National Bank of Poland
Measures taken during the crisis

Piotr Szpunar

Head of the Financial System Department

16.06.2009

Agenda

- Financial Stability at the NBP
- Potential contagion channels
- Impact of the Lehman's collapse
- NBP's actions
- Future challenges
- Conclusions

Financial stability at the NBP

- *Formal* responsibility of the National Bank of Poland for promoting financial stability until 2008 was not explicitly stated in the law…
- … but for several years it has already been *perceived* by the central bank as its important task
- (The Act on NBP, 1997 as amended in 2008): „The responsibilities of the NBP shall also include:
  - organizing monetary settlements,
  - regulating the liquidity of the banks and providing them with refinancing facilities,
  - establishing the necessary conditions for the development of the banking system
  - <u>acting to ensure the stability of the national financial system</u>" (added in 2008)

The role of the NBP in the financial safety net

- The new responsibility of the NBP for the domestic financial system stability
- Macroprudential analysis
- Lender of Last Resort function
- Inter-institutional cooperation
  - within the Financial Stability Commitee
  - personal links with PFSA and BGF

NBP
Narodowy Bank Polski

Division of functions in the financial safety net

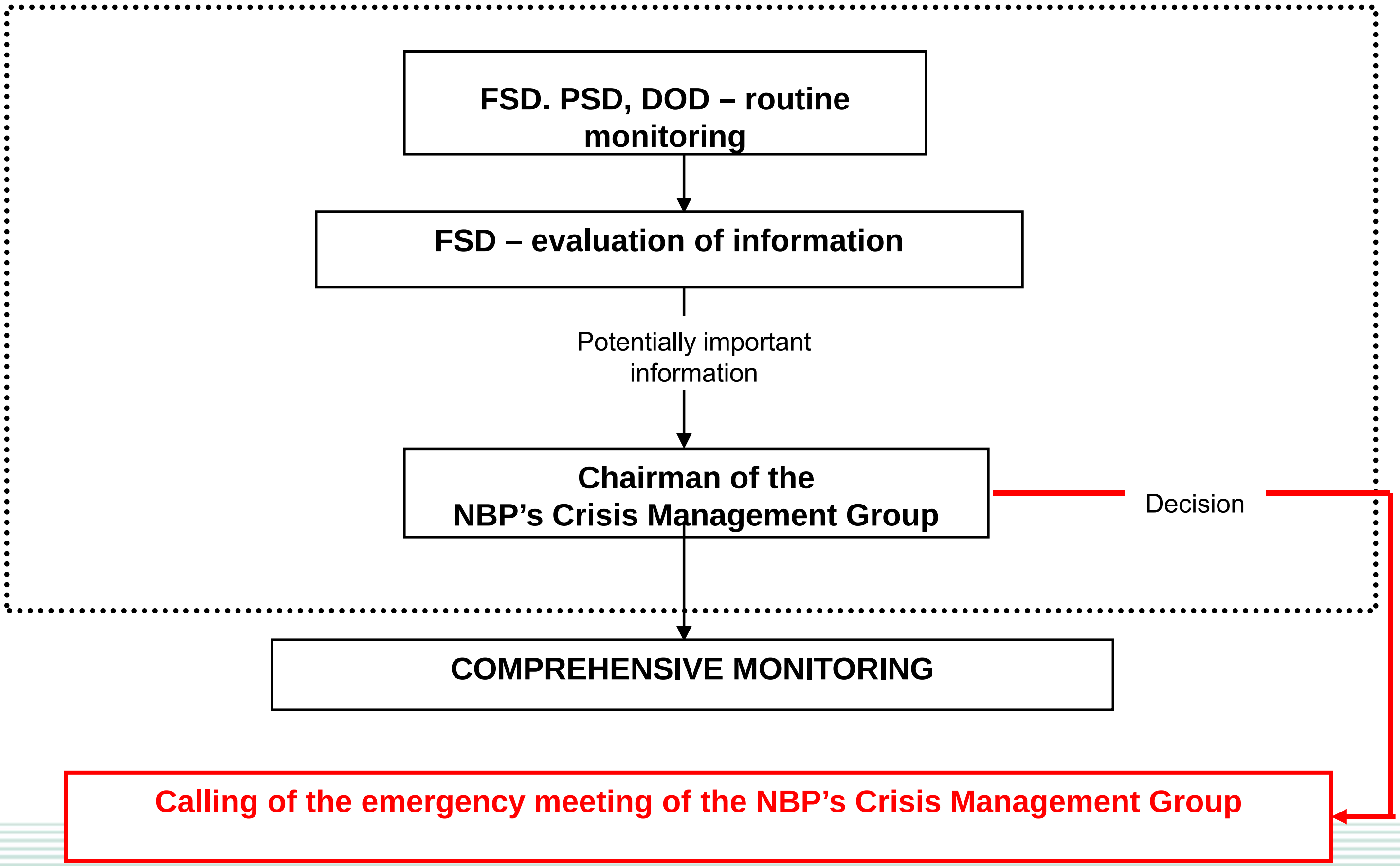
INSTITUTION / ROLE	CENTRAL BANK	GOVERNMENT	SUPERVISORY AUTHORITY	DEPOSIT INSURANCE FUND
CRISIS PREVENTION	*FINANCIAL SYSTEM ANALYSES (macroprudential)*	*FINANCIAL REGULATIONS AND CODIFICATION*	*REGULATIONS, RECOMMENDATIONS INSPECTIONS, SANCTIONS*	*SYSTEMIC RISK REDUCTION*
CRISIS MANAGEMENT	*EMERGENCY LIQUIDITY ASSISTANCE*	*GUARANTEE OF BANKS' LIABILITIES*	*REHABILITATION PROGRAMMES*	*ASSISTANCE PROGRAMMES (in risk minimizer formula)*
CRISIS RESOLUTION		*PUBLIC SUPPORT*		*DEPOSIT PAY-OUTS*

NBP

Narodowy Bank Polski

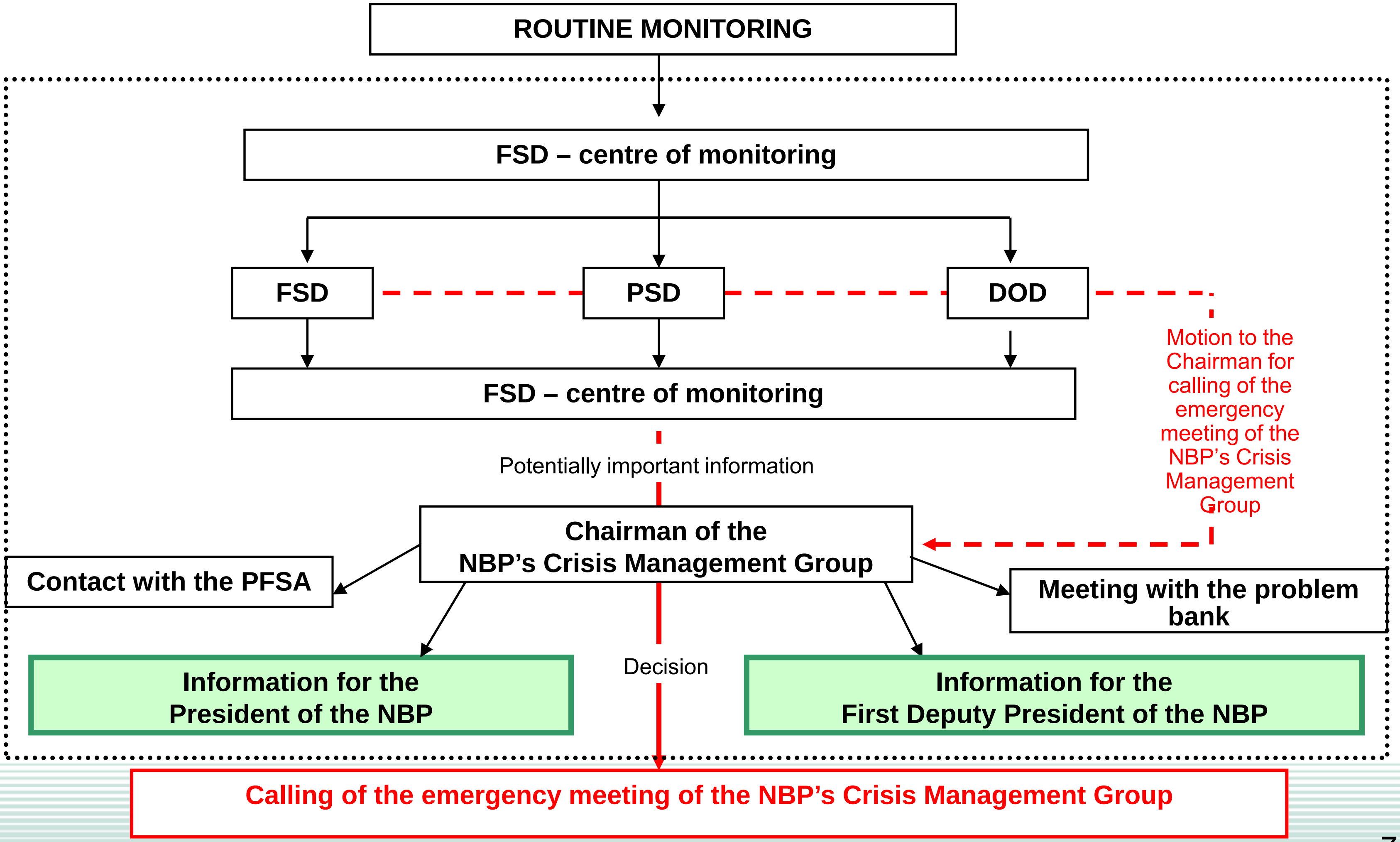
Monitoring of the financial system

ROUTINE MONITORING



Monitoring of the financial system

COPREHENSIVE MONITORING



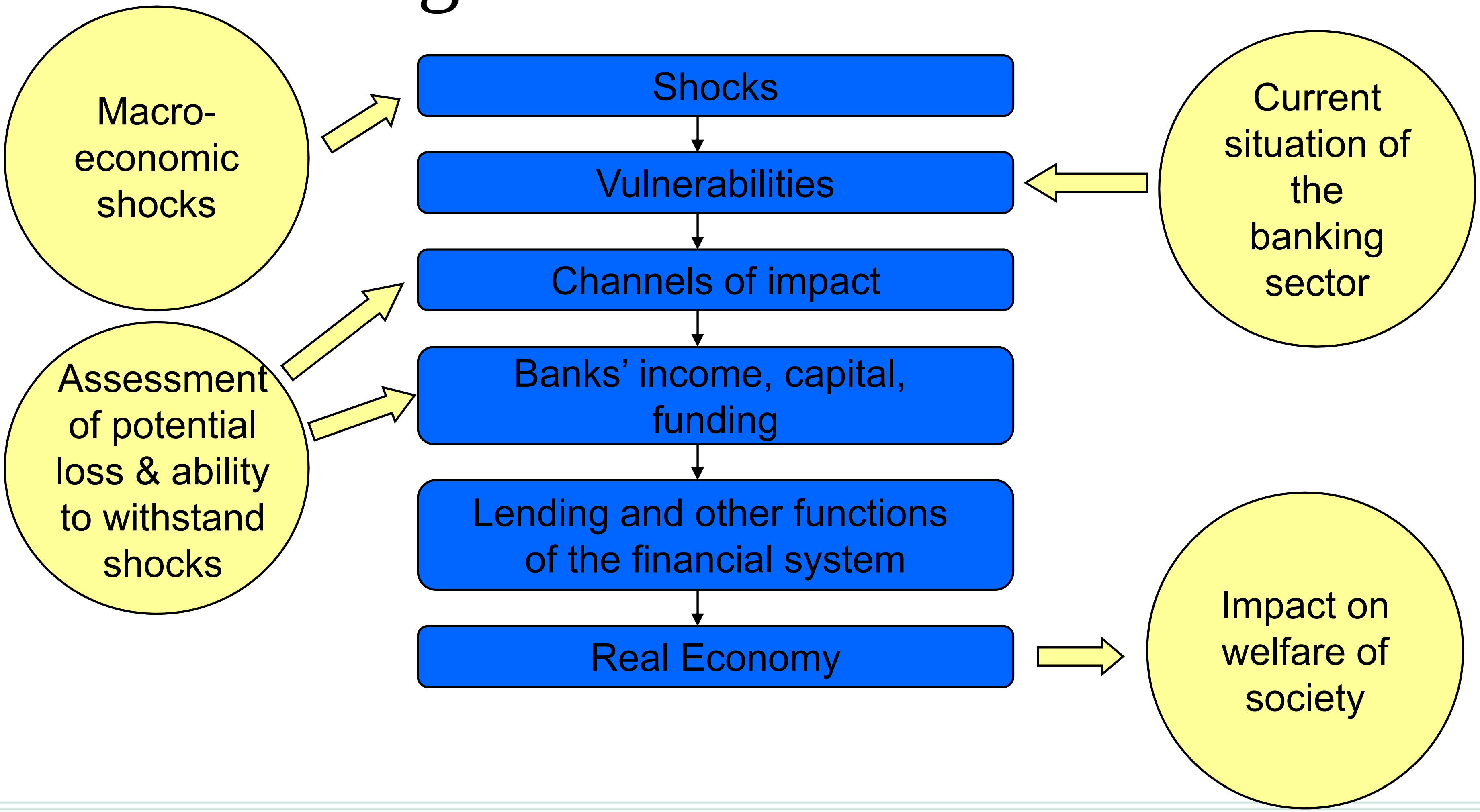
Standard work schedule on financial stability

