

Economic Policies, Trade Integration and Sustainable Job Creation:  
A View from the Mediterranean Countries

**The regulation of non-bank finance:  
the challenges ahead**

Speech by Deputy Governor of the Bank of Italy

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With the completion of Basel 3, the post-crisis overhaul of banking regulation is essentially over; with a limited number of exceptions, the only issues remaining for the next few years will be the implementation of reforms and the evaluation of their effects, intended or otherwise, over time. Banks, however, do not comprise the entire financial sector. Arguably, non-bank financial intermediation has taken on an increasing role in the global financial system and poses new challenges to regulators. The attention of international co-ordinating bodies such as the FSB is therefore now mainly, and rightly, directed towards what used to be known by the vaguely derogatory name of ‘shadow banking’ but is now more neutrally termed ‘non-bank financial intermediation’. The aim of this speech will be to explore the emerging risks from non-banks, to describe the (not insignificant, but still inchoate) regulatory response so far, and to speculate about a possible agenda for the medium-term future.

Global non-bank finance concerns everybody, even countries where banks continue to play a dominant role in the internal financial system, like Tunisia – or Italy, for that matter. In a globally interconnected financial system, no country stands alone; none can remain isolated from market shocks and turbulence whose ultimate source may be in faraway parts of the globe. This is a key point for emerging market and developing economies. Witness the recent experience of the ‘taper tantrum’, when a number of emerging economies faced external financial conditions that had tightened abruptly and higher generalised risk premia in reaction to a policy decision taken by the US authorities. On that occasion the countries affected found that the negative repercussions on their economy stemming from the generalised repricing of assets could not be mitigated through policy actions (either by relying on floating exchange rates or through capital flow management measures). It has also become apparent that a low degree of financial deepening may actually increase the sensitivity of emerging asset markets to external shocks.

The issue with non-bank finance, it will be argued, is not the stability of individual intermediaries—*micro*-prudential risk. As the risk connected to managed assets is borne almost entirely by the ultimate investor, rather than by the manager itself, it is not, or not mainly, the possible default of the manager that should concern regulators. On the other hand, the actions of asset managers may affect the financial system and the

general economy through their systemic consequences on market developments. The key questions are then whether, to what extent and under what conditions non-bank intermediation can amplify market movements and determine instability. It is, therefore, essentially a *macro-prudential* question. Understanding and measuring such risks will require data, research and careful reflection; tackling them is likely to require new or reinforced supervisory tools and, quite possibly, a broader mandate for supervisory authorities.

### **Why do we need a macroprudential framework for the non-bank financial sector?**

We shall start by briefly reviewing certain macro-stability issues and the reasons why they may have become more significant than in the past. I shall focus on three main issues of concern: (i) pro-cyclicality, (ii) the size of non-bank financial institutions, and (iii) systemic liquidity risks ('runs') and leverage risks.

Let me tackle the pro-cyclicality issue first. The collective behaviour of asset managers, insurers and pension funds can lead to undue amplifications of market volatility.<sup>1</sup> Empirical analyses show that institutional investors' trading may cause substantial temporary price effects, both at the asset level and at the aggregate level.<sup>2</sup> During downturns, trades by institutional investors in financial distress may turn into fire sales, and a temporary price effect may be further magnified so as to put severe pressure on market liquidity.<sup>3</sup> This amplification effect can have wide-ranging negative repercussions on the banking sector, on households' savings, on firms' funding, and ultimately on the entire economy. A clear example was the outbreak of the financial crisis, when a complex network of connections through derivatives and shadow banking activities turned \$500 billion of losses on sub-prime mortgages into \$4 trillion of write-downs on assets at global level.<sup>4</sup>

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<sup>1</sup> See for example Chan L. and Lakonishok J. (1995), 'The behavior of stock prices around institutional trades', *Journal of Finance* 50: 1147-1174; Keim D. and Madhavan A. (1997), 'Transactions costs and investment style: an inter-exchange analysis of institutional equity trades', *Journal of Financial Economics* 46: 265-292; Jones C. and Lipson M. (1999), 'Execution costs of institutional equity orders', *Journal of Financial Intermediation* 8: 123-140.

<sup>2</sup> See Mitchell M., Pulvino T. and Stafford, E. (2004), 'Price Pressure around Mergers', *Journal of Finance* 59(1): 31-63; estimates vary considerably. For example Edelen et al. (2001) find a 0.86 per cent price reduction on a single day on average (Edelen, R.M. and Warner J.B. (2001) 'Aggregate price effects of institutional trading: a study of mutual fund flow and market returns', *Journal of Financial Economics* 59: 195:220). Coval et al. find a 2 per cent price reduction on a monthly basis (Coval, J. and Stafford, E. (2007), 'Asset fire sales (and purchases) in equity markets', *Journal of Financial Economics* 86: 479-512).

