Non-standard monetary policy operations - Challenges for risk managers

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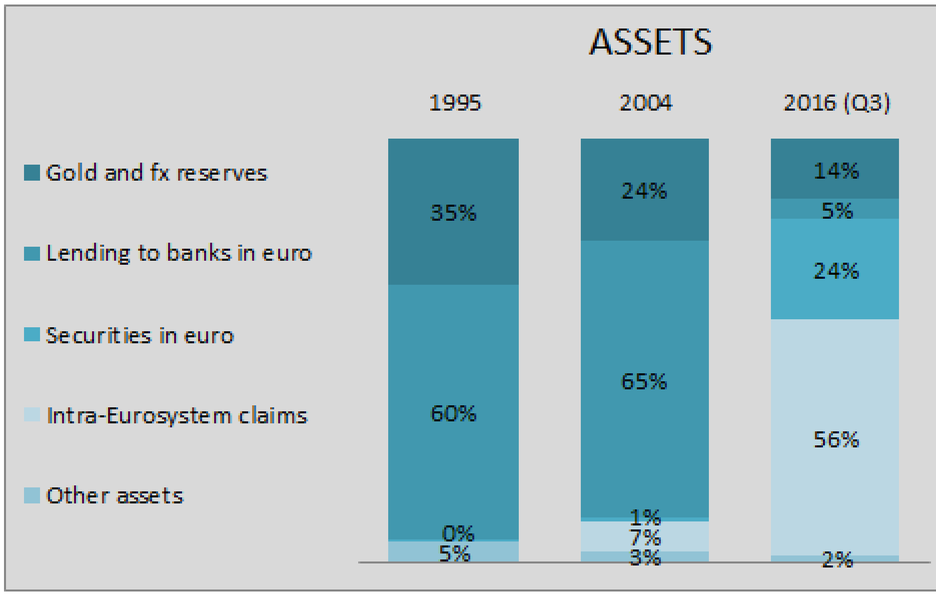
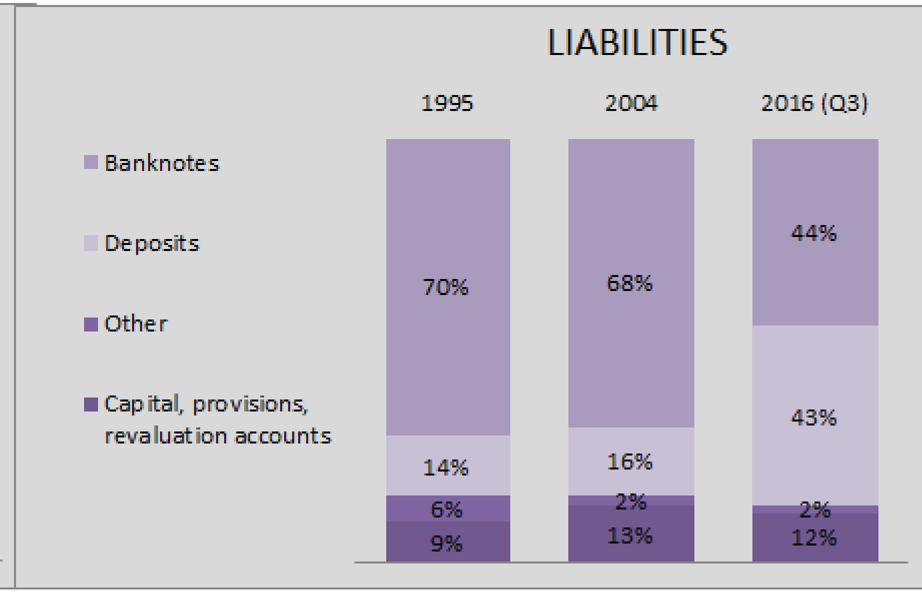
Outline

- Changes: reflections in the balance sheet
- Non-standard monetary policy operations
- Challenges:
  - Risk analysis
  - Risk mitigation
  - Risk provision
- Risk management: now and then

Changes: reflections in the balance sheet

Structure of Bundesbank balance sheet (highly stylized)





Volume 1 x1.6 x7.2

Non-standard monetary policy operations of the Eurosystem

	Total Volume (bn €)	Risk-sharing (BBk share 26%)
Open market operations Longer-term refinancing operations	512	Yes
Terminated Securities Purchase Programmes		
▪ Covered bond purchase programme 1:	14	No
▪ Covered bond purchase programme 2:	7	No
▪ Securities Markets Programme	104	Yes
Asset purchase programme (APP)		
▪ Covered bond purchase programme 3 (Oct 2014):	198	Yes
▪ Asset-backed securities purchase programme (Nov 2014)	21	Yes
▪ Corporate sector purchase programme (June 2016)	38	Yes
▪ Public sector purchase programme (March 2015)	1,131	Yes (20%)/ No (80%)
Securities lending related to purchase programmes		No

