recession could swing in favor of savings, leading to a capital shortage. This is not only due to the current increased focus on savings over consumption. In the medium term, as the economy generates less money, people might prefer to save what money they have rather than to invest it. But discussions about the economic outlook are so biased now: the fear of being wrong ... once again.

Nobody knows what the next curve will be in the economic trend line: collapse or rebound? **And the positive results of the stress tests exercise might rev up the risk-taking streak in US consumers.** Impulse (stress test) on the dynamics will help the whole mechanism to take off again. So we dream, once again. But it seems that we share these dreams with the Obama administration!

In Conclusion

There is little doubt that this macro-factor based risk assessment is a step forward in banking regulation. This holds true even if the stress test exercise wasn't about regulatory supervision but expectation manipulation of the variety policy makers often invent and use, in order to regulate – at a macro-level.

Disclosing and applying a common set of economic assumptions and assessment rules across individual companies to get a global figure facilitates global understanding and forecasting.

Stressing the world, to get the sought after-reaction: everybody has noted that the “fear factor” (the volatility index of S&P options) has dramatically dropped, to below the 30 threshold (it hit 89.5 last fall).