- Half-yearly
  - Financial Stability Report/Review
- Quarterly
  - Senior Loan Officer Survey
- Monthly
  - Compilation of key financial indicators for the banking system for quick internal review

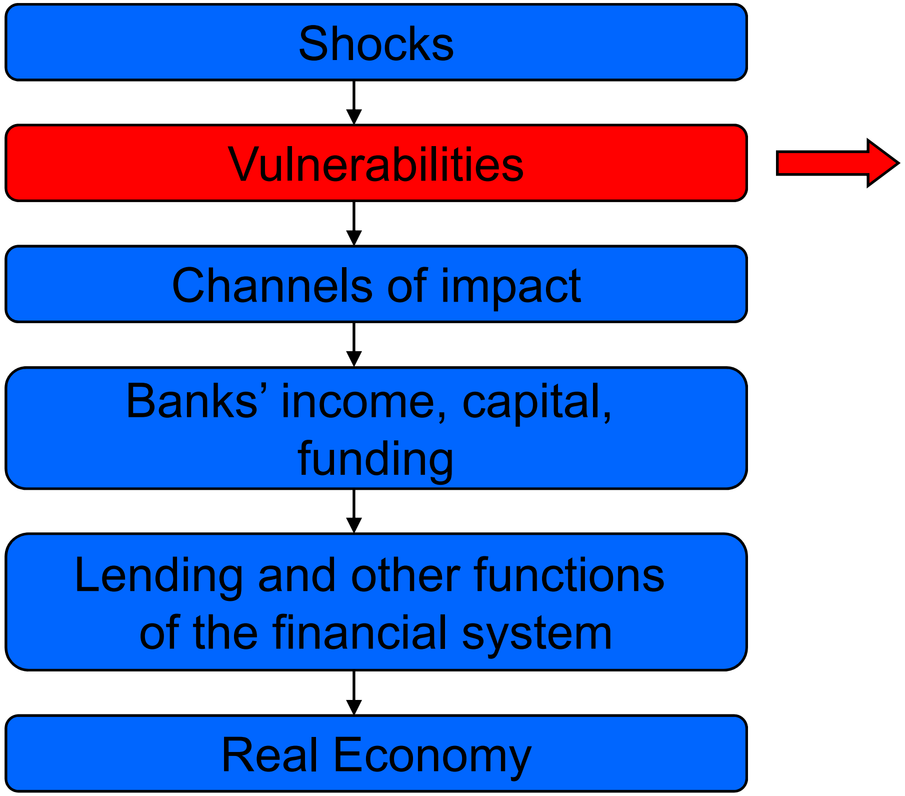
Task schedule during current turmoil

- Daily
  - Monitoring of news agencies for information related to financial institutions
- Monthly
  - Short assessment of the present condition of banks for Financial Stability Committee meetings
- Occasionally
  - Internal reviews - extended risk assessment (note and presentation) for the Management Board, including stress test results

Banking sector – what to look at?



Banking sector – what to look at?



Strengths and high-risk areas in the financial system

Examples:
- Lending policy and loan portfolio structure
- Capital position
- Exposures to market risk
- Asset prices: real estate, shares…

Tools: indicators of financial system „health”, e.g. IMF’s Financial Soundness Indicators as a starting point

Banking sector – what to look at?

Shocks
↓
Vulnerabilities
↓
Channels of impact
↓
Banks' income, capital, funding
↓
Lending and other functions of the financial system
↓
Real Economy

→

Potential shocks to financial stability

Examples:
- Macroeconomic imbalances – e.g. inflation, current account deficit, fiscal deficit – which may lead to weaker future economic growth
- Materialisation of risk factors for industries with significant bank debt
- Tensions in financial markets
- Commodity prices

Tools: macroeconomic analysis

Banking sector – what to look at?

Shocks
↓
Vulnerabilities
↓
Channels of impact →
↓
Banks' income, capital, funding
↓
Lending and other functions of the financial system
↓
Real Economy

Shock impact, transmission and amplification

- Which institutions are influenced?
- What are the consequences of shocks?
- What mechanisms can exacerbate the impact of shocks ? (e.g. liquidity squeeze on money markets can also worsen the situation of borrowers with floating-rate debt)

Banking sector – what to look at?

Shocks
↓
Vulnerabilities
↓
Channels of impact
↓
Banks' income, capital, funding
↓
Lending and other functions of the financial system
↓
Real Economy

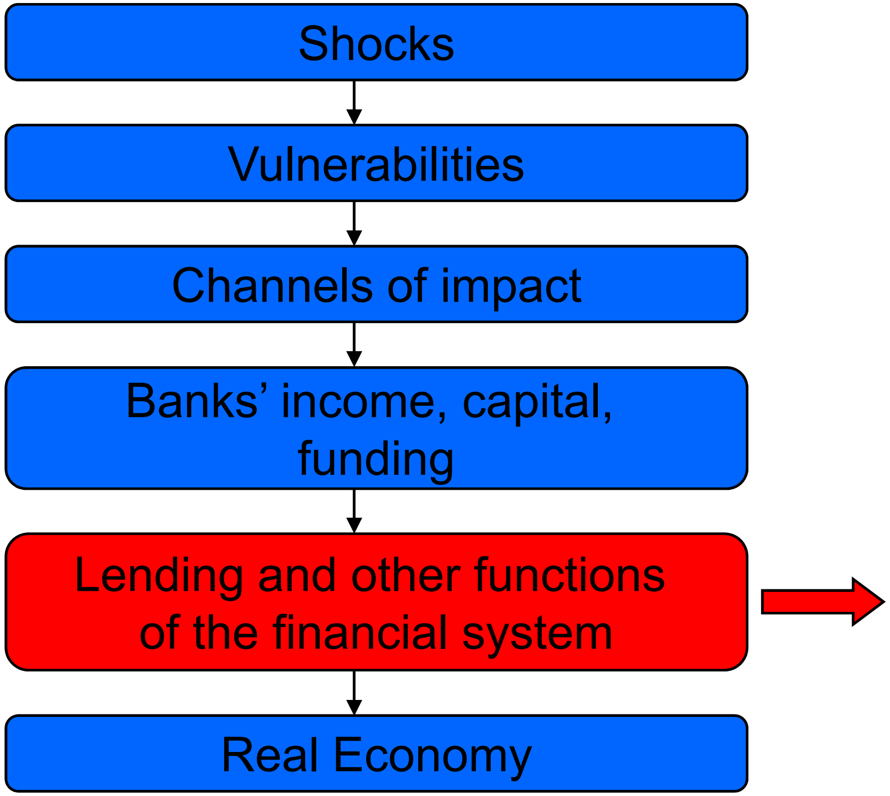
→

Impact on banks' financial position

- Can institutions withstand the shocks?
- What is their capital, liquidity and profit position after the shock?

Tools: stress tests

Banking sector – what to look at?



Banks' capacity to lend and risk appetite

-Would banks change their lending policy as a result of shocks?
- Does their capital and funding position allow to continue to provide lending?

Tools: most often through expert assessments. Macroeconomic models with detailed financial sector modules still uncommon but **dynamically developing**

Banking sector – what to look at?

Shocks
↓
Vulnerabilities
↓
Channels of impact
↓
Banks' income, capital, funding
↓
Lending and other functions of the financial system
↓
Real Economy →

Impact on consumption, investment, unemployment, economic growth…

Tools: expert assessments in cooperation with macroeconomic analysts; residual adjustments in macro forecasting models

Stress tests

„ad-hoc”

„model-based”

Shocks to FSIs are assumed by analysts

Impact on FSIs is based on econometric models

„single factor”
„sensitivity”

„scenario”

A single risk factor is shocked – can be a macro variable or simply an FSI

Possibly multiple risk factors, comovements from macro model or historical experience

Before the Lehman Brothers default

- Polish banking sector relatively unaffected mainly because of:
  - Traditional banking business model
  - Negligible exposure towards subprime-backed securities
  - However…

Identification of potential transmission channels

- Direct channels
  - Credit channel
  - Funding channel
  - Direct market channel
- Indirect channels
  - Macroeconomic channel
  - Capital channel
  - Indirect market channel
  - Indirect credit channel
  - Confidence channel

What is the potential impact?

Transmission channels

Credit channel	Outstanding and potential credit exposure to non-resident financial institutions
Funding channel	Volatile (short-term) foreign funding of banks, often intra-group
Direct market channel	Holdings of securities issued by non-residents
Macroeconomic channel	Slowdown in the domestic economy induced by events in other economies
Capital channel	Dependence on the foreign owner with regard to dividends and capital increase
Indirect market channel	Correlation of prices in the domestic financial market with the prices in the international financial market
Indirect credit channel	Exposure of domestic borrowers to the situation in the international financial market, e.g. via FX loans
Confidence channel	Disruption of public confidence in a domestic financial institution(s)

Lehman Brother's default

Significant rise in risk aversion and perception of credit risk on core markets

↓

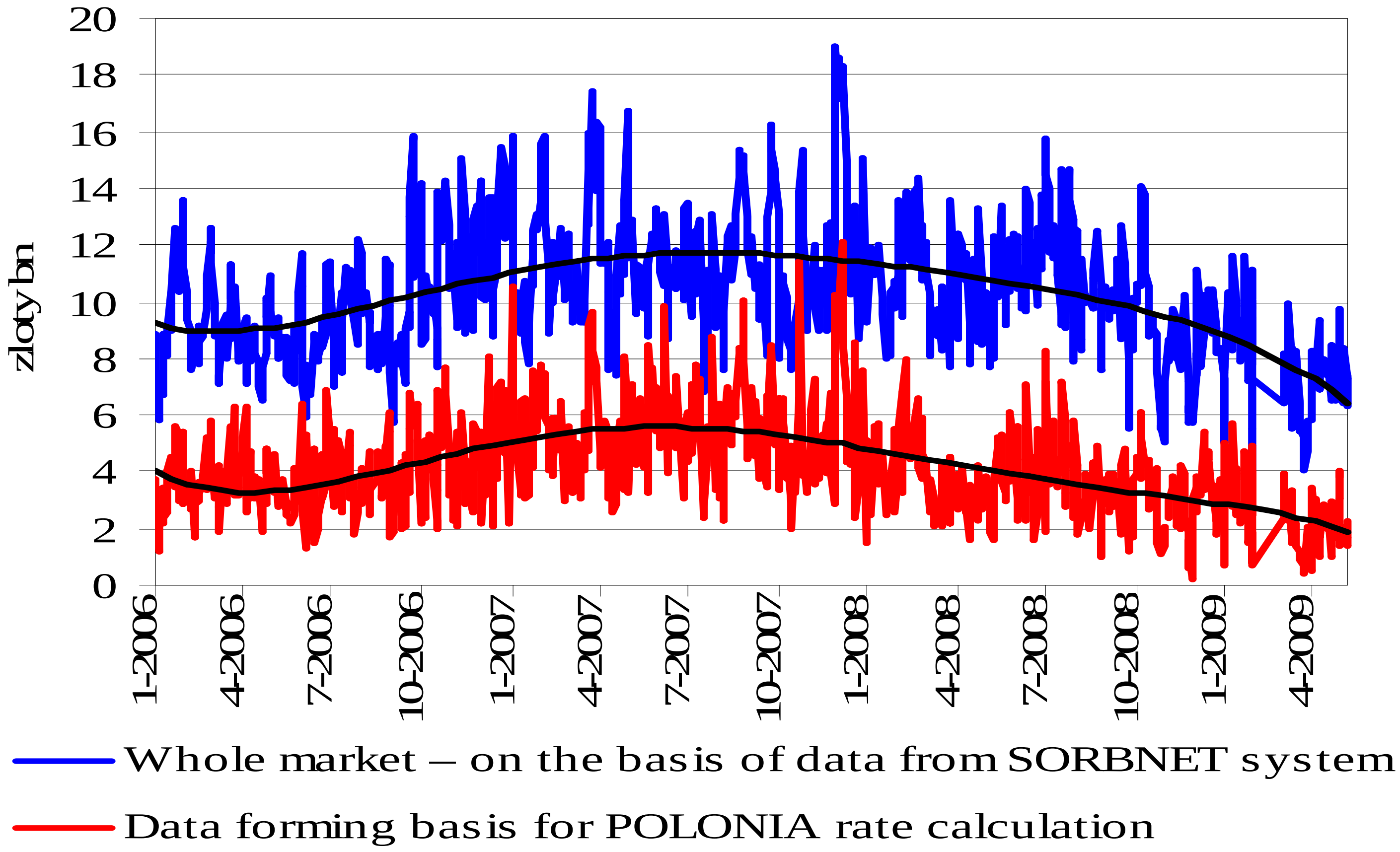
Lack of mutual confidence between Polish banks, resulting from the the fact that most of the Polish banks are part of foreign banking groups

