



## Testing the resilience of the financial system

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### Introduction

In this episode, we explore a key instrument of financial stability: stress tests. In September 2025, the Banque de France, the Prudential Supervision and Resolution Authority (ACPR) and the Financial Markets Authority (AMF) issued a joint press release announcing they were to conduct a systemic test – an exploratory exercise covering the entire financial system.

To tell us about this innovative exercise, Lucile Rives interviews Kheira Benhami, Director of Research, Financial Stability and Risk at the AMF, Jean Boissinot, Director of Research and Risk Analysis at the ACPR, and Édouard Vidon, Director of Financial Stability at the Banque de France (BDF). Enjoy the podcast!

### Part 1: “Standard” stress tests

#### Definition of a stress test

**Lucile Rives:** Hello to all three of you. Édouard Vidon, can you remind us what a stress test is?

**Edouard Vidon (BDF):** Hello Lucile. Experience of financial crises has taught us that, to assess financial actors’ risk profile, it is not enough to analyse them in a normal economic environment. We therefore conduct quantified analytical exercises to assess the resilience and capacity of financial institutions, or a group of institutions, to withstand severe shocks. These shocks can be very different in nature: an economic recession, for example, following an oil shock, or a market shock, such as a stock market crash or a debt crisis. Basically, we develop scenarios to simulate the materialisation of different risks on financial institutions’ balance sheets and assess their reaction to these shocks. The exercises allow us to anticipate financial institutions’ capital or liquidity needs in the event of these shocks and assess whether they have enough reserves to cope.

**Lucile Rives:** Paradoxically, the tests are designed to reduce stress, because the aim is to find out whether institutions can withstand hypothetical shocks. These are not forecasts, which I think is important to remember. The use of stress tests has increased

**since the 2008 crisis. Édouard, what role do they play today in the supervision of financial stability?**

**Edouard Vidon (BDF):** Yes, the use of stress tests has been expanded: they are used regularly to monitor and supervise the financial system. They are a complement to standard risk measurement tools, such as value at risk, which estimates the maximum risk of loss for a portfolio of financial assets under certain assumptions. The idea is to go beyond these standard tools and anticipate capital and liquidity needs.

The exercises can be quite complex to design and implement, but they help to foster a shared risk culture within institutions. More importantly, they encourage dialogue between supervisors and institutions, which can have a very concrete impact on how they are managed.

### Stress tests for banks

**Lucile Rives: To appreciate the scope of this dialogue, let's look at the stress tests carried out at each of your institutions. Jean Boissinot, can you give us an overview of the types of stress test carried out in the banking industry?**

**Jean Boissinot (ACPR):** These exercises are conducted regularly, particularly at the microprudential level, bank by bank: we ensure that all banks in our supervisory remit can cope with the same stress scenario. Depending on the results, we adjust the way we monitor them for the next two years. These microprudential stress tests are conducted at the European level under the aegis of the European Banking Authority (EBA), the agency responsible for coordinating all European supervisors. For French banks, the stress tests are conducted via the Single Supervisory Mechanism (SSM), which is the system we use to jointly supervise all major European banks. With microprudential stress tests, there are two main approaches:

- a bottom-up approach, where banks apply the scenario provided by supervisors and assess its impact using their own models;
- and a top-down approach, where the supervisor uses its own models to estimate the impact of the shock.

There is also a macroprudential approach where the stress test results are re-injected into a macroeconomic model to analyse how the shock spreads to the rest of the economy. Stress tests can also be static – where we stress the balance sheet at a particular moment in time – or dynamic – where we look at how the bank reacts. So the term stress test covers a range of different cases for banks.

