



FONDAZIONE ROSELLI

20TH REPORT

ON THE ITALIAN FINANCIAL SYSTEM



EUROPEAN BANKING 3.0

Bank Industry and Supervision in the Behavioural Finance Revolution

edited by Giampio Bracchi, Umberto Filotto and Donato Masciandaro

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Franco Riolo who was the passionate creator
of the Report on the Italian Financial System*

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INTRODUCTION: BANK INDUSTRY AND SUPERVISION IN THE BEHAVIOURAL FINANCE REVOLUTION

Giampio Bracchi, Umberto Filotto and Donato Masciandaro

The scenario of the Euro Area is characterized by three features: weak and uneven growth, high liquidity supported by unconventional monetary measures, and a new supervisory architecture in the financial sector. In this context, which are the perspectives for the Italian Banks in the European arena? The 20th Report on the Financial System investigates key issues using three different perspectives: micro (behavioural banking), macro (bank industry performances), and regulatory (supervision) views. Firstly the Report offers new insights applying the tools of the Behavioural Economics to explore the banking and financial choices and to evaluate the appropriateness of different supervisory styles. Then the Report illustrates updated aggregate evaluations of the health state of the Italian banks. Finally, the crucial and evolving effects of the new single supervisory architecture on the banking setting are analysed.

It has to be mentioned that the views and the opinions expressed in the Report are those of the authors and do not necessarily represent those of the institution they are affiliated with.

The purpose of this introduction is to summarize the Chapters of the Report, emphasizing in particular the empirical analysis results.

1. MICRO VIEW: BEHAVIOURAL MONEY AND BANKING

The past decade has been a hard one for the economy; it has been hard for economists, too, as they were harshly blamed for not having been able to predict what was going to happen. In Queen Elizabeth's words, on the occasion of a briefing by academics at the London School of Economics on the financial crisis: "Why did nobody notice it?" Professor Garicano, Director of Research at the LSE, answered, "At every stage, someone was relying on somebody else and everybody thought they were doing the right thing." But how could that happen? In other words, how could wise, clever and highly qualified decision makers behave in such an irrational, imitative and, yes, stupid way? While neoclassical economists would have serious problems in including these behaviours in their sophisticated and perfectly engineered models, a "new" wave of scholars, whom we will call "behaviouralists", would explain this phenomenon with abstruse terms like "herding", "framing" and

so on. While being to some extent unusual, this approach to economics is actually not new at all: well before Kahneman and Tversky, who are rightly considered the champions of Behavioural Economics (BE), Herbert Simon, more than sixty years ago, began questioning the idea that economic actors behave in a rational and optimizing way. Including irrationality, *i.e.*, real life, into economics certainly favors the diffusion of entropy in our studies but forces us to abandon the ivory towers of pure theory and makes us land into real life, which is confused, deceptive and often unpredictable. At the end this approach is not better than the neoclassical one in making predictions: it actually gives up any normative ambition and, being unquestionably micro, it is unfit for the designing of comprehensive scenarios and strategies. However, BE (and also neuroeconomics – NE) allows us to observe phenomena from a different perspective, thus enriching our analysis. While they do not provide us with a general therapy (but they are sincere in not pretending to be able to do so), BE and NE give us unusual and original instruments to make diagnoses. Also, thanks to their typical and experimental approach, studies that adopt these perspectives often can suggest solutions that have specific (*i.e.*, limited) but substantial policy implications. The papers in this section of the Report are a typical example of both the potential and the limits of this approach; they refer to specific and diversified issues, but, leveraging on the objective observation of behaviours, they contain immediate and realistic policy proposals.

Chapter One (PIETRONI, GIULIANI and VIALE) investigates the fundamental question if consumers are really able to make choices that are in line with their subjective usefulness. To answer this question a non-classical perspective has to be adopted. Behavioural Economics indicates that there are several biases that interfere with optimal decisions: lack of simplicity; problems in perceptual salience; improper mapping; inadequate disclosure. Due to cognitive limitations and because laws and regulations lack an adequate ergonomic approach, consumers are unable make appropriate choices. Nudging can be an alternative: regulators willing to create a pro-consumer environment can design rules that favour choices that are considered better for the public. What are the international experiences that can teach something to the Italian regulators? What was the effect of nudge and the behavioural finance revolution on policy making in the Western governments in the area of banking and finance? The chapter sheds light on the application of the nudge to credit cards and mortgages, and then to various banking services, trying to give an overview of different attempts and of their criticality, drawing mostly from the rich Us experience.