↓

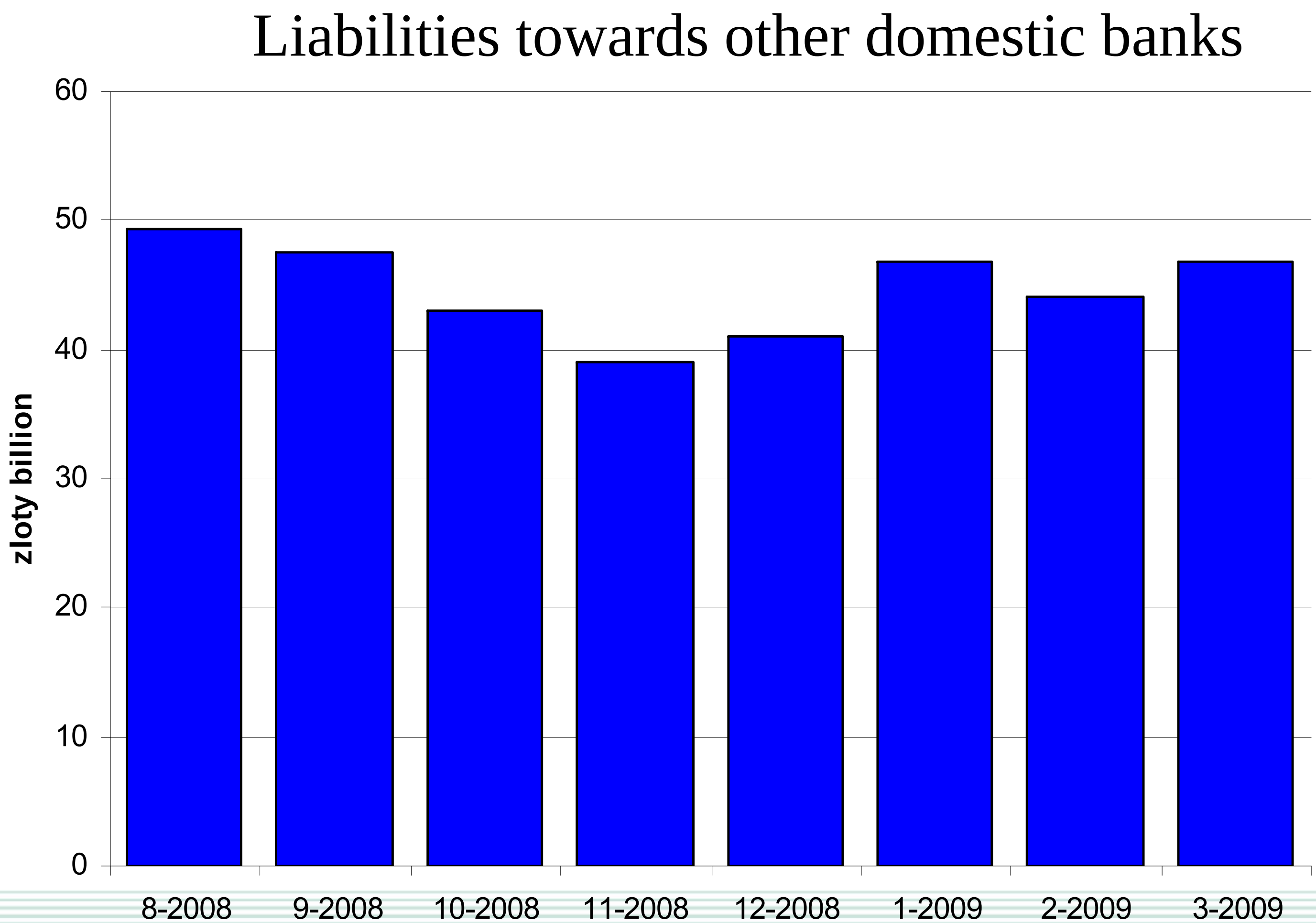
Fall in liquidity of Polish interbank money market and FX swaps market

NBP
Narodowy Bank Polski

Fall in liquidity of the interbank market



Fall in liquidity of the interbank market



Exposure to FX risk

FX assets

226 zł billion

FX liabilities

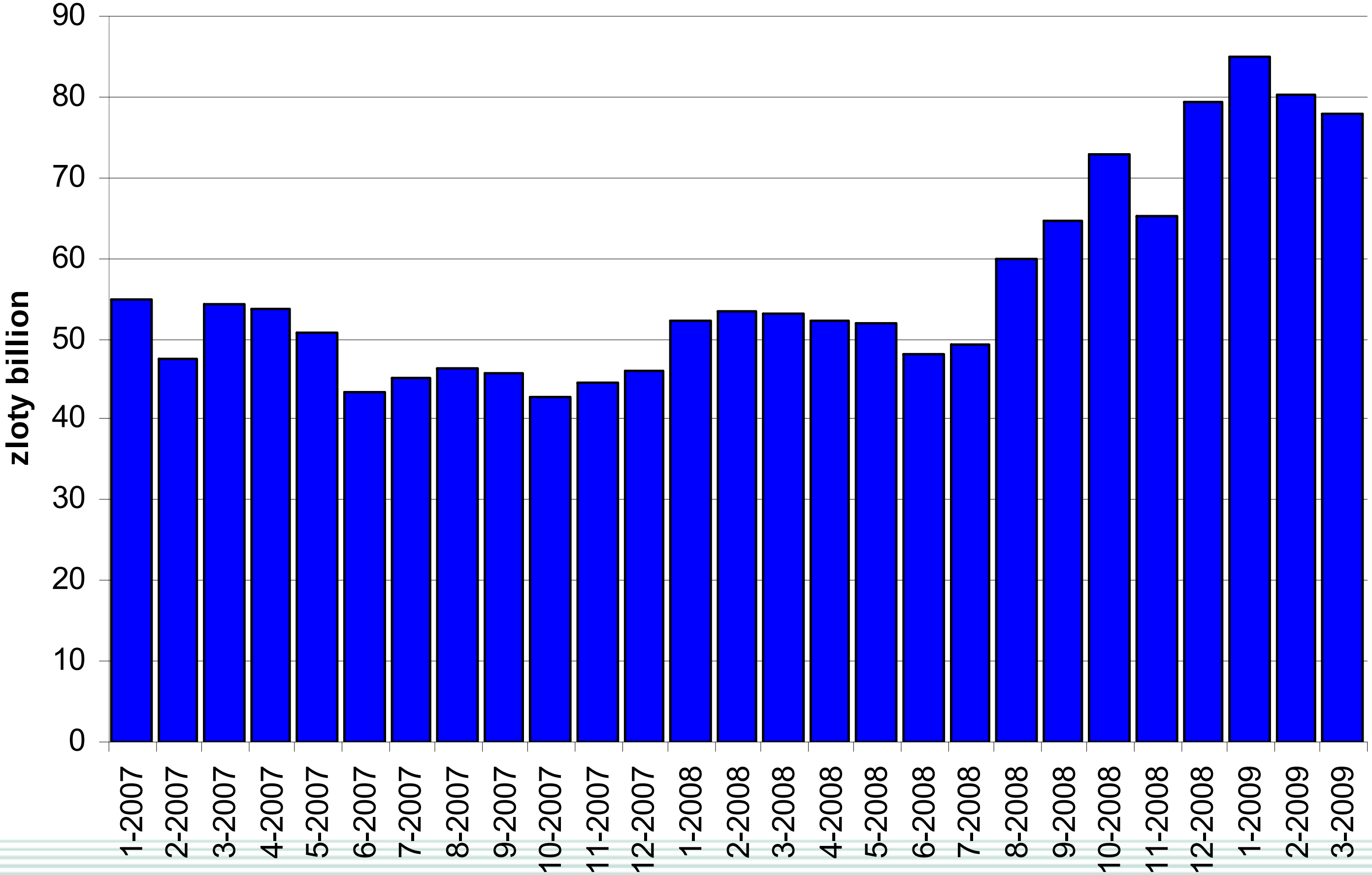
160 zł billion

Currency mismatch that needs to be hedged by off-balance operations

66 zł billion

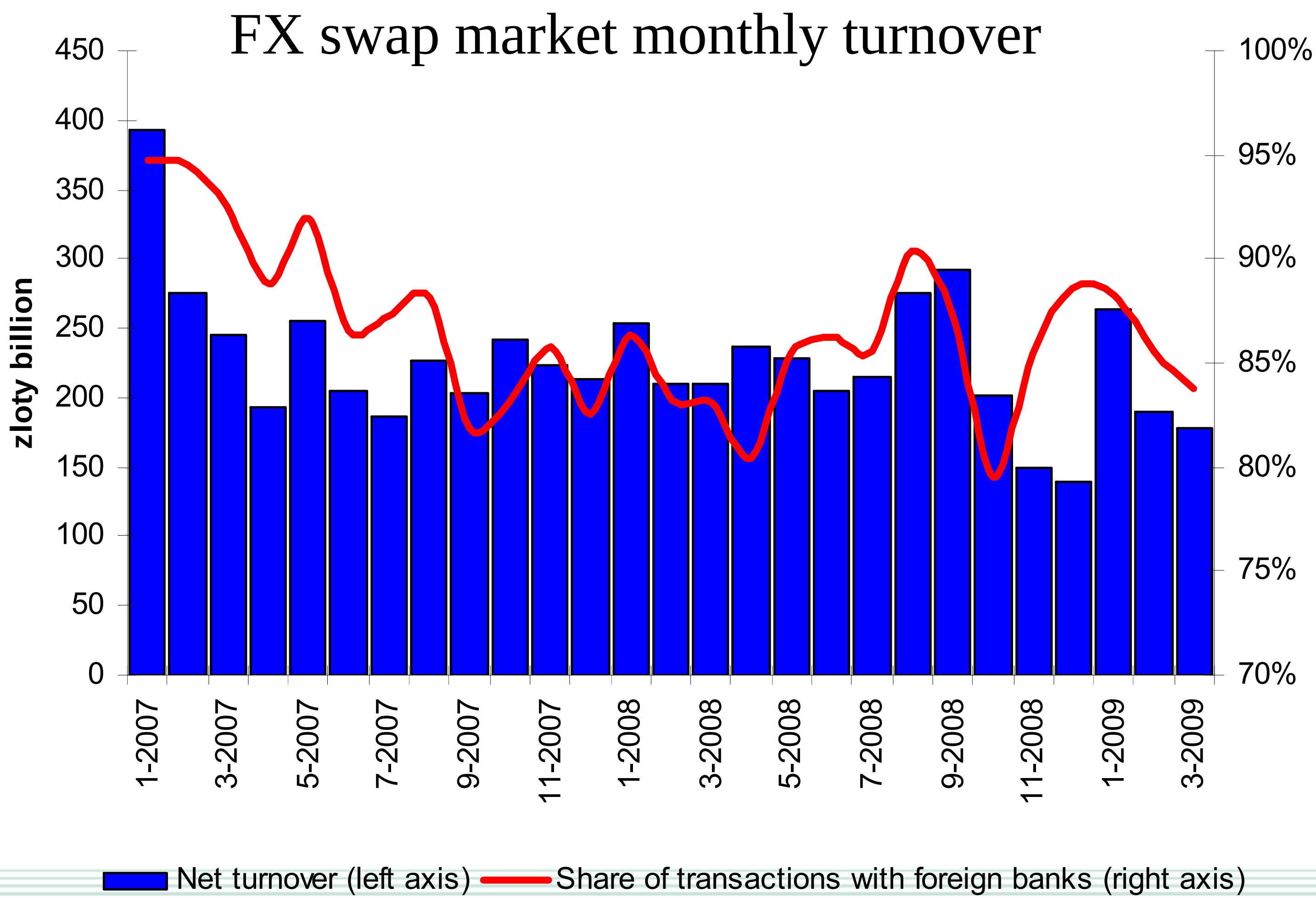
Exposure to FX risk

Open balance sheet position



NBP
Narodowy Bank Polski

Exposure to FX risk



NBP's Confidence Package

- Announced on 14th October 2008
- Main goals:
  - Enable banks to obtain PLN funding for longer maturities (up to 3 month)
  - Enable banks to obtain FX funding