**Lucile Rives: Can you give us an example of a scenario simulated on a bank as part of a microprudential test? What does it look like exactly?**

**Jean Boissinot (ACPR):** In the last exercise, the scenario consisted of a geopolitical shock. It combined a fall in economic activity, so a contraction of GDP, and a rise in inflation. This

resulted in a more restrictive path for interest rates to contain the inflationary pressures. For the banks undergoing the stress test, it led to a drop in asset prices, a rise in rates, and ultimately a drop in revenue. We provide banks with all the assumptions they need to assess how their revenue will evolve, the impact on their balance sheet valuation and the increase in risk, including sectoral risk. The idea is to calculate what we call capital depletion, in other words the loss of capital associated with the scenario, so we can check whether the banks have enough own funds to continue operating.

### Stress tests for investment funds

**Lucile Rives: Financial stability isn't just measured by looking at bank resilience. Stress tests are also carried out on non-bank financial intermediaries. Kheira Benhami, can you tell us what stress tests the AMF carries out and on which market participants?**

**Kheira Benhami (AMF):** The AMF is the competent regulator in the field of asset management, which is a component of non-bank financial intermediaries (NBFIs). The AMF licences management companies and monitors them throughout the lifespan of their products, making sure they comply with risk management rules. These rules include the obligation to carry out liquidity stress tests, both when they apply for their license and at regular intervals. The AMF can ask for these tests and the results at any time as part of its ongoing supervision. The obligation is set out in European directives: the UCITS directive, which concerns collective investments aimed mainly at retail investors, and the AIFM directive, which concerns funds that are generally riskier and aimed at professional investors.

Unlike in the banking or insurance industry, the stress tests are carried out by the fund managers and, strictly speaking, are not coordinated. However, to ensure some consistency, the European Securities and Markets Authority (ESMA) has published a set of guidelines. The AMF has also published a guide for asset managers. So the AMF and ESMA do not provide a stress scenario, but they do provide methodological guidance.

Since the entry into force of the money market funds regulation in 2018, regulators have adopted a more comprehensive approach to this fund category: ESMA proposes standard scenarios each year and the results are reported quarterly to the national authority then consolidated at the European level. This allows us to measure funds' resilience at both the domestic and European levels.

A third approach is to carry out ad hoc exercises targeted at sectors posing specific risks. This is what was done in 2016 with commercial real estate, with a stress test coordinated by the High Council for Financial stability (HCSF), the macroprudential authority responsible for financial stability in France. The exercise simulated a shock that was transmitted to asset managers, as well as to banks and insurers, who also took part.

**Lucile Rives: Do these tests have the same consequences as those in the banking industry, notably in terms of bank capitalisation?**

**Kheira Benhami (AMF):** In the case of funds, there is no notion of own funds. Funds invest the capital entrusted to them by investors who bear the full risk of a potential loss.

But that doesn't mean there are no rules governing risk: there's a whole range of tools in place to protect investors, including liquidity management tools. Stress tests evaluate whether these tools are working properly or whether they need to be adjusted. The exercises are essentially used to supervise funds on a day-to-day basis: they make sure robust risk management processes are in place, along with procedures to take corrective measures if thresholds or ratios are exceeded.

These analyses are combined with the experience acquired during real shocks to different market segments. For example, under the revised AIFM and OPCVM Directives, managers will be required to implement two liquidity management tools from a list of those available.

**Lucile Rives: You mentioned liquidity management tools for funds. What are they exactly? I'm thinking notably of gates.**

**Kheira Benhami (AMF):** Those are the most widely known tool. A gate is a way of pressing pause when things are getting out of control. When investors are all trying to get back a share of a fund's assets, you can temporarily cap redemptions – put in a gate – to stabilise things.

### Stress tests for insurers

**Lucile Rives: Jean, are stress tests carried out on insurers?**

**Jean Boissinot (ACPR):** Like banks, insurers make commitments towards their customers. The ACPR ensures they can honour those commitments, including under severe scenarios.

Regular tests are carried out and coordinated by EIOPA, the European agency tasked with supervising insurers and pension funds. The scenarios are defined at the European level and consist of market shocks – drop in asset prices, rise in interest rates – as well as risks specific to the insurance industry: the impact of longevity risk or inflation on the cost of claims and so the risk to insurers' liabilities. The ACPR looks at what happens both to the assets in insurers' portfolios and to their liabilities.

