Banking regulation

Francesco Guerrieri and Luca Lotti
Cassa Depositi e Prestiti S.p.A. – Risk Management

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Outline

Why?

Historical evolution of banking regulation

Current structure of banking regulation

What's next?

Introduction

Why banks exist, and why prudential regulation and supervision are needed

The banking system exists because of informational asymmetries (F.S. Mishkin)

Banks have particular advantages in solving asymmetric information problems …

… however, in the absence of banking supervision, the same types of asymmetric information problems that justify banking activity can lead to serious problems, and ultimately to bank runs

Adverse selection	Moral Hazard	Free-riding
Adverse selection occurs because lower-quality borrowers with higher credit risk are the ones who are most willing to take out a loan or pay the highest interest rate	Moral hazard occurs because the borrower has incentives to engage in activities that make it less likely that the loan will be paid back	The free-rider problem occurs because people who do not spend resources on collecting information can still take advantage of the information that other people have collected
Minimizing the adverse selection problem requires that lenders screen out good from bad credit risks	To minimize the moral hazard problem, lenders must impose restrictions (e.g. covenants) and then monitor the borrowers' activities and enforce the restrictions if needed	Banks are less subject to the free-rider problem and profit from the information they produce because they make private loans that are not traded
The people who are most likely to engage in activities that may cause bank failure are those who most want to take advantage of safety nets (e.g. deposit insurance). Risk-loving entrepreneurs/managers might find the banking industry a particularly attractive one to enter	If safety nets exist, depositors will be less likely to impose market discipline on banks by withdrawing deposits when they suspect that a bank is taking on too much risk If a bank is considered too big to fail, its managers might be more likely to engage in high-risk activities	When a borrower is financed by multiple banks, some lenders might rely excessively on the information collected by other banks and avoid to perform their own credit analysis and monitoring

Basel I

Minimum capital requirements

The Basel Committee on Banking Supervision (BCBS) was established by the central bank Governors of the Group of Ten countries at the end of 1974, in the aftermath of troubles that hit the international currency and banking markets (failure of Bankhaus Herstatt in West Germany)

- In July 1988 the Basel Committee on Banking Supervision (BCBS) issued a document named *International Convergence of Capital Measurement and Capital Standards*, establishing **minimum capital requirements** for banks
- The Basel I framework covered only capital requirements for **credit risk** (and counterparty risk), based on the so-called "Cooke Ratio":

Risk-weighted assets

$$\frac{Capital}{RWA} \geq 8\%$$

Type of exposure (sample)	Risk weight
Cash, Claims on OECD governments	0%
Claims on OECD incorporated banks	20%
Loans fully secured by mortgage	50%
Other assets	100%

- In January 1996, the BCBS issued the *Amendment to the Capital Accord to Incorporate Market Risks* extending the scope of minimum capital requirements to **market risk** (interest rate and equity risk) stemming from **trading** activities, as well as foreign exchange risk and commodities risk throughout the bank
- The 1996 amendment introduced the possibility to use **internal models** for the calculation of capital requirements for market risk

Basel II

The “three pillar” structure

- In June 2004 the BCBS issued a new, more structured prudential framework, named *Basel II: International Convergence of Capital Measurement and Capital Standards: a Revised Framework*
- Basel II introduced a **three pillar** approach, providing a much **broader coverage** of risks undertaken by banks:
  - operational risk (in Pillar 1)
  - concentration risk and interest rate risk in the banking book (in Pillar 2)
- In June 2006 the BCBS released a “comprehensive version” of Basel II, which included the treatment of banks' **trading books** under the new framework
- Basel II represents a **huge leap forward** compared to Basel I in term of complexity and scope, and **its structure has been kept essentially unchanged** in Basel III and «Basel IV»

Comprehensive prudential framework focused on capital adequacy

Pillar 1	Pillar 2	Pillar 3
Minimum capital requirements for: - Credit and counterparty risk - Market risk - Operational risk Standardized credit risk framework based on ECAI (Rating Agencies) ratings Internal models allowed for Credit, counterparty, market and operational risk	**Supervisory review and evaluation process** Banks must undertake an Internal capital adequacy assessment process (ICAAP) covering all relevant risks Supervisors must review and evaluate ICAAP	**Market discipline** Banks must fulfill a set of disclosure requirements which should allow market participants to assess key pieces of information on capital, risk exposures, risk assessment processes, and hence their capital adequacy

A robust framework ?