Confidence Package - Instruments

INSTRUMENT	EFFECT
Introducing 3-month repo	Availability of PLN funding for longer maturities
Introducing FX swaps (USD/PLN, EUR/PLN, CHF/PLN)	Supporting FX liquidity
Introducing currency deposits as collateral for refinancing loan	Availability of obtaining emergency PLN liquidity on non-standard collateral
Decreasing haircut for collateral on Lombard loan	Increasing the scope of available funding on the given level of collateral
Broadening the range of collateral on Lombard loan	Increased elasticity of banks' liquidity management
Possibility of increasing the frequency of open market operations	Stabilization of POLONIA rate and increased elasticity of banks' liquidity management
Possibility of earlier redemption of NBP bills	Stabilization of POLONIA rate and increased elasticity of banks' liquidity management
Consideration of earlier redemption of NBP 10-year bonds issued in 2002 (eventually performed in January 2009)	Increased structural liquidity of the banking sector

Confidence Package - extention

- January 2009 earlier redemption of NBP 10-year bonds (8,2 bn PLN injected into the system)

- Beginning in May 2009 introduction of 6 month repo transactions

- Introduction of 1month EUR/PLN and USD/PLN swaps

- Broadening the range of collateral accepted by NBP

NBP’s FX swaps

- **The EBC Agreement.** The National Bank of Poland and the European Central Bank jointly announced an agreement to support the NBP's instruments of euro liquidity provision. Under this agreement, which was concluded on 6 November 2008, the ECB provides the Polish central bank with a facility to borrow up to EUR 10 billion in order to provide additional support to NBP's operations.
- **The SNB Agreement.** The Swiss National Bank (SNB) and Narodowy Bank Polski (NBP) announced on 7 November 2008 the establishment of a temporary EUR/CHF swap arrangement.
  – This facility, like the one signed by the SNB and the European Central Bank (ECB), allows the NBP to provide Swiss franc funding to banks in its jurisdiction in the form of foreign exchange swaps.
  – Under this arrangement, the SNB provides the NBP with Swiss francs against euro, while the NBP provides the Swiss francs to its counterparties against Polish zloty. The operations are conducted with a term of 7 days at a fixed price. Longer-term transactions are also offered from time to time.

NBP’s FX swaps

- Intended to be a ‘last resort’ instrument for banks that cannot hedge their open FX position elsewhere
- Therefore, relatively tight pricing conditions (example as of 15 April 2009)

  1W FX swaps:
  - PLN interest rate: NBP reference rate – a bp
  - FX interest rate: LIBOR 1W + b bp
  - Haircut on spot exchange rate: (EUR/PLN 5%, USD/PLN 7%, CHF/PLN 5%)

  1M FX swaps:
  - PLN interest rate: 1M WIBID – x bp
  - FX interest rate: LIBOR 1M + y bp
  - Haircut on spot exchange rate: (EUR/PLN: 10%, USD/PLN: 15%)

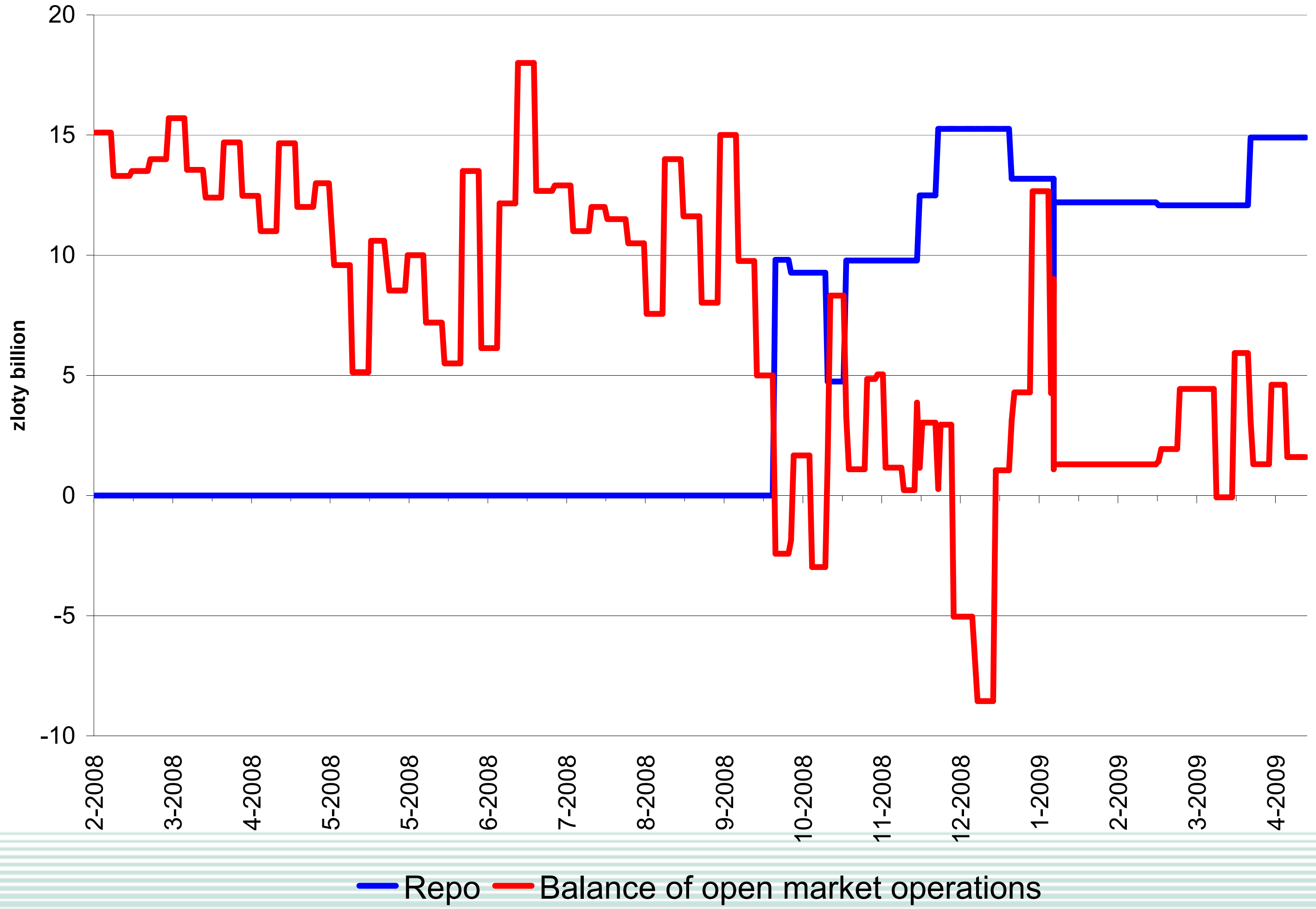
NBP's FX swaps

- As it was intended, used by a small group of banks which cannot hedge the FX risk with their parent entities or other counterparties
- As a result, limited turnover

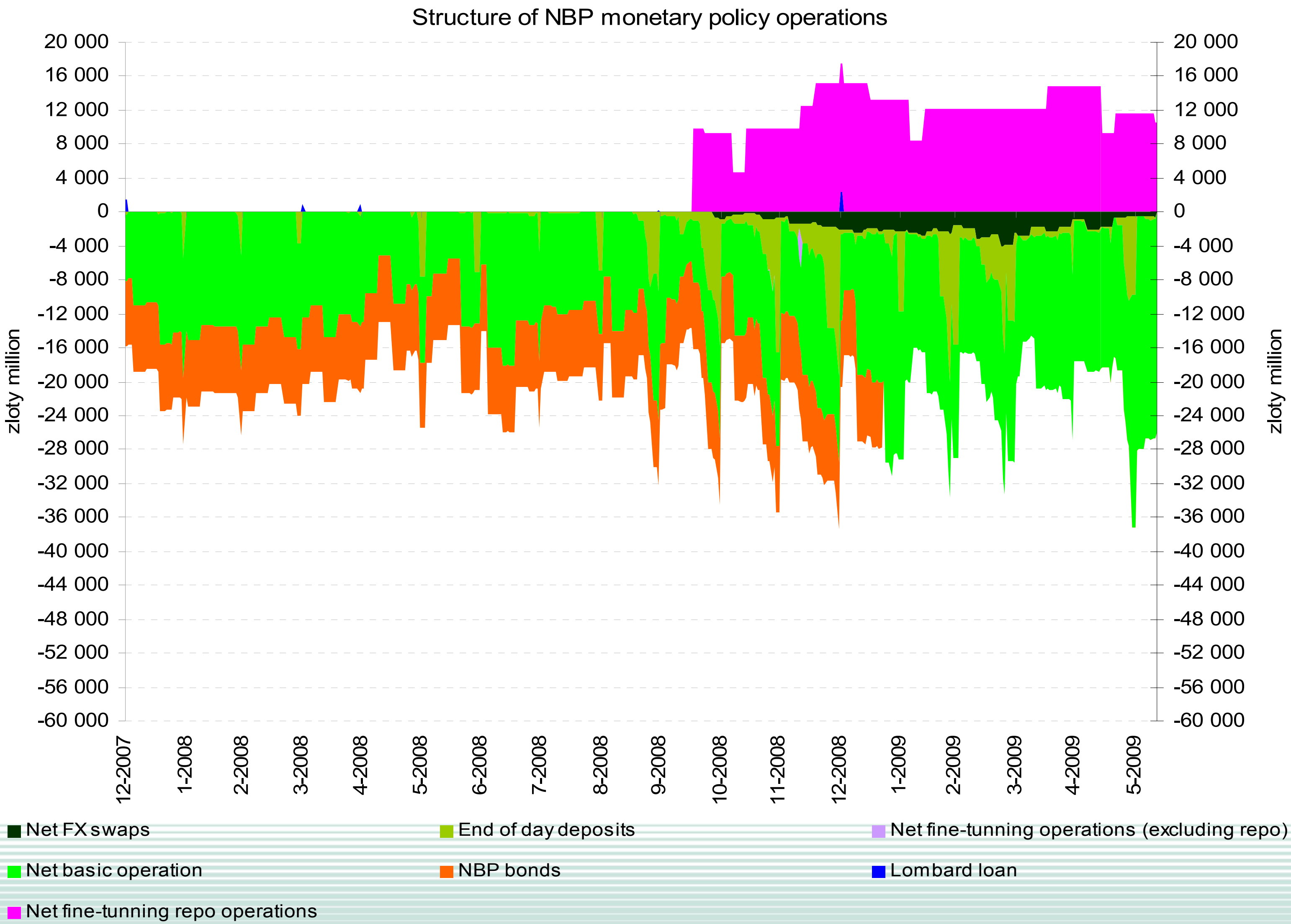
Liqudity provided in	Total amount (million) (as of end of April 2009)
EUR	635
USD	2270
CHF	(7 D): 7960 (84 D): 475