<sup>3</sup> Shleifer A. and Vishny, R. (2011), 'Fire sales in finance and macroeconomics', *Journal of Economic Perspectives* 25(1): 29-48.

<sup>4</sup> IMF (2009), 'Crisis and Recovery', *World Economic Outlook*, April; Mishkin, F.S. (2011), 'Over the cliff: from the subprime to the global financial crisis', *Journal of Economic Perspectives* 25(1): 49-70.

Second, a size problem also exists in the case of non-bank financial institutions, albeit of a different nature than in that of banks. Asset managers, insurers and pension funds provide agency services and hence they bear little credit, market or liquidity risks on their balance sheets compared with banks; the risks are borne by their clients. For example, BlackRock, the largest asset management company in the world, has around \$6.3 trillion of assets under management, but only \$220 billion (3.5 per cent) of its own. Clearly there is no ‘too-big-to-fail’ problem as in the banking industry. The problem of size here concerns the externalities produced by the asset managers’ portfolio allocation.<sup>5</sup> The failure of a ‘too-big-to-fail’ asset manager may create systemic financial instability through its effects on markets. In the extreme event of a failure of a large asset manager, the massive sale of assets in its portfolio may dry up market liquidity, depress asset prices and heighten their volatility. These externalities will have an impact on other institutional investors. For example, they may reduce the liquidity and capital buffers of banks and insurance corporations, or cause significant outflows from other asset managers. Furthermore, increasing size and concentration in the asset management industry also increases the potential for investor herding and for correlated market movements, which can in turn result in financial bubbles and heightened volatility, and which are not justified by market fundamentals.

Third, non-bank institutions also carry risks similar to those for banks. Open-end funds providing liquidity transformation services are prone to the risk of ‘runs’ akin to deposit-taking institutions. Investors in open-end funds have the ability to redeem their shares (usually on a daily basis), while funds invest in relatively illiquid securities, such as high-yield corporate bonds and emerging market assets. Shareholders have an incentive to sell their shares when they expect large redemptions since they anticipate that the liquidation value of shares declines as other investors sell theirs. This decline in value could happen for various reasons: for example, the asset manager may use cash buffers and sell relatively more liquid assets first. Asset managers providing securities lending activities to their clients engage in maturity/liquidity transformation, when the cash collateral is reinvested at term and into less liquid, higher-yield securities, and can take on significant leverage risks, including by engaging in synthetic leverage via derivatives (e.g. swaps to increase duration risk). Furthermore, asset managers acting as agent lenders also provide their clients with indemnification,<sup>6</sup> bearing own risks against which no regulatory capital is allocated. At the global level, mutual funds and other retail investment funds account for around €6 trillion

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<sup>5</sup> Haldane, A. G. (2014), ‘The age of asset management’, speech at the London Business School.

<sup>6</sup> Indemnification is a form of insurance associated with securities lending. When the borrower of a security defaults on the loan and the collateral received is insufficient to cover the repurchase price of the lent securities, the shortfall is borne by the indemnification provider.

in securities made available for lending (44 per cent of the total value of securities made available for lending at the global level).<sup>7</sup> There is no precise information on the amount of indemnification provided on assets available for lending, but we know that the largest asset managers are mainly involved in providing indemnification services, and that the scale of exposures can be as large as that of some global systemically important banks. Note also that differently than for banks, the risks for non-bank financial intermediaries are to a large extent not on the balance sheets, making their monitoring and control more difficult.

### **How large are these risks?**

We do not have a clear answer to this question, as we are still in the process of developing adequate tools to measure them. But there are reasons to argue that the significance of the risks associated with non-bank financial intermediation has increased in recent years.

First, there are quantitative reasons. In the last decade, assets under management of non-bank financial intermediaries have almost doubled. In 2016, the latest date for which data are available at the global level, they represented a little less than half of the total assets of the financial sector.<sup>8</sup> Non-bank credit intermediation was around one third of total bank assets. The growth of non-bank finance has been significant in Europe too: total assets managed by euro-area investment funds have more than doubled in the last decade, from €5.7 trillion at the end of 2008 to €13.8 trillion at end June 2018. The investment fund sector now accounts for nearly 20 per cent of the total assets managed by the euro- area financial sector.<sup>9</sup>

Second, the asset management industry is significantly more concentrated today than a few decades ago. In the United States, the top 10 managers owned about 5 per cent of the US stock market in 1980, whereas in 2016 they owned about 23 per cent.<sup>10</sup>

There are further qualitative reasons. The portfolio of asset managers, insurers and pension funds are often highly *diversified* but less *diverse*, i.e. their investments are often largely overlapping. This is the outcome of a global quest for risk diversification. A multitude

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<sup>7</sup> These refer to 2015 (latest available). Source: International Securities Lending Association. See also: FSB (2013), 'Strengthening Oversight and Regulation of Shadow Banking: Policy Framework for Addressing Shadow Banking Risks in Securities Lending and Repos', August; FSB (2017), 'Policy Recommendations to Address Structural Vulnerabilities from Asset Management Activities', January.