Some weak points in Basel II

- The drafting and consultation process that led to Basel II began in 1999
- In 2001, in the context of a consultation on the text of the new framework, a group of academics highlighted some weak points of the Basel II proposal*, some of which proved to be very relevant in subsequent years
- While some of these point have been taken into account in the final version of Basel II, evidence from the subprime crisis and the sovereign debt crisis suggest that they were not successfully addressed
- Most of these points were tackled more decidedly under Basel III and "Basel IV"

Weak point	**Relevance in subsequent crises**
Endogeneity of risk and liquidity	●●●●●
VaR pitfalls / misuse of elliptical distributions in risk modeling	●●●
Role of rating agencies	●●●●
Treatment of operational risk	●
Pillar II – supervisory review	●●●●
Prociclicality	●●●●

*Jón Daníelsson, Paul Embrechts, Charles Goodhart, Con Keating, Felix Muennich, Olivier Renault and Hyun Song Shin, *An Academic Response to Basel II,* 2001

Basel II, the subprime crisis and the sovereign debt crisis

The role of pitfalls in prudential regulation in the 2007-2012 period

- The 2007-2008 crisis had its roots in the **United States** and, to a lesser extent, in the United Kingdom
- Especially in the United States, virtually all banks were still applying **Basel I**, not Basel II (which was scheduled to be effective for a subset of United States Banks only from 2010)*
- At the roots of the crisis was the «**originate-to-distribute**» (OTD) model, by which risks taken by an entity (mainly in the real-estate sector) were re-packaged and transferred to other entities:
  - the OTD model increases **moral hazard**, because the originating entity has very little incentive to analyze risks carefully, knowing that they will be quickly transferred to someone else
  - moreover, the use of tranched products (such as Collateralized Debt Obligations) **boosted the impact** of the fall in real-estate prices, since the highest-rated tranches were leveraged bets on the underlying assets; poor modelling for rating and pricing purposes made this problem even worse

While some of the **pitfalls in Basel II were exposed by the subprime crisis**, it is difficult to argue that Basel II was one of the root causes, mainly because it was **still in the transition phase** when the subprime bubble burst

- On the other hand, the role of some features of Basel II was probably important in the **subsequent developments**, i.e. the transmission of the subprime crisis in Europe and the sovereign debt crisis of 2009-2012; the **interplay** between prudential regulation and **accounting principles** also played a major role as the crisis unfold

*See Francesco Cannata and Mario Quagliariello, *The role of Basel II in the subprime financial crisis: guilty or not guilty?*, 2009

Basel III

Liquidity, quality of capital, risk coverage, leverage, …

- Starting from September 2008, the BCBS issued a series of documents that tried to **address some of the pitfalls in Basel II** that had been highlighted by the subprime crisis
- By 2011, those documents evolved into a more organic standard that can be represented as follows:

Quality, consistency and transparency of the capital base

Enhanced risk coverage

Leverage ratio

Measures to reduce procyclicality

Measures to address systemic risk

Liquidity standards

Liquidity Coverage Ratio (LCR)

Net Stable Funding Ratio (NSFR)

Liquidity monitoring tools

"Basel IV"

The finalization of post-crisis reforms

- In December 2017 the Basel Committee on Banking Supervision (BCBS) issued a document named *Basel III: Finalising post-crisis reforms*, which is sometimes referred to as "Basel IV"
- The document includes some major changes to the existing framework, most of which will be effective from 2022:

New standardized approach for credit risk

- Major revisions to the standard rules for RWA calculation
- The problem of excessive reliance on rating agencies, however, seems to persist

New Operational Risk Framework

- The advanced measurement approaches (AMA) for calculating operational risk capital requirements (which are based on banks' internal models) and the existing three standardized approaches are replaced with a single risk-sensitive standardized approach to be used by all banks