REPOs

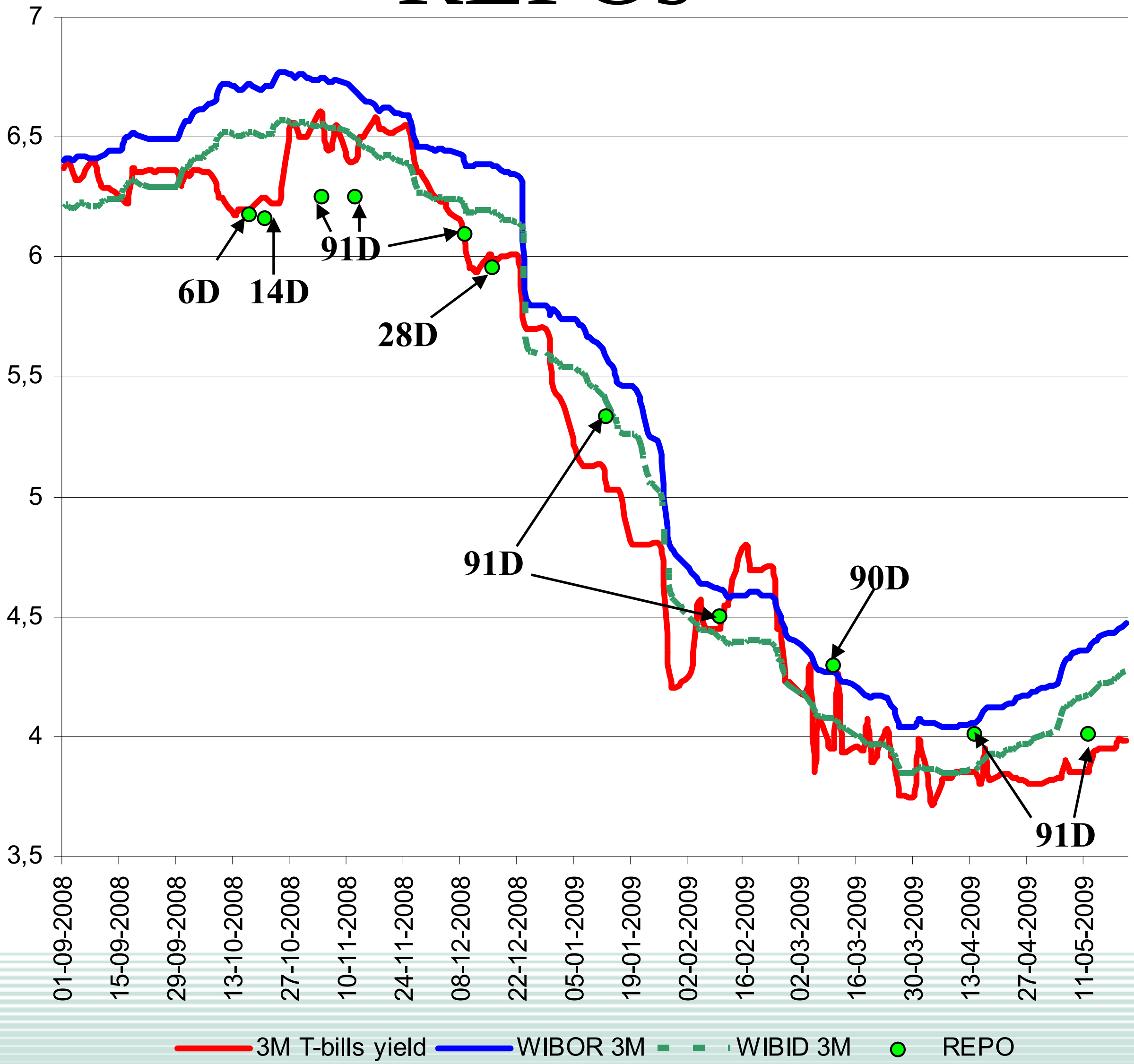
- As of 15 May – 11 operations totaling 53.1 zloty billion



NBP operations



REPOs

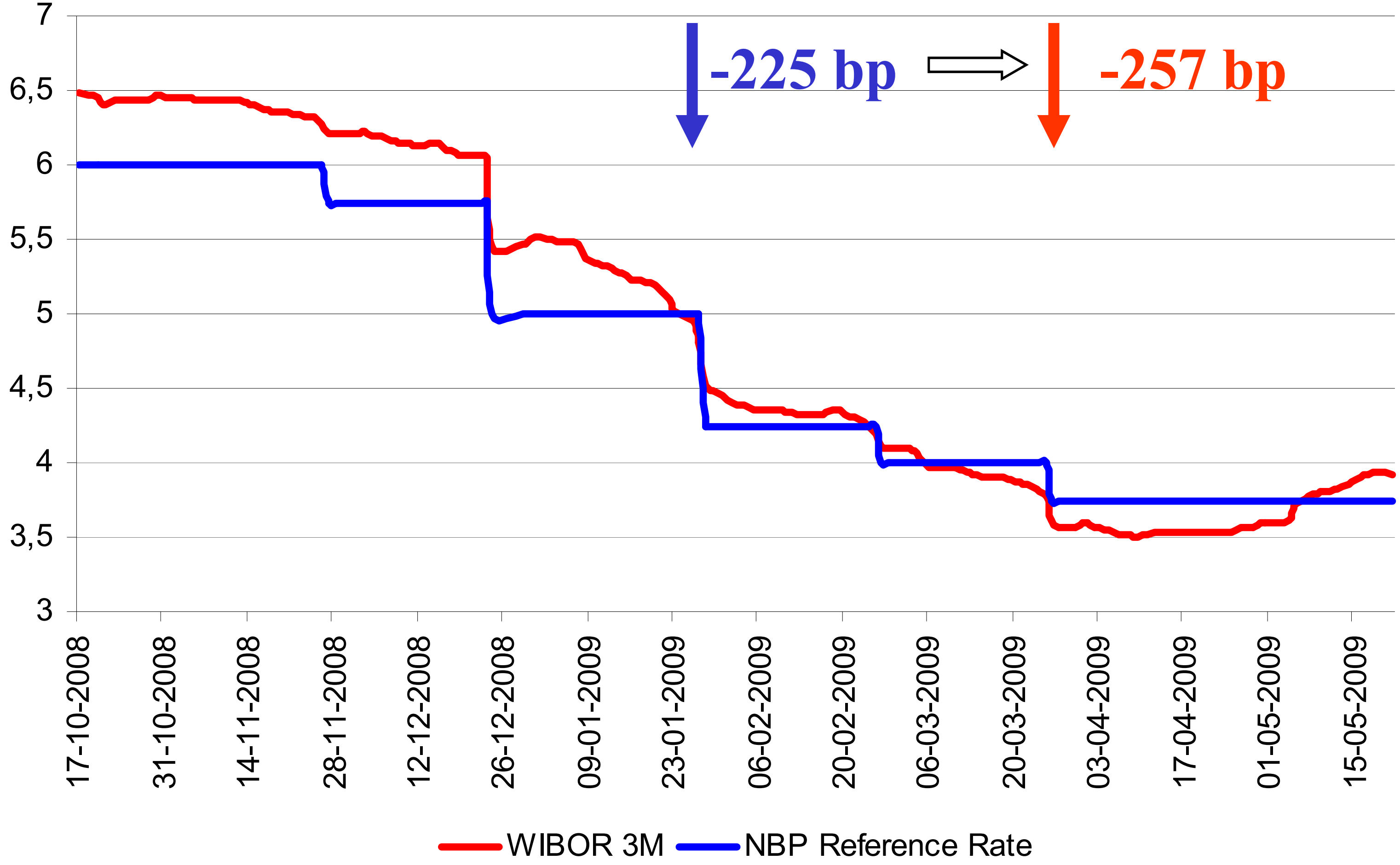

7
6,5
6
5,5
5
4,5
4
3,5
01-09-2008
15-09-2008
29-09-2008
13-10-2008
27-10-2008
10-11-2008
24-11-2008
08-12-2008
22-12-2008
05-01-2009
19-01-2009
02-02-2009
16-02-2009
02-03-2009
16-03-2009
30-03-2009
13-04-2009
27-04-2009
11-05-2009
6D
14D
91D
28D
91D
90D
91D
3M T-bills yield
WIBOR 3M
WIBID 3M
REPO

REPOs

- Possibility of arbitrage
- Reappearance of bilateral quotations on the interbank depo market and transactions longer than O/N
- WIBOR 3M rates movements in line with policy rate
- Redistribution of liquidity in the banking sector