Data as of 28 October 2016

Risk analysis
Credit Risk

Collateralized lending to banks

- Lower requirements for eligible collateral (from A- to BBB-)
- Longer maturities, concentration on certain countries and banks

Outright securities portfolio

- In general: shift from collateralized to uncollateralized exposure
- SMP: high degree of sovereign risk
- PSPP: for BBk sovereign risk at relatively low level (but big exposure)
- CBPP3: asset ratings concentrated in AA/AAA-area
  question: are covered bonds asset ratings still adequate?
- CSPP: exposure against (nearly) all sectors of the economy
  asset ratings concentrated in BBB-area

Risk analysis
Credit risk model

Before crisis

Monetary policy lending seen as low risk

Minor role of credit risks compared to market risks

No need to develop sophisticated credit risk model

May 2010

Quantification of credit risks associated with SMP necessary

Very basic portfolio credit model with three exposures

Excel solution without simulation

Over time

Modeling demands increased

Introduction of a simulation based model with t-copula, stochastic LGDs etc.

2011

Extension to risks resulting from open market operations

Credit risk model necessary

(see presentation by Y. Sung at 10th CB risk manager conference)

Risk analysis
Credit risk - next steps

Monitoring of all financial risks at counterparty/issuer level ("financial soundness")

Questions to be answered:

- Who causes the highest level of risk on my balance sheet?
  (Expected Shortfall, total exposure)
- Who has the highest probability of “default”?
- Who shows the highest early warning signal?

  For example: high scores for

  - high increase of ES, exposures, PDs
  - high share of own-used ABS and/or high increase
  - high use of margin lending facilities
  - strange bidding behaviour
  - …

Risk analysis
Interest rate risk

- Market price risks traditionally not important for monetary policy operation, today very different: dominance of outright portfolios vs lending channel
- Sale of securities possible but currently not very likely
- More in focus is lock-in effect on asset side of balance sheet:
  Interest income will be fixed for a prolonged time period while bank deposits are remunerated at the deposit rate dependent on monetary policy.
- To illustrate: 50% of the portfolios matures until
  - PSPP 2024
  - CBPP3 2021
  - CSPP 2023
- => Development of interest rate risk model

Risk mitigation
Option risk compensation

Risk compensation: could policy-induced risks at least be partly be balanced by reducing risks from other financial operations?

- Bundesbank traditionally a very conservative investor (as regards both exposure and credit risk)
- Measures were already taken with start of financial crisis (2007)
- Foreign exchange reserves: e.g. stop of uncollateralised time deposits
- Own funds portfolio in Euro:
  counterpart to capital/ accounting reserves and staff pension liabilities,
  invested in high quality covered bonds,
  ANFA (Agreement on Net Financial Assets[1)]) leeway not used

1) https://www.ecb.europa.eu/explainers/tell-me-more/html/anfa_qa.en.html

Risk mitigation
Option risk efficiency

Risk efficiency: design the policy measures in such a way that the given target policy impact is achieved with a minimum of financial risks

- At Eurosystem level governance framework for purchase programmes as regards eligibility requirements, due diligence checks, risk screening and monitoring etc.
- Risk Management Committee as a key player to bring forward risk orientation
- At NCB level some leeway remaining for setting own limits (non risk shared operations like CBPP1+2, PSPP, Securities lending)

Risk provisions
Foundations

Today it is widely agreed:

- Central bank can never become illiquid in its own currency.
- Therefore no (technical) insolvency and no need to offset losses by immediate capital injections.
- But: (sufficient) central bank capital is a mark of its political independence, reputation and credibility.

Legal Basis:

- Bundesbank Act (Art. 26(2))
  In the course of establishing the profit or loss, the creation of liability items for general risks associated with domestic and foreign business, such as is considered warranted in the light of reasonable commercial judgement and after due consideration of the tasks of the Deutsche Bundesbank, shall remain unaffected.
- Some leeway of interpretation - in the early 70s Bundesbank incurred balance sheet losses exceeding capital; they were carried forward as an additional item on the asset side