**Lucile Rives: Do these stress tests also have implications in terms of own funds?**

**Jean Boissinot (ACPR):** We make sure insurers have sufficient own funds, including under these types of scenarios. Capital requirements in the insurance industry are designed to ensure firms can withstand the worst shock you think could happen in 200 years. Stress tests, although generally less extreme, compare firms' resilience to the same shock.

## Part 2: A systemic stress test for a dynamic view of interlinkages between players

**Lucile Rives: We've seen that each type of player regularly undergoes different resilience tests. So why do we need a systemic exercise, Jean Boissinot?**

**Jean Boissinot (ACPR):** Kheira mentioned an exercise conducted in France and coordinated by the High Council for Financial Stability. It consists in analysing the impact of a common stress in each of the three sectors.

To go a bit further, we need a system-wide test to trace the connections between different players. We already have a number of tools, including the ISA model developed by the Eurosystem. This models the entire European financial system, its various interconnections, and is used to see how well the system can withstand different shocks.

But in the event of a shock, there's an active response from institutions. That's one of the really important elements we're trying to capture in the current exercise. The source of the stress is not just the initial shock. It's also in how players react, how these reactions affect other players and propagate to the rest of the system.

**Lucile Rives: We devoted an episode of Dialogue &co, with Agnès Bénassy-Quéré, to non-bank financial intermediaries. We talked about the direct and indirect links between banks and non-bank intermediaries. What main transmission mechanisms are you trying to analyse with this systemic exercise?**

**Kheira Benhami (AMF):** The exercise is designed to meet a shared challenge: ensuring financial stability. The aim is to improve our understanding and assessment of the nature and dynamics of contagion, and the potential fragilities caused by interconnections between players. It follows on from the joint work carried out since 2018 to understand these interconnections. In these initial projects, we looked at overlapping exposures between funds, banks and insurers. Who owns who. For example, funds are largely owned by insurers, who then incorporate them into their products. Funds invest in assets, notably bank securities or insurance securities. This first assessment was based on an analysis of assets and liabilities.

The current exercise will allow us to go further, by taking a dynamic look at contagion mechanisms, such as fire sales – emergency sell-offs of assets during shocks, which can cause market imbalances. It will also allow us to assess the effectiveness of liquidity management tools at the individual fund level, but taking account of interconnections. For example, if a manager triggers a liquidity management tool, what impact will this have on the insurer and end investor?

**Lucile Rives: Can you remind us what a fire sale is?**

**Kheira Benhami (AMF):** Let's take a simplified example of a fund experiencing difficulties with investors seeking to recover the money they have invested. If the fund is open-ended, it must honour these redemption requests. To do so, it may be forced to sell off assets in which it has invested, sometimes in a rush. These sales generally come at a time when markets are already under pressure, potentially exacerbating the decline in asset prices and creating a spiral that amplifies the initial shock.

**Jean Boissinot (ACPR):** We also look at REPOs and margin calls. When a player needs liquidity, for example to honour redemptions, it may also pledge securities as a guarantee to obtain financing from the bank. That's a REPO. One question we need to answer is to what extent banks will continue to lend against securities whose value has dropped.

We also look at margin calls, notably for derivatives transactions. When the value of a contract changes significantly, the counterparty might ask for additional guarantees. The exercise examines whether players can provide these additional guarantees.

In the exercises carried out in 2018 and 2024, these mechanisms were difficult to capture because we were essentially looking at asset holdings, who owns what, and not how players access liquidity.

**Kheira Benhami (AMF):** It's important to remember that this exercise is exploratory: it will have no impact on individual supervision. That point was made clear to participants, who are all volunteers. We've also adopted a co-construction approach with the financial industry because the aim is to understand the mechanisms at work.