NBP
Narodowy Bank Polski

REPOs – impact on interbank market

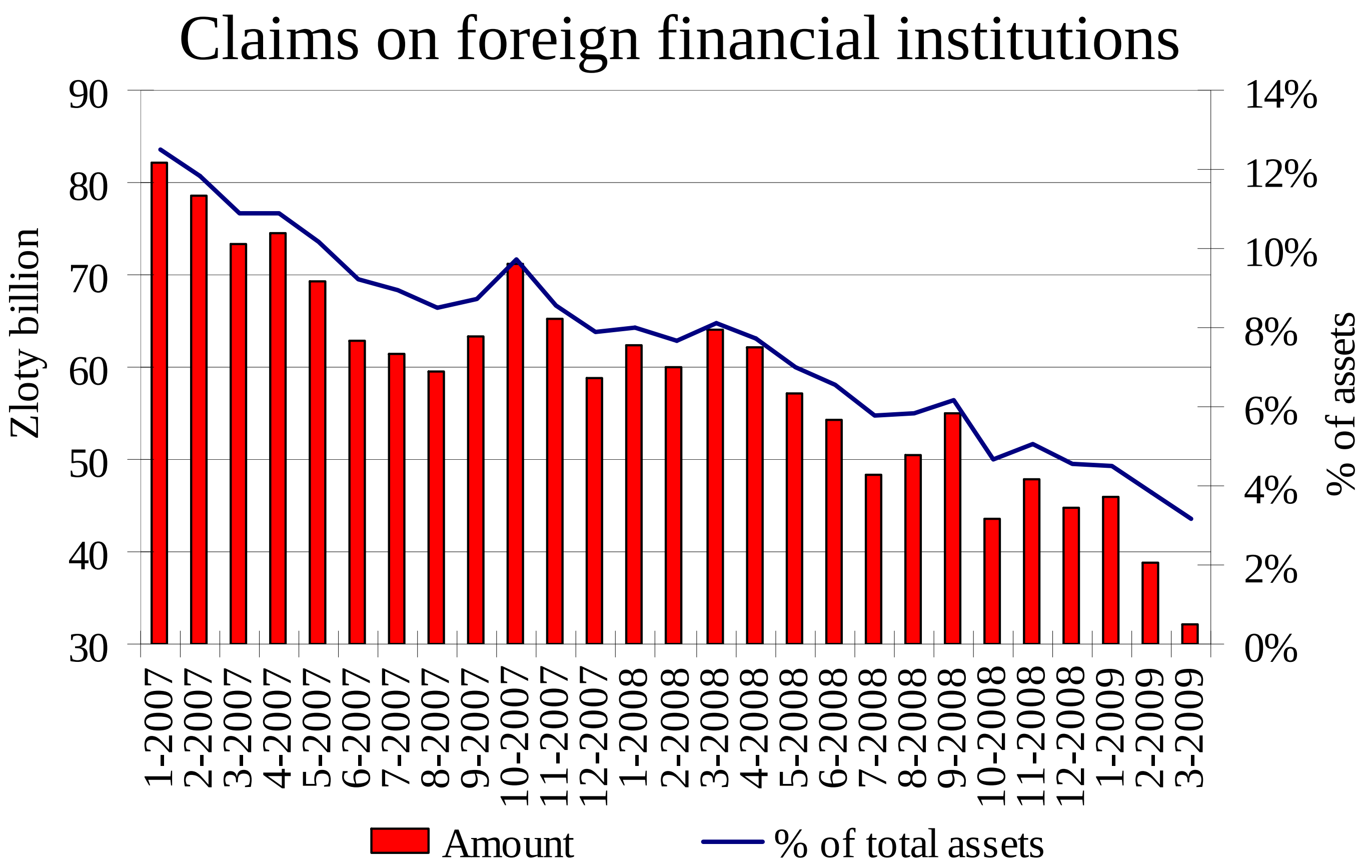


Transmission channels

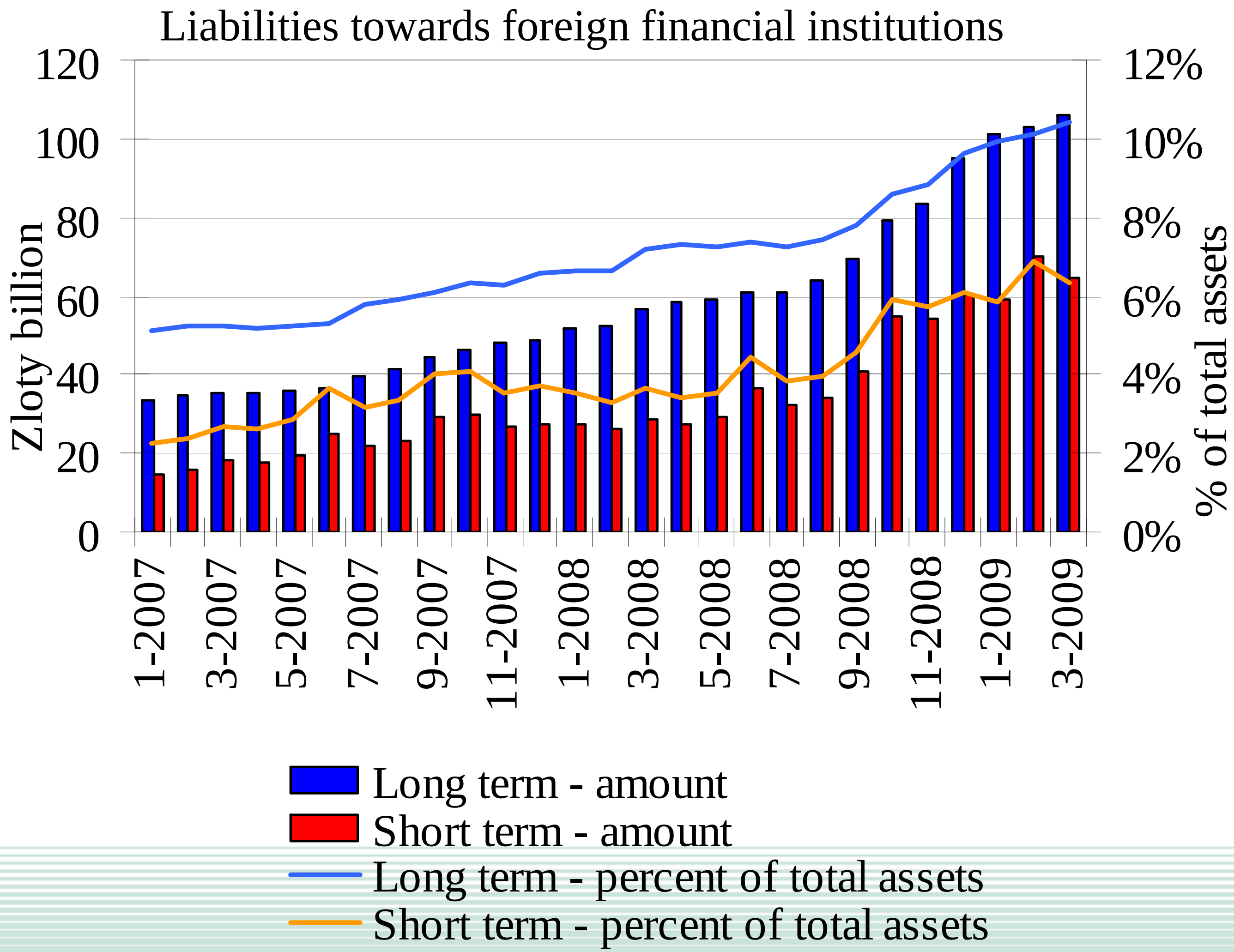
- Direct channels
  - Credit channel
  - Funding channel
  - Direct market channel
- Indirect channels
  - Macroeconomic channel
  - Capital channel
  - Indirect market channel
  - Indirect credit channel
  - Confidence channel

To what extent have these channels materialized?

Credit channel



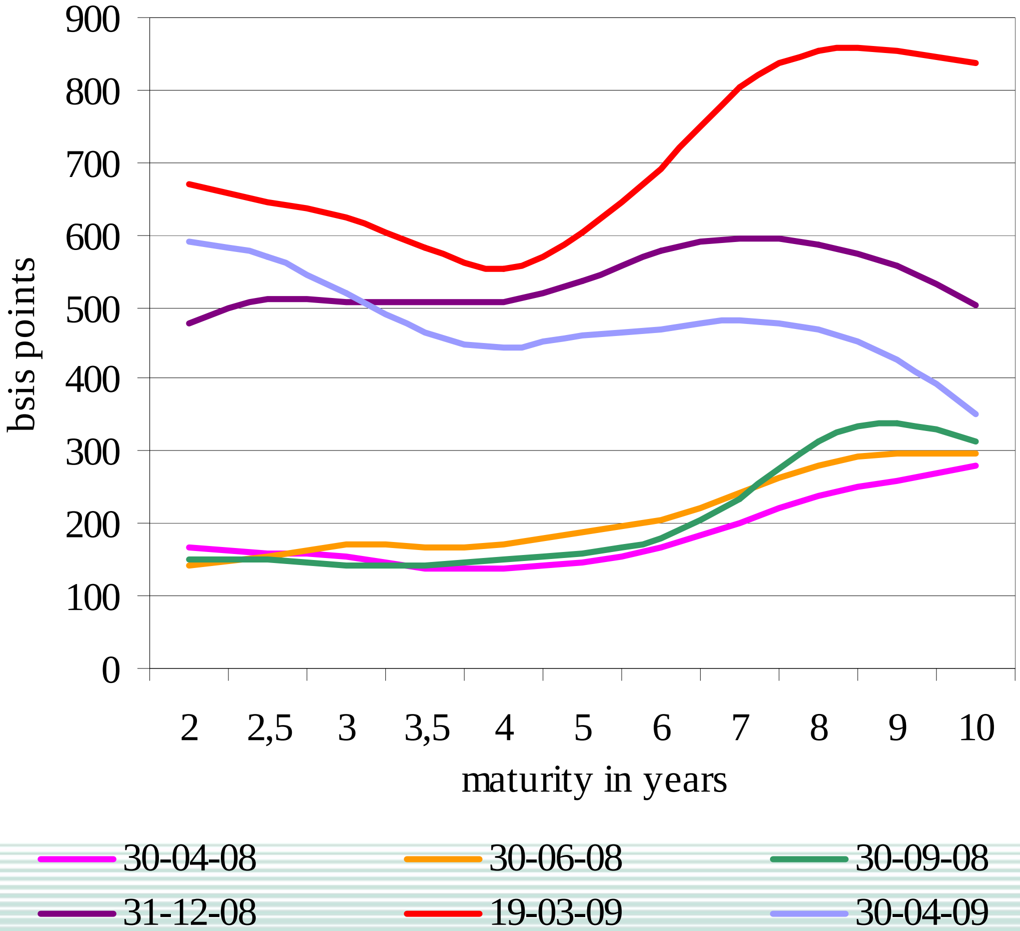
Funding channel



NBP
Narodowy Bank Polski

Funding channel

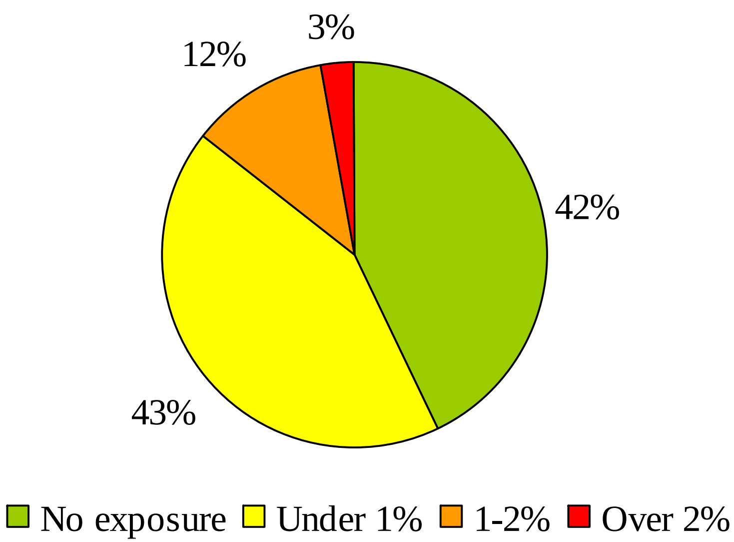
Implied spread for A-rated Polish banks



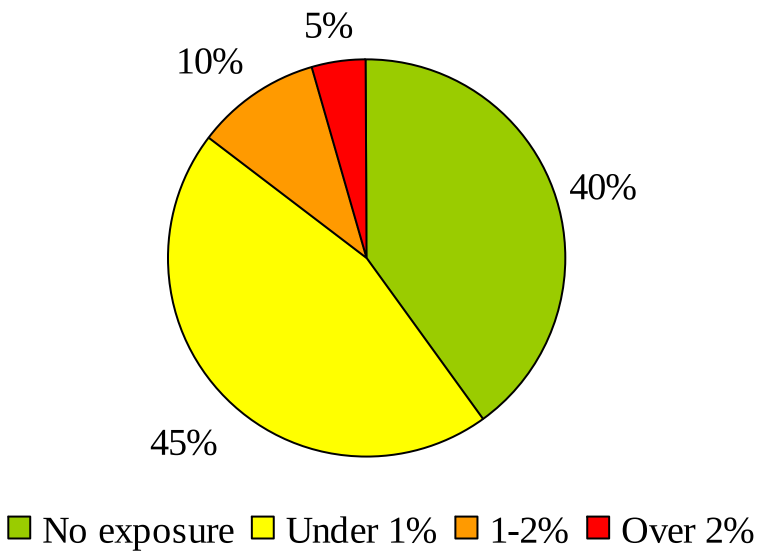
Market channel

Distribution of assets of banks by the total holdings of debt securities issued by non-residents as percent of total assets

As of March 2008:



As of March 2009:



Macroeconomic channel

- The macroeconomic forecasts are changing very rapidly, often downward revisions of future GDP growth
- Decoupling hypothesis might fail
- Real economy relies on export revenues from EU (78% of export flows to EU countries)
- Increasing probability of credit risk materialization

Macroeconomic channel macro stress test

- Designed to determine the **vulnerability of the Polish banking sector to unfavourable changes of external conditions**
- Baseline scenario - GDP projection prepared for the February 2009 edition of "Inflation Report"
- The "shock" scenario - much stronger economic slowdown in US and strong economic recession in euro area (the growth of GDP in Poland is 4-5 percentage point lower than in baseline scenario).

Macroeconomic channel macro stress test

Baseline scenario

- Strong increase in loan losses, but still on comparable level with that during the economic slowdown of the years (2001-2002),
- Hypothetical losses originating from the impaired loans portfolio could be absorbed by almost all of the banks (the capital adequacy ratio in three small banks would fall below 8%).

The "shock" scenario

- Loan losses more than double over the simulation horizon as compared with the baseline scenario,
- Number of banks with the capital adequacy ratio below 8% increase, but the value of hypothetical recapitalization is still insignificant in relation to banks' assets.

	2009	2010
Baseline Scenario		
GDP Growth y/y	1,1	2,2
CPI Inflation	3,2	1,9
WIBOR3M	4,78	4,45
Stress Scenario		
GDP Growth y/y	-2,0	-2,0
CPI Inflation	1,0	0,6
WIBOR3M	4,78	4,45

	Baseline Scenario	Stress Scenario
Net charges to provision for loans(zloty billion)	25,0	55,0
- Corporate loans	13,3	29,4
- Loans to households	11,7	25,6
Net charges to provisions for loans as percentage of total assets (as of 12.2008)	2,24%	5,3%