Chapter Two (FERRI, PLONER and RIZZOLLI) is focused on whether alternative trading rules can reduce the departure from rational choices by market participants. The experimental design allows the authors to identify the differing transaction patterns of a group of traders left to take “instinctive” investment (fast traders) choices vs. that of an alternative group where traders are prompted to take “deliberate” investment choices (slow traders). The experiments delivered unambiguous results. Fast traders are more likely to induce market patterns well above fundamental values. In contrast, slow traders tend to trade much more conservatively, in a way compatible to a risk-averse assessment of the market fundamental. Further fast

traders' divergence from fundamentals tends to be asymmetric by embodying over-optimism and, thus, making the formation of price bubbles more likely. The policy implications are simple, although detonating. Slowing finance would be the most effective course to avoid bubbles and make financial markets more efficient. This demands drastic revisions to current trading rules.

Although always a sensitive topic, consumer credit legislation is increasingly becoming the subject of highly animated discussions between those who consider existing regulations to be inadequate to protect consumers and those who think the existing rules are sufficient and possibly redundant. A cornerstone in the consumer credit regulation is the fact that lenders are obliged to provide an appropriate and synthetic indicator that would allow borrowers to appropriately rank different offers and pick the most convenient from among all loans. The indicator chosen is what the experts would have used to make their choices: the Annual Percentage Rate (APR), calculated using the internal rate of return formula. In Chapter Three (CARATELLI, FILOTTO, MATTAROCCHI and VIALE) the results of an empirical research show that the APR does not drive the decision-making process of potential borrowers; other criteria are normally used, thus leading to suboptimal choices. While being "easy" – it is a synthetic indicator, which should allow consumers to arrange alternatives on an ordinal scale – the APR is to some extent "innatural" as individuals are more inclined to understand and use frequencies (10 out of 100) than percentages (10%) (with the possible exception of those highly schooled and having significant financial experience). Policy implications are that a new approach to consumer protection and transparency is necessary and that rules have to be adherent to behavioural and cognitive characteristics of human beings rather than sticking to rational, though abstract, paradigms.

Chapter Four (ALEMANNI) reviews the relationships between Behavioural Economics and the policy setting of pension schemes. Retirement is indeed a classical subject for Behavioural Economics as, when taking decisions about their financial future, individuals are "affected" by a full range of cognitive biases such as framing and hyperbolic discounting. In this context nudging from regulators could model choices in order to drive individual to adopt better saving and retirement strategies. The chapter highlights how behavioural insights can help in designing better policies that are less intrusive, less expensive, and more effective. Policies with more choice and more competition as basic principles can be counterproductive as a mean to improve consumer welfare, since they can create choice paralysis and consumer confusion. Issues like defaults and framing cannot be avoided, and therefore it is better to try to use them thoughtfully. As with any government intervention, policy initiatives based on soft-paternalism should be preceded by an analysis of costs and benefits and by a design that recognizes consumer heterogeneity. Preferably, full implementation should be preceded by small-scale field experiments to assess effectiveness. These experiments will contribute to a better understanding of the policy implications of Behavioural Economics.