### Part 3: Construction of the scenario and implementation of the systemic stress test

#### A co-constructed scenario

**Lucile Rives: On that subject, Édouard, how do you construct a severe and plausible shock scenario to test the resilience of the overall financial system?**

**Edouard Vidon (BDF):** In a "standard" stress test, the starting point is generally a baseline macroeconomic scenario, comparable to macroeconomic projections: here's how things could go in the absence of a shock. We then introduce a series of shocks that create deviations from this baseline scenario, until we end up with an alternative but plausible adverse scenario.

In the present case, we used a different approach: we took a very short-term market scenario rather than macroeconomic scenarios which can unfold over several years. We then observe what the worst 15 market days over the past 20 years could be like.

The exercise is based on a test conducted recently by our colleagues at the Bank of England. We also held extensive talks with the financial industry to calibrate the level of the shock, identify relevant questions and define the granularity of the information requested.

The scenario is based on a combination of market shocks, broken down in detail by asset class: equities, bonds, exchange rates. It allows us to examine the impact on leveraged positions and margin calls, and the liquidity pressures players could face due to deposit withdrawals and redemptions by asset management and insurance customers.

**Lucile Rives: When you say the worst 15 market days, are these specific historical episodes?**

**Edouard Vidon (BDF):** We're not trying to re-construct specific episodes from the past or anticipate a specific shock. But the scenario is not random. It is based on real, observed market data from the past 20 years, including periods of extreme volatility, notably during the pandemic. Sudden drops of 30% in stock market valuations are not unheard of. So the scenario was built statistically, using recent experiences, to represent a particularly violent but credible market shock.

**Lucile Rives: Does the scenario incorporate the reaction of the central bank?**

**Edouard Vidon (BDF):** We test the system's resilience before any exceptional intervention. Of course, central banks have tools permanently available to provide liquidity to banks, and participants know this. But it is important to avoid falsely assuming that there will systematically be some form of exceptional intervention. This type of intervention would signal that the system is already experiencing a systemic crisis. So, in the exercise, we assume that monetary policy functions as usual, with no extraordinary measures.

### Major participants with diverse profiles

**Lucile Rives: That's the overall picture. Can you tell us what the sample of participants looks like for this exercise?**

**Jean Boissinot (ACPR):** It's important to understand that it's not one group of actors that's stressed. In the scenario, the entire European, or indeed global system is stressed. Participants are asked to analyse the consequences of a scenario within this global framework.

But we look in detail at the interactions between some 20 participants, around 25 key players. For example, does a particular fund need liquidity? Does it request it from a particular bank? Was that bank expecting to lend to that manager?

We're essentially talking about the main French banks, which play a central role in financial markets, and major insurers and asset managers. Aside from size, we have also tried to include a broad range of participants to reflect the diversity of behaviours.

**Kheira Benhami (AMF):** We've taken exactly the same approach for asset management. We've made sure we've included the main market players and a diverse range of profiles. Not all funds react the same way to the same shock: investment strategies differ (respective weights of shares and bonds), as well as client types (retail or professional), or the strength of interlinkages with the rest of the financial system (some funds are sold via insurers, others are very active on the repo or derivatives markets) ... It's this diversity that makes the co-construction workshops essential, to capture the wealth of different responses.

### An exercise in two rounds

**Lucile Rives: How will the exercise take place?**

**Jean Boissinot (ACPR):** We've sent the scenario to all participants that helped to co-construct it and asked them to evaluate its impact, taking into account both the direct effects and the expected reactions of their counterparties, notably other participants. That's the first round.

We're currently receiving the responses from the first round and are already seeing a broad range of reactions. The challenge is to compare these responses to check whether they're consistent. If, for example, all players say they want to sell the same asset to generate liquidity, that means the scenario underestimates the probability of a fall in its price.

This cross-checking phase will be followed by a second round, where we adjust certain assumptions and go back to the participants to assess their reaction to an even more constrained environment: you said you were going to do more REPOs or that you were going to sell such and such an asset; given how the other participants responded, how will you adapt your reaction?