Capital channel

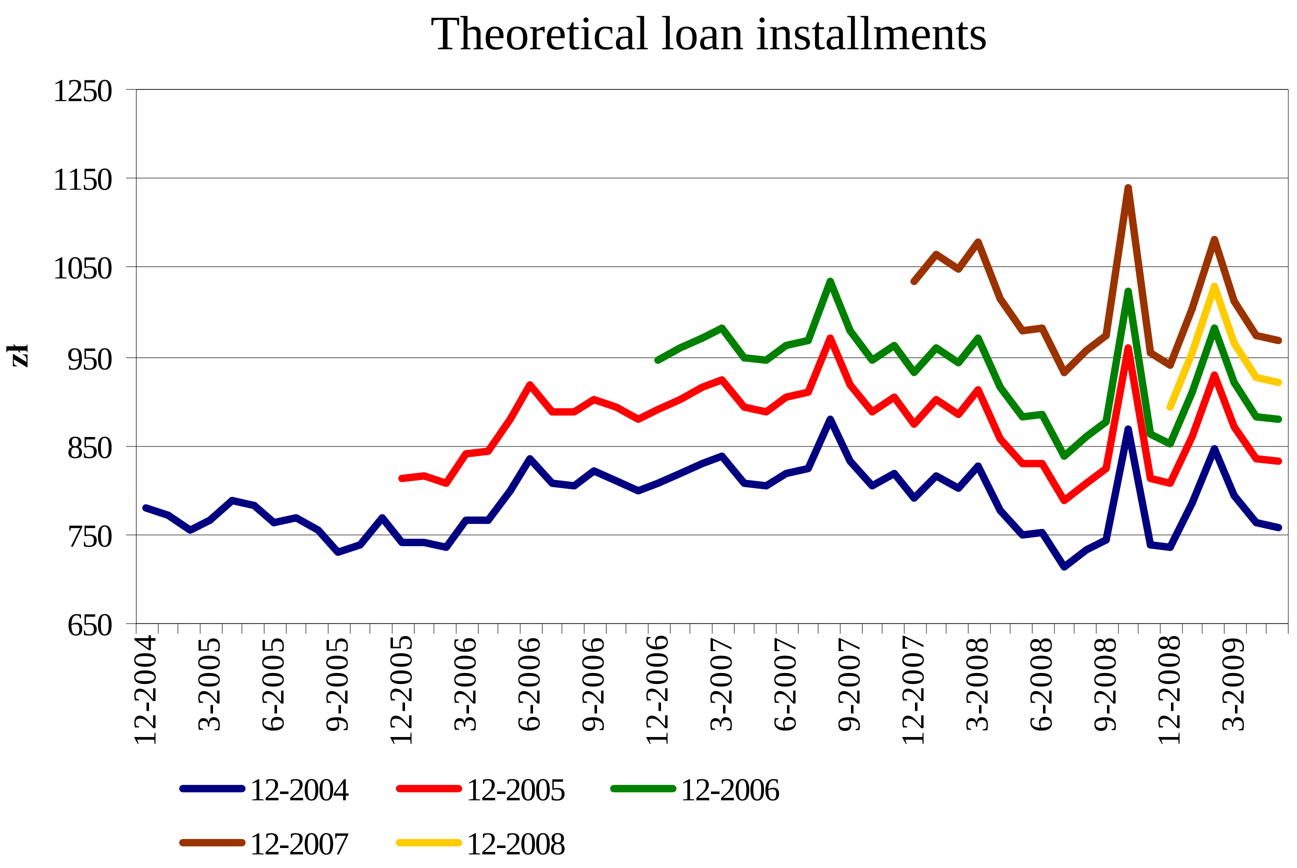
- Despite losses incurred by many parent-entities, majority of Polish banks decided to assign the 2008 profits for increasing own funds.
- Some banks received subordinated loans from their parent entities

Indirect market channel

- Decreased liquidity of markets for instruments used for market risk hedging. As a result impeded market risk management
- However, banks have the possibility to enter into FX swaps transactions with the NBP (Confidence Pact)
- Increase in global risk aversion affected the PLN exchange rate. Depreciation of zloty was stronger than it would emerge from fundamental factors

Exchange rates against the EUR, 01.01.2007=100

Indirect credit channel



Confidence channel

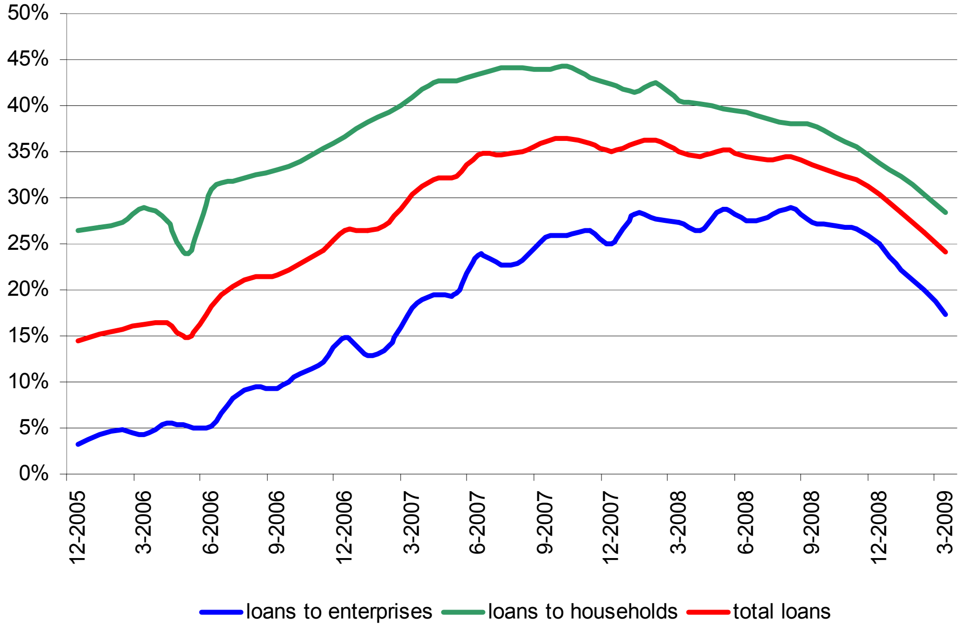
- Client confidence - challenges for subsidiaries of institutions involved in government bailouts
  - Orderly/disorderly sale of CEE operations?

- Interbank market – influence of groupwide risk management policies on interbank limits „imported confidence crisis”

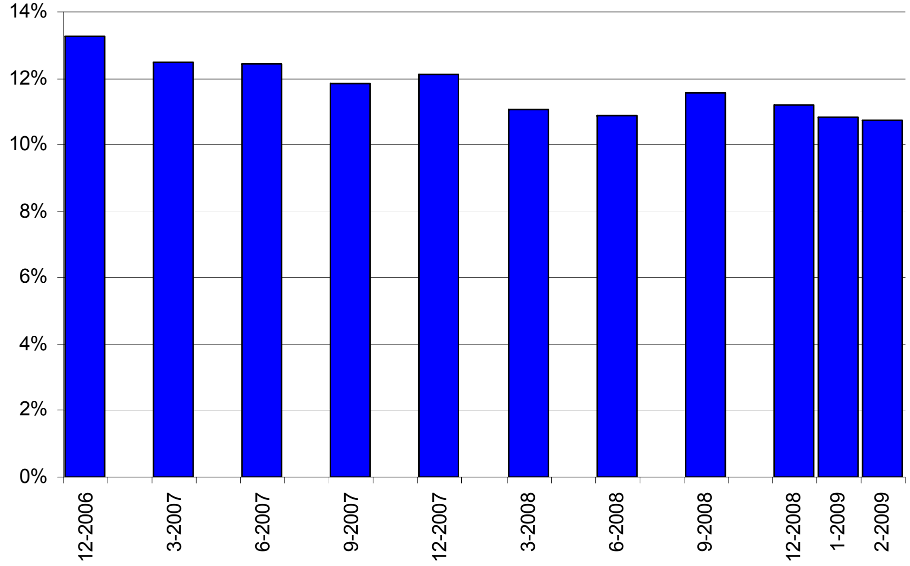
Current challenges

- Impact of economic slowdown
- Capital position of banks

Annual credit growth

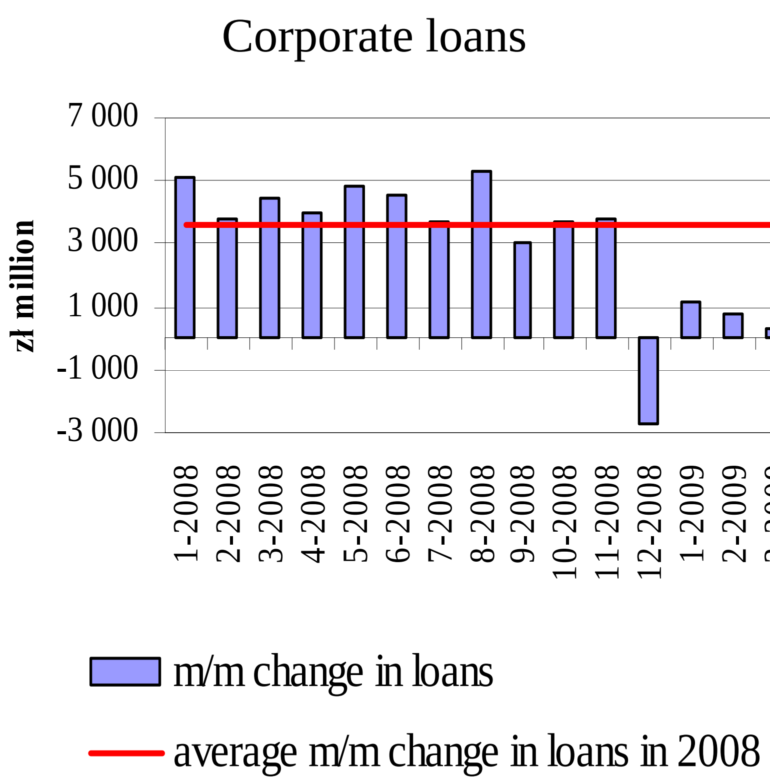


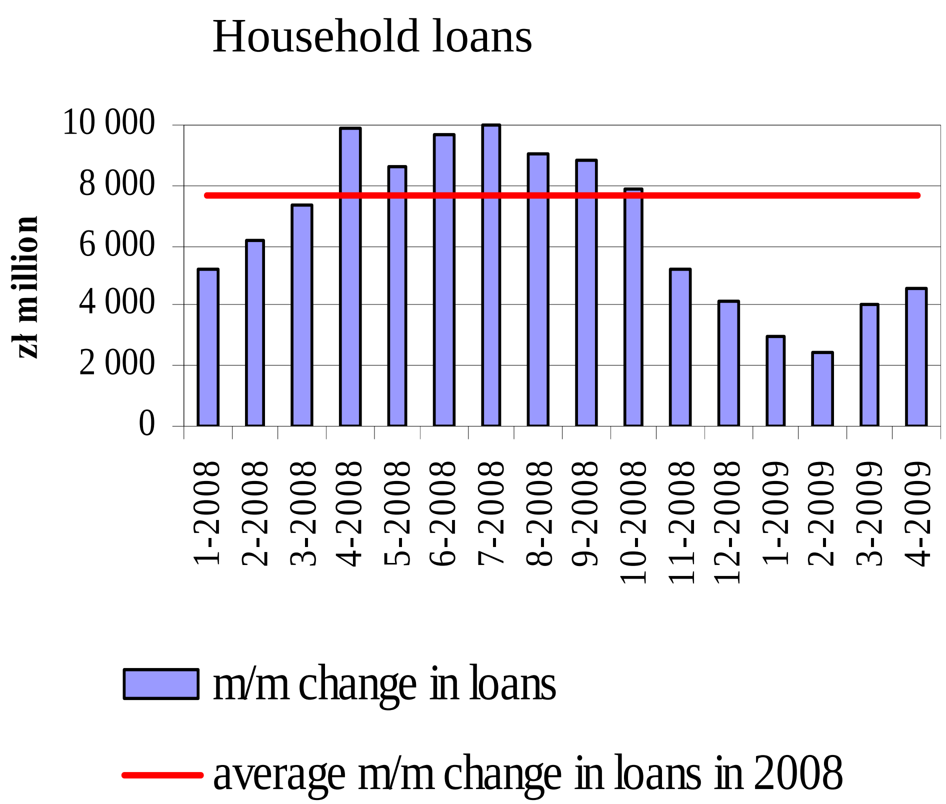
Capital adequacy ratio of the banking sector