Changes to the A-IRB approach for credit risk

- The Advanced Internal Ratings Based approach for credit risk will be no longer available for some types of exposures, among which large and mid-sized corporates and financial institutions
- Input parameters will be subject to regulatory floors

New Leverage Ratio Framework

- An additional buffer is required for global systemically important banks
- Various refinements are introduced to the definition of the leverage ratio exposure measure (in particular for derivatives)

Revised CVA framework

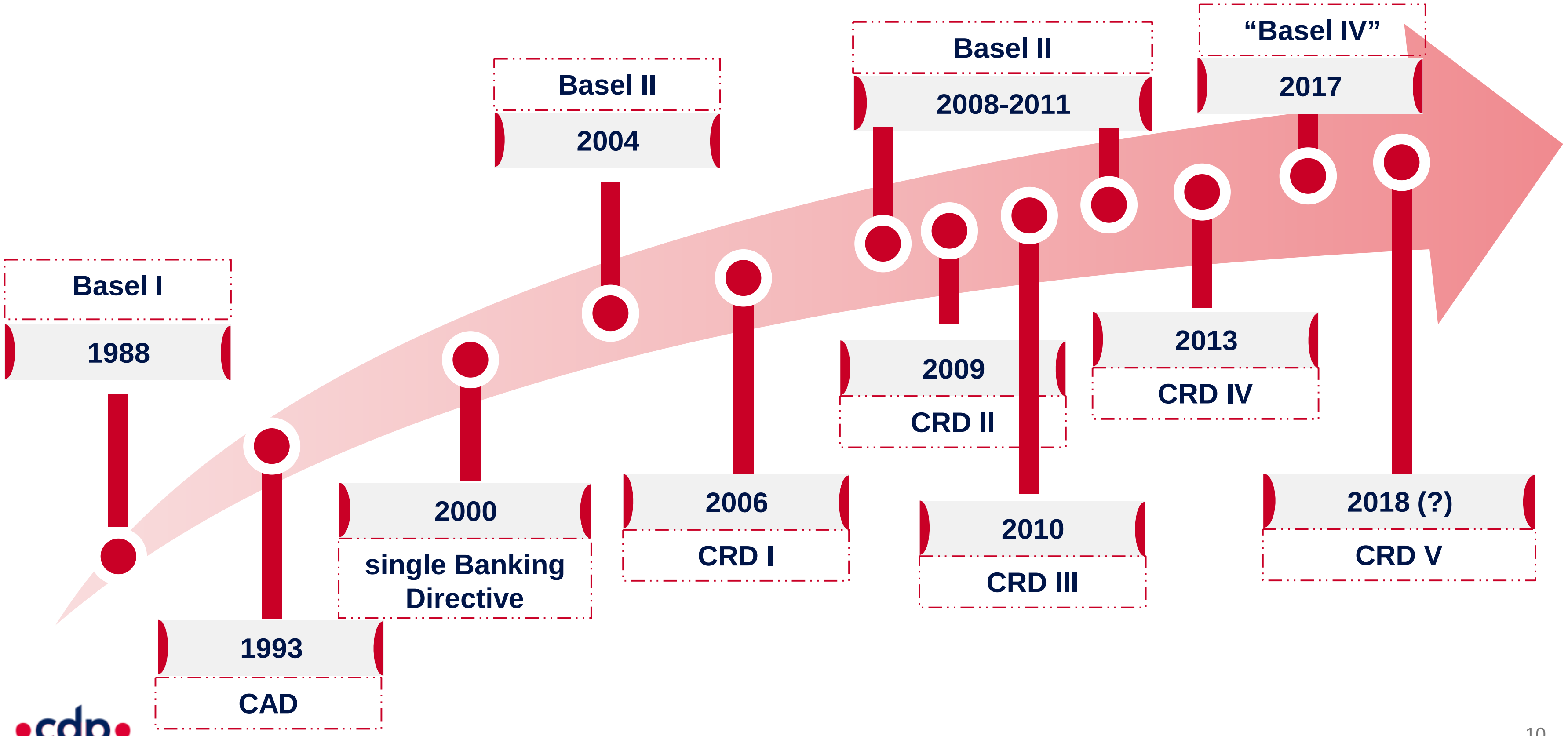
- The Credit Valuation Adjustment framework has been revised to:
  - enhance its risk sensitivity (with respect to exposure)
  - strengthen its robustness (removal of internally modeled approach)
  - improve its consistency (with the revised market risk framework)