Chapter Five (FAVARETTO and MASCIANDARO) reviews the results of the existing literature on the relationships between Behavioural Economics and monetary

policy. The description illustrates how the behavioural insights has been so far used in explaining how non-standard agent choices can shape in general the macro performances and specifically the monetary policy effects. In general the behavioural assumptions seem to be used to build up more robust and/or alternative micro foundations for explaining price and wage stickiness, as well as financial unbalances, in order to justify active monetary policies for stabilization purposes

Crowdfunding is becoming increasingly important in supporting new ventures. Chapter Six (PREVIATI, GALLOPPO and SALUSTRI) analyses crowdfunding decisions, in lending as well as in the equity-based funding, accounting for the existing trade-off with investments in more or less traditional asset classes. The behavioural features of the decision process are investigated through a survey focused on a selected group of potential funders, namely the university students in economics and management degree courses. The aim of this chapter is twofold. On one side, the analysis of the main determinants of agents' segmentation in a framework similar to that one of the behavioural analysis allows to identify ex-ante sources of irrationality in potentially investors' choices. On the other side, and under a different light, the data collected have been used to identify the schedule of crowdfunding supply, as a function of risk-adjusted-performance indicators. Specifically, the authors compare risk-revenue trade-off among crowdfunding investments and more standard asset-classes, using data to identify potential behavioural biases with respect to the standard selection in portfolio-choice models. The control variables collected in the survey have been used also to describe approximately some of the determinants of crowdfunding investments' choice. This chapter draws four policy recommendations. First of all, as regards the impact of crowdfunding on the stability of the financial system, we notice how noise traders might raise the cost of arbitrage. Secondly, the role of professional investors might reveal of the utmost importance to foster crowdfunding implementation, as funders are sensitive to the presence of "big players" in crowdfunding processes. Thirdly, as crowdfunding exhibits the same level of risk of a start-up, the analysis suggests that crowdfunding might work as an initial platform to launch projects that at a subsequent stage go to IPO. Fourthly, the authors suggest how financial services industry, especially investment advisors, should adjust portfolio advices making them gender-specific, as gender seems to have a significant influence on crowd funders behaviour.

Chapter Seven (SCHWIZER, CARRETTA and SOANA) addresses a corporate governance behavioural issue, testing with an empirical analysis the effectiveness of high quality independent directors in moderating overconfident CEO decisions. The chapter contribution is manifold. First, the study provides a new empirical application of the behavioural corporate governance framework, whose investigation is still limited due to the difficulties in constructing relevant evidence on board of directors real functioning and dynamics. Second, a new proprietary dataset of press citations of single directors is applied, in order to build up measures of personal reputation. Finally, the authors create an indicator of reputational gap between independent directors and CEO in order to assess the overconfidence of the latter and the effectiveness of the board in its monitoring function. The chapter has interesting

implications in terms of corporate governance effectiveness and best practices, since it focuses on the relevance of directors' nomination processes and the power of an active role played by independent board members, that must be supported by a personal compelling strength in order to counterbalance the power of CEOs. Furthermore, it can open up new debate on the impact of press news on directors' reputation, whereas media are able or willing to report on the role played by different board members in the companies' decision making processes.

2. MACRO VIEW: BANK INDUSTRY PERFORMANCES

The long financial crisis has widely impacted the European banking system, opening the debate on the efficiency and sustainability of different bank business models. In the early stages of the crisis, the banking system of countries, like Italy, in which the retail commercial bank model prevails, appeared to demonstrate greater resilience. However, in these same countries, with the severe downturn of their economic conditions, banks have subsequently revealed more critical areas: an important indicator is the sharp decline in profitability, that has been amplified by the new and more rigorous framework concerning banks regulatory capital, making it essential to rebalance costs and revenues and reconsider growth strategies. This is particularly true for the Italian banking system, which has experienced a long term fall in profitability since the early 1990's, producing a negative gap compared with other developed Euro Area countries, as our Report of last year was showing. Even in 2013 and 2014, the generous ECB refinancing schemes and the significant improvement in the Italian Government Bond market induced a rebound of profitability that was widely eroded by provisions for expected loan losses, due to the still weak economic cycle.