<sup>8</sup> FSB (2018), 'Global shadow banking monitoring report'.

<sup>9</sup> European Central Bank (2018), 'Financial Stability Report', May.

<sup>10</sup> I. Ben-David, F. Franzoni, R. Moussawi, and J. Sedunov, 'The Granular Nature of Large Institutional Investors', NBER Working Paper No. 22247, May 2016.

of investors diversifying their investments must end up with the same portfolios when the number of assets they can invest in is finite. While diversification helps institutional investors to reduce the risks of their investments, shocks tend to spread more easily across different institutions when portfolios overlap.<sup>11</sup> In Europe, for example, investment funds invest more than three fourths (80 per cent) of their assets in securities which are also held by insurers and pension funds. Market stress can be more easily transmitted across markets and asset classes.<sup>12</sup> The risks and costs of fire sales in the event of market stress may end up being less easily diversifiable at the macro level. While investment funds, and to a certain extent insurers and pension funds, tend to diversify their portfolios across countries and sectors, banks invest a larger share of their assets in domestic securities. This simply reflects<sup>13</sup> the different investment strategies of different financial intermediaries. Banks specialise in resolving asymmetric information issues, so they end up with greater knowledge of specific markets and borrowers than other investors. They have a comparative advantage from investing in the markets that they know better.

Like asset correlations, business activity correlations can vary over the cycle, turning all positive or intensifying in bad times. There is also evidence that there are fewer contrarian investors in the market, or that investors traditionally considered as contrarian may behave pro-cyclically in episodes of severe market stress.<sup>14</sup>

Another sign of increasing risks is given by the fact that asset managers' activities have become structurally more correlated over the years, owing to the diffusion of common investment strategies across different business activities. New technologies (HFT, algo-trading and robo-advisors) and financial products (ETFs) have made intermediaries more procyclical and quicker to react to market news. The growth of electronic and automated trading has given rise to a series of flash episodes in markets that are among the largest and most liquid in the world.<sup>15</sup>

### **What policy instruments are available to limit such risks?**

There are some policy instruments to mitigate such risks. For example, most jurisdictions have measures in place that preserve the stability of mutual funds and limit the consequences

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<sup>11</sup> Nanda V., Wu W. and Zhou X. (2018), 'Investment commonality across insurance companies: fire sale risk and corporate yield spread', Finance and Economics Discussion Series No. 69-2017, Board of Governors of the Federal Reserve System.

<sup>12</sup> Manconi A., Massa M. and Yasuda A. (2012), 'The role of institutional investors in propagating the crisis of 2007–2008', *Journal of Financial Economics*, 104; 491-518; Jotiikasthira C., Lundblad C. and Ramadorai T. (2012) 'Asset Fire Sales and Purchases and the International Transmission of Funding Shocks', *The Journal of Finance*, 67(6): 2015-2050.

<sup>13</sup> European Central Bank (2018), 'Financial Stability Report', May.

<sup>14</sup> Bank of England (2014), 'Procyclicality and structural trends in investment allocation by insurance companies and pension funds', discussion paper by the Bank of England and the Procyclicality working group.

<sup>15</sup> Bank of England (2017), 'Financial Stability report – November Issue'.

of a sudden run on the part of their investors, such as liquidity requirements, rules restricting the amount of illiquid assets that can be held by open-end funds, redemption suspension and redemption gates.

However, the policy framework is still under construction; most importantly, the approach has been mainly microprudential. There is a need to step up analytical thinking and craftsmanship in policy-making, starting by enhancing the policymakers' ability to assess the relative importance of the different transmission mechanisms, using tools such as macro/systemic stress tests. The fact that we do not yet have a clear idea about how the policy instruments function does not mean that we should not start to experiment with them. A reference can be made for instance to stress testing techniques in bank supervision: stress test methodologies were not advanced before the crisis,<sup>16</sup> but the financial crisis highlighted the importance of forward-looking capital adequacy assessment, and stress tests were then effectively employed as a supervisory tool in that perspective and have subsequently been included in the regular supervisory policy toolkit in many countries.