Output floor

- There will be an output floor to provide a risk-based backstop that limits the extent to which banks can lower their capital requirements relative to the standardized approaches
- The level of the output floor, equal to 72.5% of the standardized requirements after the phase-in period, replaces an existing floor based on 80% of the Basel I capital requirement

The transposition of Basel rules into EU regulation

Timeline of Capital Requirement Directives



The current regulatory landscape

A broader view

Basel III / CRD V

The Basel III framework and the CRD V are going to be the cornerstones of prudential regulation in banking in the next few years. Among other things, the CRD V package will includes the Minimum Requirement for own funds and Eligible Liabilities (MREL)

TLAC

The Total Loss-Absorbing Capacity (TLAC) was defined in 2015 by the Financial Stability Board, to be applied to global systemically important banks (G-SIBs). It is designed to ensure that if a G-SIB fails it has sufficient loss-absorbing and recapitalization capacity available in resolution

IFRS 9

The new accounting standard for financial instruments became effective at the beginning of 2018 and covers:

- Classification and measurement
- Impairment of financial instruments
- Hedge accounting (excluding macro hedge)

NPL Guidelines

In October 2017 the ECB issued a draft addendum to its guidance on non performing loans.
The addendum specifies quantitative supervisory expectations concerning the minimum levels of prudential provisions expected for non performing exposures.

BRRD

The Directive on the Recovery and Resolution of Credit Institutions and Investment Firms sets out the framework for bank recovery and resolution in the EU. It sets out some arrangements to deal with failing banks at the Member State level and arrangements to facilitate cooperation in tackling cross-border banking failures

Solvency II

Sometimes called «Basel II for insurers», this standard sets minimum capital requirements for insurance companies

The framework applies to EU Insurers

MIFID/ MIFID II

The Markets in Financial Instruments Directive is a European Union law that provides harmonized regulation for investment services in the 28 EU member states plus Iceland, Norway and Liechtenstein. The directive's main objectives are to increase competition and consumer protection in investment services

EMIR

The European Market Infrastructure Regulation (EMIR) is a body of European legislation for the regulation of over-the-counter derivatives. The regulations include requirements for reporting of derivative contracts and implementation of risk management standards

What's next ?

The main issue still on the horizon seems to be the possible removal of the «zero risk weight» for sovereign exposures, however other changes might be already underway in complex areas such as Non Performing Loans and the regulatory treatment of expected loss provisioning

Sovereign Exposures

- In December 2017 the BCBS issued a discussion paper named "The regulatory treatment of sovereign exposures"
- While the process is still at an early stage, this seems to be the single most important issue that could change in banking prudential regulation over the next years

Market Risk

- In March 2018 the BCBS issued a consultative document named "Revisions to the minimum capital requirements for market risk"
- This could be the «final step» of a very deep change in market risk regulation which has taken place in the last few years and includes the Fundamental Review of the Trading Book and the new standard on Interest Rate Risk in the Banking Book

NPLs

- As mentioned above, in October 2017 the ECB issued a draft addendum to its guidance on non performing loans, setting regulatory backstops on the minimum levels of prudential provisions
- In January 2018 the Bank of Italy issued similar guidelines for less significant banks
- In March 2018 the European Commission presented its second progress report on the Action Plan to tackle non-performing loans (NPLs) in Europe, which Finance Ministers agreed on in July 2017

Expected Loss Provisioning

- In March 2018 the BCBS issued a consultative document named *Pillar 3 disclosure requirements: regulatory treatment of accounting provisions*
- While the document is essentially about disclosure requirement, there seems to be the room for further developments both in accounting principles and in prudential regulation with respect to expected loss provisioning

Annex

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