Chapter Eight (BORRONI and ROSSI), using bank-level data, explores the link between profitability and its determinants during the crisis; in particular, the study aims to identify peer groups of Italian banks that can be judged more "virtuous" in an international comparison, highlighting the drivers that explain their behaviour. The authors do this by applying two statistical techniques (panel regression and cluster analysis) to data for 52 banks listed by the ECB as being among the significant intermediaries in the Euro Area (11 original entrant countries plus Greece) during the period between 2009 and 2013. Further the authors apply a cluster analysis to 20 Italian banking groups in order to underline the features of domestic best performers in a troubled period. The chapter shows that the Italian banking system is scattered and only a couple of players can be associated with the leading cluster of significant banks in the Euro Area; other big domestic groups display significant failings in efficiency, loan quality and profitability. The sizable reduction in branches and employees undertaken in recent years by Italian banks has generally contributed to improving their cost-efficiency; however, this process has not been fully completed by most of them. Moreover, the problem of poor loan portfolio quality, which soaks up operating profits through Loan Loss Provisions (LLP), still remains; improvements

in macroeconomic conditions may reduce or even revert these negative effects on banks' balance sheets, allowing a return to higher profitability levels. A sounder socio-economic environment may also facilitate the capital collection process that is needed for improving regulatory capital ratios and increasing bank size; this should reduce the wide gap between the different players analysed in the Italian banks sample. The development of financial markets could further facilitate these dynamics and directly improve bank profitability. It has to be remarked that in Italy in March 2015 doubtful NPL reached the peak level of 190 billion (+44% in 24 months, 10% of total loans), and adding substandard, restructured and past due loans the level increases to 340 billion (17% of total loans). This means that an important part of capital in the smaller banks is tied to NPLs, which on top of low rates and a fragmented market are behind the low overall profitability of the system. As a consequence, the level of capital, which seemed reasonable at the beginning of the crisis, proved to be inadequate since 2011, and further injections of equity for an amount of about 50 billion resulted necessary, under the pressure of ECB and Bank of Italy.

Chapter Nine (ALESSI, DI COLLI, DI SALVO and LOPEZ) uses data from a panel of more than 400 Italian banks for the period 2001-2013 to examine the main determinants of LLP, which are classified as either discretionary (income smoothing, capital management, signalling) or non-discretionary (related to the business cycle). The results suggest that LLP in Italian banks is driven mainly by nondiscretionary components, especially during the recession of 2008-2013, and is consistent with a countercyclical behaviour of LLP. Further, it is generally less pro-cyclical (although not during the recent economic crisis) in the case of local banks. Their loans are more collateralised; nevertheless, market value of real estate collateral has been strongly affected by the economic downturn and might be negatively evaluated for supervisory purposes, this being the reason for requesting higher coverage ratios. The issue can also be framed within the present debate in Italy about NPL transfer to a bad bank vehicle and measures for improving levy procedures on debtors.

In the recent years banks around the world have also resized and reallocated their earning assets in response to the subprime and sovereign debt crises. Chapter Ten (FRATIANNI and MARCHIONNE) investigates the interaction between sovereign debt and the asset allocation process. The authors find that banks have readjusted asset shares and the overall regulatory credit risk by substituting government securities for loans. Furthermore, they have been sensitive to those variables that are of direct interest to the regulator, a result that is consistent with high-debt governments having exerted moral suasion on banks to privilege the purchase of government securities over credit to the private sector. Italian banks, for example, have 400 billion of Italian Government Bonds in their portfolio, and even in the recent less severe period of the crisis, total loans to corporate clients were reduced by about 1,4% per year, in spite of the injection of liquidity by the ECB. However, small but performing companies, organized in districts or network agreements with common projects or services, have not generally experienced credit restrictions. Network agreements are a recent introduction in the Italian legal system. The subject of networks has raised a great deal of interest in the banking world too, which has

questioned itself on the possibility of giving a better rating to network members or to the network as an entity.

In Chapter Eleven (FORESTI, GUELPA and SANGALLI) an econometric exercise attempts to detect the potential performance premiums of the network agreements on firms that joined a network, after having simultaneously controlled the strategic, dimensional, sectorial and geographical heterogeneity of firms in estimation. Performance premiums are here intended in terms of real growth, proxied by sales and profitability growth. By analysing the manufacturing firms that set up a network contract it emerges that they have a greater wealth of skills in the technological and commercial areas with respect to the firms that are not involved in network agreements. In fact, the likelihood of being part of networks is higher for enterprises with quality certificates, environmental certificates, patents in portfolio, export activities, and trademarks registered at international level. A positive impact on network access also comes from the size of a firm: the bigger the firms are, the more likely they are to be part of networks. On the contrary, belonging to foreign multinationals seems to have a negative impact: it can be supposed that being part of an international group in itself makes it possible to overcome strategic critical issues linked to the small size.