A specific issue that will play an important role in future policy debates is how to address liquidity shortage situations for non-bank financial intermediaries. If a large asset manager's stressed liquidity condition puts the correct functioning of markets at risk, should central banks step in and provide liquidity? If so, who should the recipients of this liquidity be: the stressed asset manager or the market? Under what conditions? The experience during the recent financial crisis, when a number of central banks expanded the scope of their lender of last resort coverage (for example, the Fed provided liquidity to mutual funds, the Bank of England started providing liquidity support to selected broker-dealers and central counterparties and similar arrangements were made by the Bank of Japan) should be a starting point for a systematic approach to these issues.

### **The institutional framework: which authorities should be involved in the supervision of non-bank financial intermediaries?**

The expanded scope of the activities of non-bank financial intermediaries and the need for a better understanding of the risks posed for financial stability prompt a reflection on the adequacy of the institutional supervisory framework. In most countries, non-bank financial intermediaries are under the purview of securities and market regulators. These authorities traditionally have a mandate to safeguard investor protection and market integrity rather

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<sup>16</sup> For instance, the pre-crisis attempt by U.S. supervisors to use stress testing for setting risk-based capital charges for Government Sponsored Organisations – Fanny Mae and Freddy Mac – turned out in retrospect to be a gross failure.



than to limit systemic risks. Should this change? In particular, should financial stability find a way into market supervisors' mandates? Should these authorities develop macroprudential policy instruments designed to mitigate systemic risks stemming from non-bank finance? This process will require an adaptation of culture as well as new laws. Central banks must be involved, particularly in view of the 'macro' and financial stability perspective, and of their role in the provision of liquidity; for them too, rules, skills and practices will need to evolve further. Coordination between all the authorities involved will be important in order to ensure that supervision is carried out with a macroprudential perspective.

### **FSB work on risks to financial stability from non-bank intermediation**

At the international level the FSB, where central banks, banking and market regulators are all represented, is the natural forum to analyse and assess financial stability risks stemming from non-bank finance. The FSB has recently taken some preliminary important steps in these areas.

First, the FSB has been publishing annually what used to be known as the 'Shadow Banking' monitoring report, and has recently been retitled 'Non-bank financial intermediation' monitoring report, although it would probably take more than a terminology change to transform shadow banking into 'resilient market-based finance'. The FSB has worked to improve its coverage by broadening the geographic scope of the data and refining its analysis of risks. The latest report, published in March 2018, also included data from China for the first time.

As to the policy area, in 2017 the FSB issued policy recommendations to address structural vulnerabilities in asset management and to mandate the relevant Standard Setter Body (IOSCO) to implement them. This work has led to the development of policy tools for asset managers in the area of liquidity risk management as well as of leverage measures for investment funds to facilitate monitoring for financial stability purposes and to enable comparisons across funds at a global level.

The FSB has also made some initial progress in studying the impact of large investors' strategies on market liquidity, starting with a 'simulation exercise' on fund redemptions. This line of inquiry is important. Differently from the case of banks, it is not the resilience of individual institutions that needs to be tested, but rather the presence of shock amplifiers in the market. This is why potential investment-strategy loops are of interest to the FSB.

Difficult choices have been made, some of which have possibly led to setbacks. Some examples concern the abandonment of the early attempt to develop a list of systemic

non-bank financial intermediaries, together with the preference for relying on an activity-based approach rather than an entity-based approach in addressing the risks from non-bank finance. These were difficult judgments to make. On the one hand, the activity-based approach has its own merits as it allows some activities to be subjected to the relevant rules regardless of which entities are undertaking them. On the other hand, relying solely on an activity-based regulation could leave significant risks unchecked: high levels of concentration and interconnectedness (e.g. large asset managers and CCPs) are good reasons to develop an entity-based regulation for non-banks as well.

The FSB will continue to carry out work in this area, focusing on continued monitoring and on the operationalisation of the agreed reforms. The improvement of systemic stress testing will also be an important goal for the FSB, especially as regards enhancing its ability to assess the relative importance of the different transmission and amplification mechanisms of risks and refining its analysis of the behaviour of institutional investors, especially with respect to their willingness to act as contrarian investors in times of market stress.

## **Conclusions**

These works and debates matter not only in countries where the non-bank financial sector is large. In a globally interconnected financial system, countries with small non-bank financial sectors are often the most vulnerable to these risks. In light of the rapid expansion of asset management activities, the authorities need to be provided with instruments to prevent or mitigate consequent systemic risks, especially for situations where the measures available to asset managers alone would not be sufficient.

Managers of individual funds have a mandate to act in the best interests of their own investors and may not be in a position to act in the interest of financial stability. Supervisors of individual funds may not have the information or means necessary to properly assess different funds' contribution to systemic risk. Thus, a macroprudential approach to the supervision of non-bank financial intermediation should be developed. Different authorities need to work together for a better understanding of the risk of fire sales, spillovers to other financial counterparties and disruptions in credit intermediation, and to design and test potential tools to prevent and mitigate systemic risk.

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