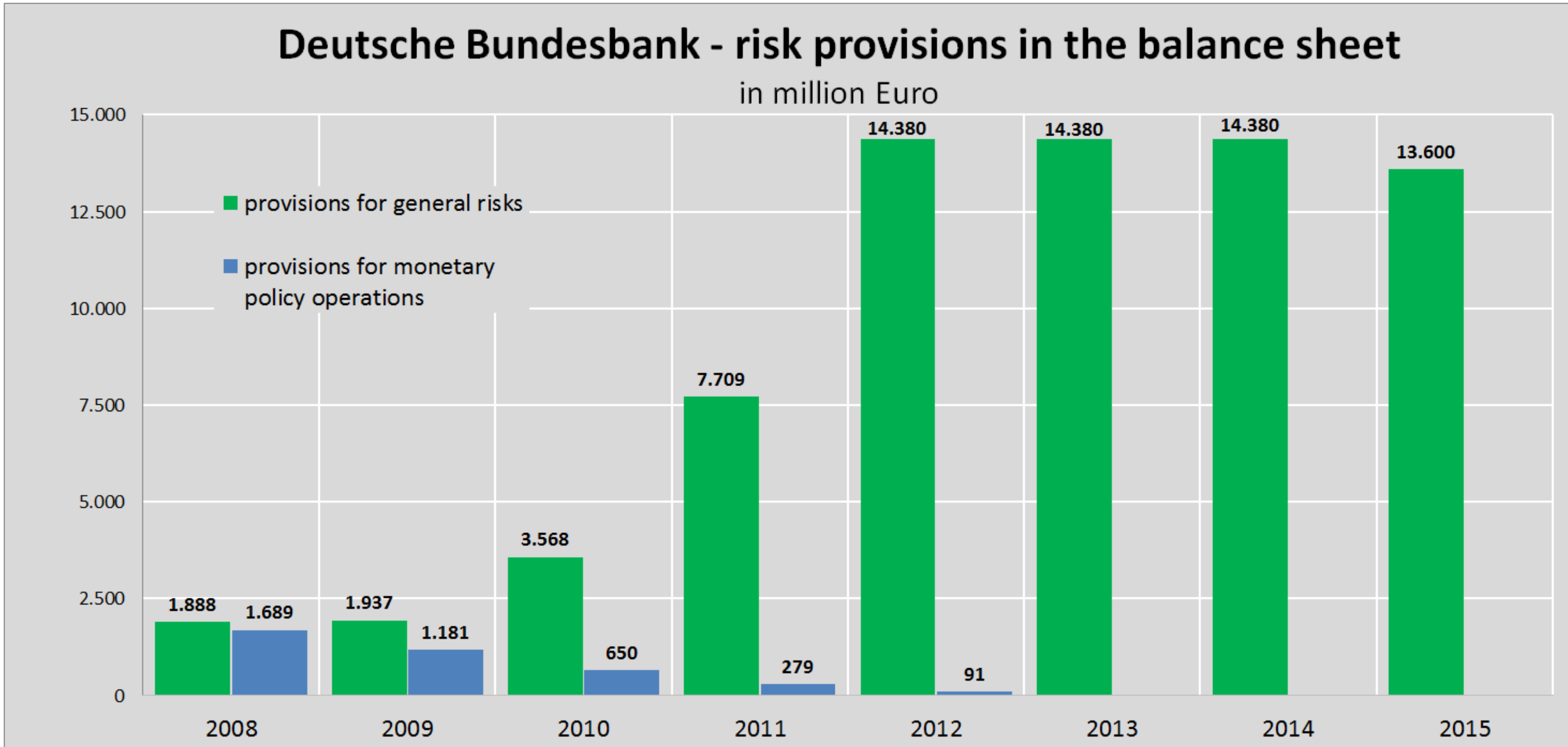
Risk provisions

<u>Bundesbank provisions for general risks</u>

- Before 2010: buffer against foreign exchange rate risks only
- 2010: start of integrating credit risks from monetary policy operations, distributed over a period of three years
- 2010: Securities Markets Programme
- 2011: open market operations added
- 2016: inclusion of interest rate risks

- Note: Risk provisions do not take into account risks from the TARGET2 claim
  Scenario: member state with TARGET2 liability leaves single currency area
  => central bank of this state does not settle its liability vis-à-vis the ECB
  => Bundesbank could be affected by corresponding ECB losses
  Bundesbank considers this scenario to be unlikely, however.

Risk provisions
Development over time



Risk management at Bundesbank: now and then

Risk management has profoundly changed in parallel and often directly related to non-standard monetary policy operations

- Putting theory into practice
- Included substantial investment in data infrastructure
- Increase of staff and other resources
- Strengthening of role and reputation in the institution
- At Eurosystem level fruitful co-operation with ECB/NCB risk managers
- Outlook: Is "non-standard" the new standard?

Thank you for your attention!