3. REGULATORY VIEW: BANK SUPERVISION

The architecture of the Banking Union has been constructed on the two pillars entrusted to different authorities: the Single Supervisory Mechanism (SSM), and the Single Resolution Mechanism (SRM) with the Single Bank Resolution Fund. The Banking Union has been strengthened with a considerable complexity of actors and procedures; however, the central role is played by the strong direction of supervision by the ECB.

Chapter Twelve (DONATO and RECINE) discusses the very complex structure of the SSM through a focus on three key principles that have characterised it: separation, integration, specialisation of functions. The first principle (separation) requires the institutional separation of supervisory activities with respect to the traditional monetary policy functions and was the result of a political choice; the second one (integration) requires a strict integration between the European Central Bank (ECB) and the National Competent Authorities (NCAs) and comes out of necessity, considering the need for exploiting the wealth of expertise and knowledge of NCA; the third one (specialisation of function) with the exclusion of regulation and resolution, comes on one hand from the pre-existence of a EU regulatory structure (composed by the Commission and EBA), and on the other hand from a new thinking about how a situation of crisis of a bank should be managed, which underpinned the parallel development of another EU agency (the SRM). This requires establishing a close collaboration framework between the SSM and the SRM, competent for facing banking crises, now in construction. Also for the SRM there is a mix of separation and integration between Authorities and different functions. The result is a web of Authorities, tasks and activities, but also this image must be interpreted not as a static

approach but as a work in progress, destined inevitably to evolve toward further simplification of the functions and rationalization of the supervisory procedures. Focusing on the mentioned three principles, at this early stage of development of the SSM, and looking also to its possible future developments, many questions might arise and some tentative answers may be thought of. On separation: should the separation between central banking and supervision remain? And if so, should the SSM supervisory powers be transferred to an authority established outside the ECB, as advocated by some? On integration: will the SSM change, and further evolve towards a full integration of the NCAs? On specialization of functions: what will be the balance between the SSM and the SRM? The two mechanisms are at different stages. The successful launching of the SSM seems to provide the ECB with a predominant position. The Comprehensive Assessment (CA) of 2014, performed by the European Central Bank in close collaboration with EBA on the largest banks of the Euro Area, in preparation of the Banking Union, has made available abundant and detailed information on a significant sample of the market.

Chapter Thirteen (PALADINO and ROTONDI) analyses the outcomes of the CA focusing on two specific issues: the implications for bank business models and the role played by national supervisory architectures. The aim is twofold: to evaluate the coherence of the outcome across banks and countries and to assess the appropriateness of the requests at the individual bank level. The chapter is focused on two research questions. First the authors tackle the issue of the business models relative riskiness. The chapter provides new empirical evidence on the importance of the variability across business models for risk assessment, although the findings on the relative riskiness of the specific business models are mixed as they depend on the chosen regulatory measure of risk. Secondly, the authors investigate the persuasive power of different supervisory architectures and find that countries adopting the hybrid model were more severe and effective in persuading banks to act preventively. Differently, countries adopting the integrated and the sectorial model seem less prone/able to be effective in their request. Discretionary rules – often blamed by practitioners, analysts and regulators for modifying the picture – may have influenced the outcome of the stress test and possibly the persuasive power of the supervisor simply by altering the assessment of risk and muddling the comparison across banks and countries. Indeed national discretions were playing in favor of lower capital increase, especially for banks with more than 50% credit risk exposure evaluated by internal rating models and located in countries adopting an integrated supervisory architecture. The chapter shows that the effectiveness of the supervisory action depends on the specific type of supervisory model and that the intrinsic risk of business strategies is not easy to detect and can be significantly underestimated. Prudential regulation under the Banking Union seeks to influence the processes of risk-taking of financial institutions, through an increasing oversight on risk government and risk culture, in the belief that a sound, shared and effective risk culture is an essential tool for long term value creation and financial stability. The Comprehensive Assessment represented, de facto, the first opportunity for the comparison of the risk cultures of supervised banks and supervisors.