**Lucile Rives:** It's in the description of the two rounds that you really see the experimental nature of the exercise and the question of information sharing. Do the participants communicate with each other, and do players communicate in a real crisis?

**Kheira Benhami (AMF):** They're in an information asymmetry, as in a real crisis. They can communicate as they would in a real situation, notably within the same group (some asset managers are part of banking or insurance groups).

**Jean Boissinot (ACPR):** But there's no specific coordination between players belonging to different entities: asset managers don't go and see insurers to ask them how they will react. That's precisely what we're interested in: observing how each player anticipates the reactions of the others, then comparing these expectations with the reported reality, in the second round.

**Kheira Benhami (AMF):** In this exercise, we specifically chose not to incorporate the assumption of a buyout into our scenario, unlike in "standard" scenarios. The aim is to understand how asset managers model this flight of capital. That will be interesting to incorporate into the second round. That's the advantage of making it an exploratory exercise: we can run this kind of experiment. Supervisors as well as market participants can all learn something from the exercise.

**Jean Boissinot (ACPR):** Market players are very interested in the exercise because, in the event of a liquidity crisis, even though they have management mechanisms in place, their effectiveness depends on how other players react. They will be able to test the actual usefulness of these tools which are supposed to help them manage crises.

## Part 4: Expected results of the exercise

**Lucile Rives: The Bank of England carried out a similar exercise and published the results at the end of 2024. What have you learnt from this?**

**Edouard Vidon (BDF):** The UK experience showed that the participants themselves learnt numerous lessons from the exercise. It also gave us ideas on how to co-construct the scenario.

However, the financial contexts differ: the key markets and interconnections are not the same. Hence the benefit of carrying out a specific euro area exercise.

**Jean Boissinot (ACPR):** As in the United Kingdom, this is an exploratory exercise – it even says so in the title of their exercise – and it has no impact on individual supervision. The main aim is to improve our collective understanding and identify key indicators for assessing the level of stress in the system.

**Lucile Rives: To conclude, what do you expect from the results of this exercise, which are due in 2026?**

**Edouard Vidon (BDF):** For the Banque de France, the exercise is valuable for improving our modelling capabilities and to be able to repeat this type of exercise without having to involve the entire industry.

It's primarily a pilot exercise to inform discussions on how to strengthen the macroprudential framework, especially for non-bank players, within the framework of the European Savings and Investments Union. The European Commission and other European institutions are looking into this issue, and the lessons learnt from this exercise will add to their discussions.

**Kheira Benhami (AMF):** At the AMF, we're expecting the exercise to help a great deal in understanding contagion mechanisms, beyond received wisdom; for example, concerning the amplifying effects and the fire sales. It will also help us to compare theoretical analyses and the top-down models currently used with concrete reactions by market players.

**Jean Boissinot (ACPR):** One tangible benefit already seen is the more intensive and consistent use of data we already had. The exercise has allowed to compare and reconcile databases from the different sectors. In a crisis, we generally don't have time to get our microscopes out. The exercise allows us to play out a crisis in slow motion.

## Conclusion

Thank you all for listening. If you enjoyed this episode, don't hesitate to subscribe to the podcast and leave us comments and stars. See you soon on "Dialogue &co"!

## Find out more

- Press release of the launching of the 'system-wide' exploratory stress test exercise : [The Banque de France, the ACPR and the AMF launch a first system-wide stress test on interconnections within the financial system | Banque de France](#)
- Past works:
  - Haut Conseil de Stabilité Financière 2018 : [Les interconnexions entre le secteur de la gestion d'actifs français et le reste du système financier français](#)
  - Haut Conseil de Stabilité Financière 2020 : [Exposures through common portfolio and contagion via bilateral crossholdings among funds, banks and insurance companies](#)
  - Real estate stress / Haut Conseil de Stabilité Financière 2016 : [NOTE « IMMOBILIER COMMERCIAL » Diagnostic actualisé et résultats des stress tests dédiés](#)