Chapter Fourteen (CARRETTA, FARINA and SCHWIZER) is aimed to assess the culture of risks of a sample of Central Banks and Supervisory Authorities in Europe as well as of the ECB. The main assumptions are: *i*) the existence of a significant degree of differentiation of the risk cultures among supervisors, which also reflects the country specific factors and *ii*) the presence of a “distance” between these cultures and the risk culture of the ECB. In this perspective, the authors point out that these diversities, especially in presence of credit markets still characterized by poor integration, could create unwanted distortion effects during the initial stages of the Banking Union. The chapter has interesting policy implications. If it is true that supervisory risk cultures are quite different among EU countries, the establishment of a Banking Union could require a severe “fitness effort” from ECB, in order to properly manage the relationship with the different cultures of EU national supervisors.

The Basel Accord regulations for the banking sector defines capital conservation rules, *i.e.* capital buffers, that can be used when losses are incurred. Policy makers and regulators have been long interested in the debate about the procyclical effect of the minimum capital requirements under the new regulatory framework (Basel III), whereas the empirical evidence on this topic is still scant. Chapter Fifteen (MALAFRONTI, PORZIO and STARITA) intends to fill this lack of empirical evidence on the effect of bank business model and ownership structure on capital buffer levels. The study analyses the determinants of capital buffers for the Italian banking system. In addition to the variables traditionally used in the existing literature, it provides evidence about how differences among Italian ownership structures impact on capital buffers whereas business models are not relevant. The chapter shows that Italian banks are well capitalized. Further it highlights that being a bank different from a cooperative bank, *i.e.*, SPA (Società per Azioni) or BP (Banca Popolare), has a positive effect on the capital buffers. On the other hand, business model does not affect the management of capital buffers; it is probably due to the un-connection among banking activities, from the point of view of the availability of capital and of capital absorption by risks. The results confirm the “too-big to fail” paradigm and that riskier banks hold less capital than that of prudential banks; however, banks become prudential when it is too late, *i.e.*, when the credit risk is materialized. Finally, it is confirmed that the capital buffers are counter-cyclical. Economic recovery, though slow and uneven in the Euro Area, has been supported by several unconventional monetary measures enacted by the ECB, in addition to more conventional tools. The need to complement the more conventional policies stemmed from the fact that there was evidence of an impaired transmission mechanism, attributed to a rise in sovereign risk that, in the stressed countries, more than offset a reduction in policy rates. In order to ensure an adequate level of credit for the real economy, policy makers must consider and adequately forecast the effect of monetary policy actions that pass through banking intermediaries. Because of the need to comply with increasing capital requirements introduced to enhance bank resilience and ensure financial stability, lending may have been less responsive to changes in the interest rate of the ECB and thus monetary policy may have had a weaker impact on general economic conditions.

In this line, Chapter Sixteen (BROGI, LAGASIO and LANGONE), starting from a theoretical view of the monetary policy transmission mechanism, investigates the impact on loan volumes of the movement of the ECB policy interest rate, considering capital ratios and loan portfolio quality reported in the financial statements of 65 listed banks in the Euro Area, with observations in the 2006-2014 period, that includes both policy rate increases and decreases. The obtained results support the fact that lending by large listed Euro Area banks in the period under observation, which included both contractionary and expansionary conventional monetary measures as well as unconventional monetary policy moves, was positively correlated with monetary policy and higher capitalisation, measured in terms of Tier 1 and Tier 2 capital. non-performing loans, in contrast, are negatively correlated with volume of loans and this is actually a desirable effect since it means that banks with a worse track record in loan selection capacity increase their loan portfolio less than their more effective peers. Therefore, it seems that the higher capital adequacy pursued by banks in the period under observation did not jeopardise the link between loans volume and monetary policy measures for better capitalised commercial banks. Stability does not seem to come at the price of monetary policy ineffectiveness.

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