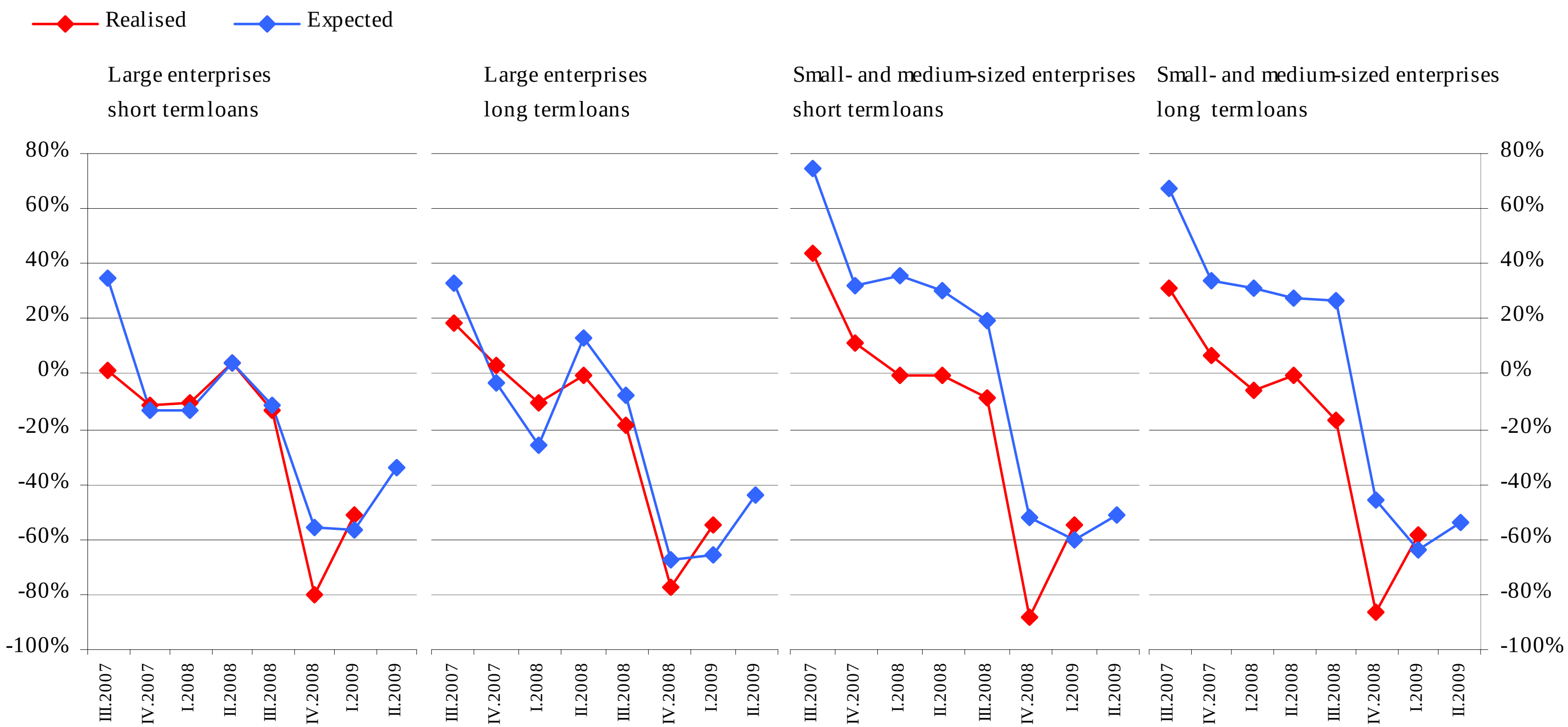
Note: Data adjusted for exchange rate movements

Current challenges





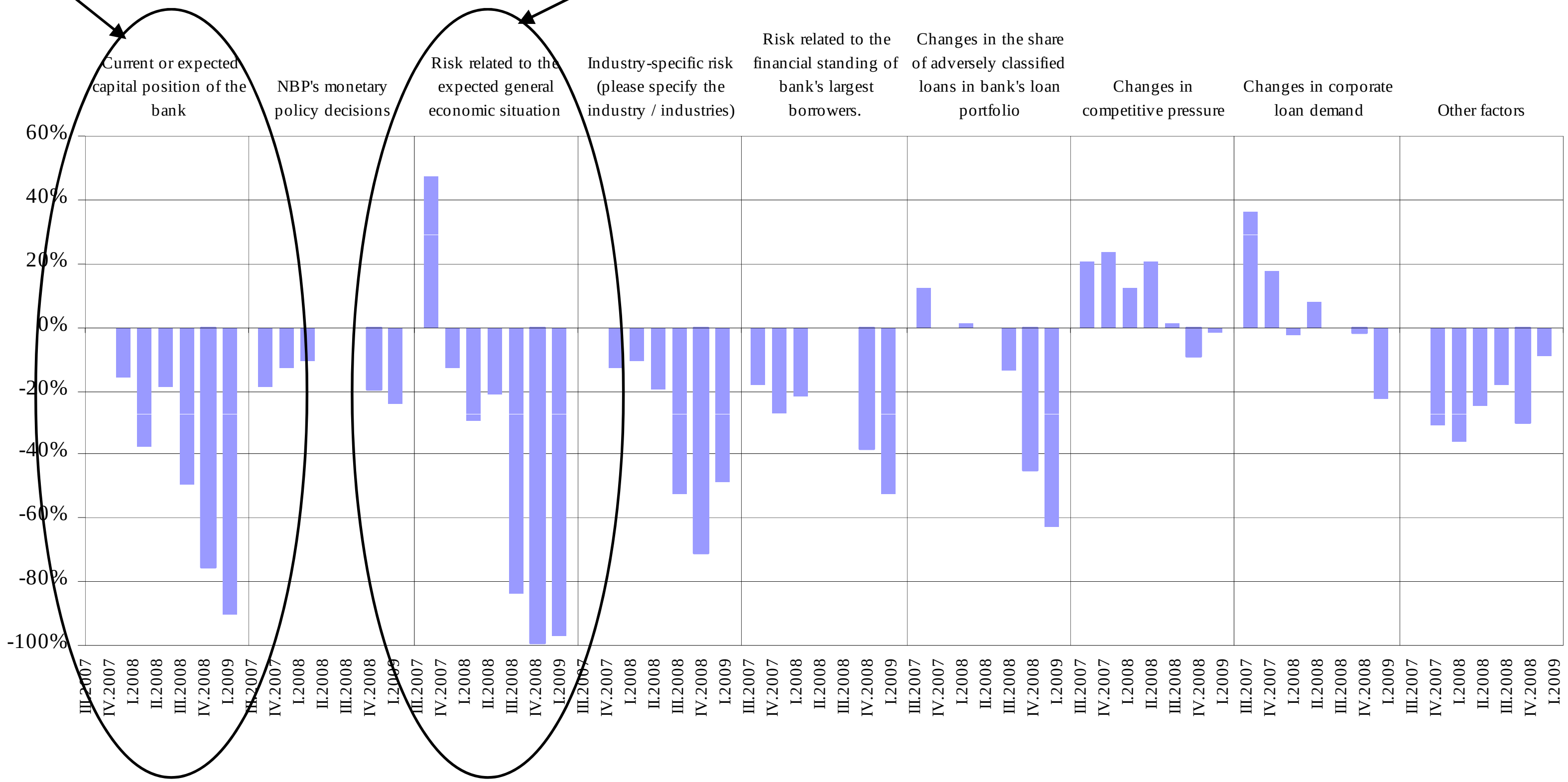
Loan survey - enterprises



Loan survey - enterprises

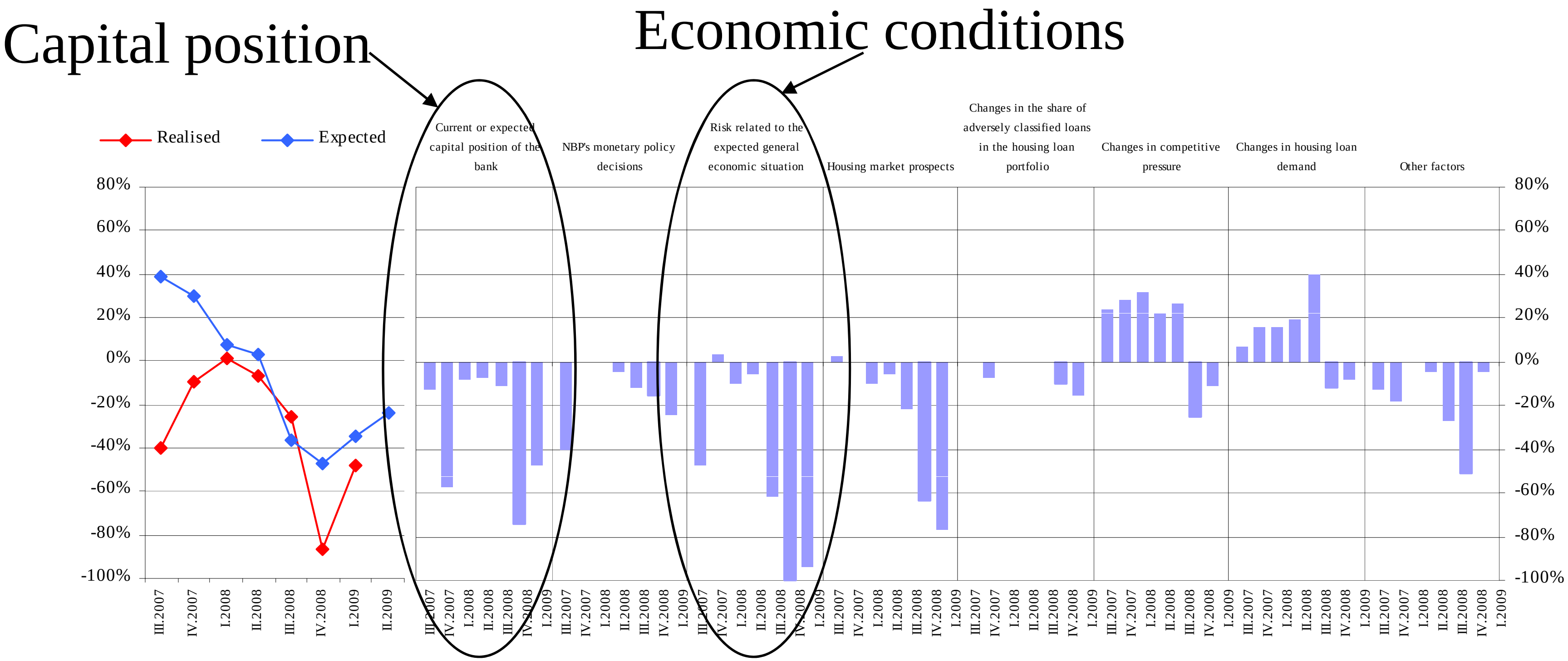
Capital position

Economic conditions

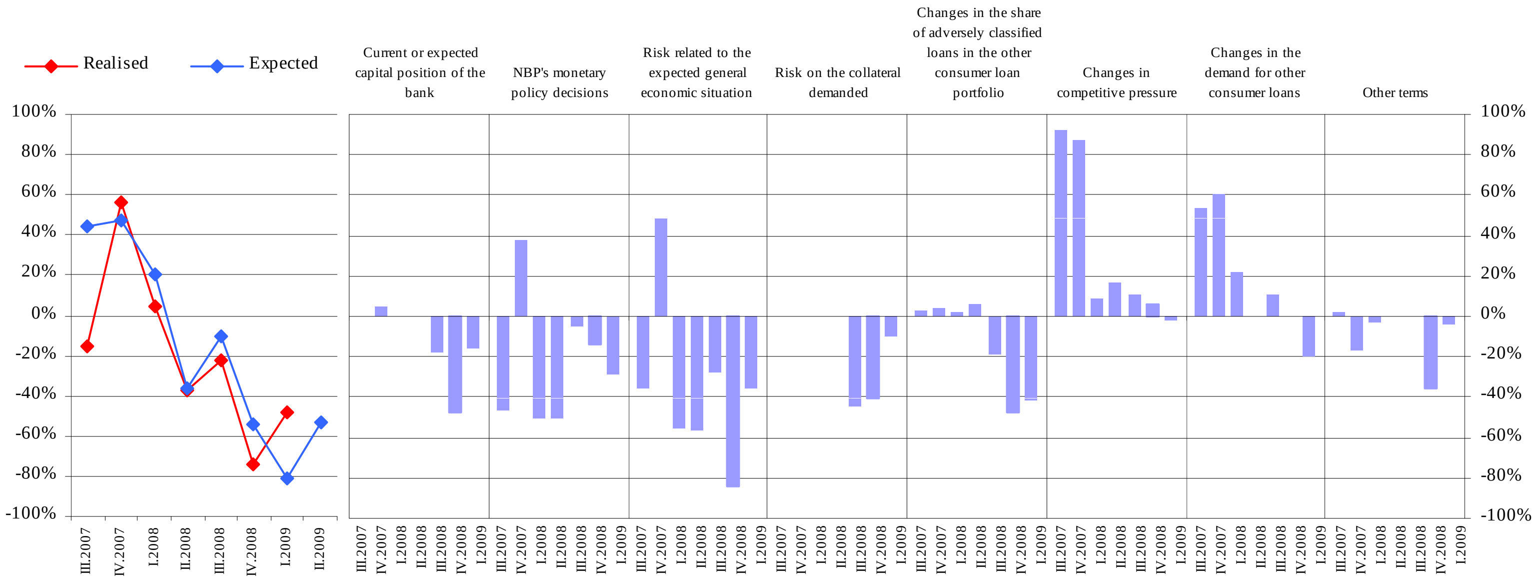


NBP
Narodowy Bank Polski

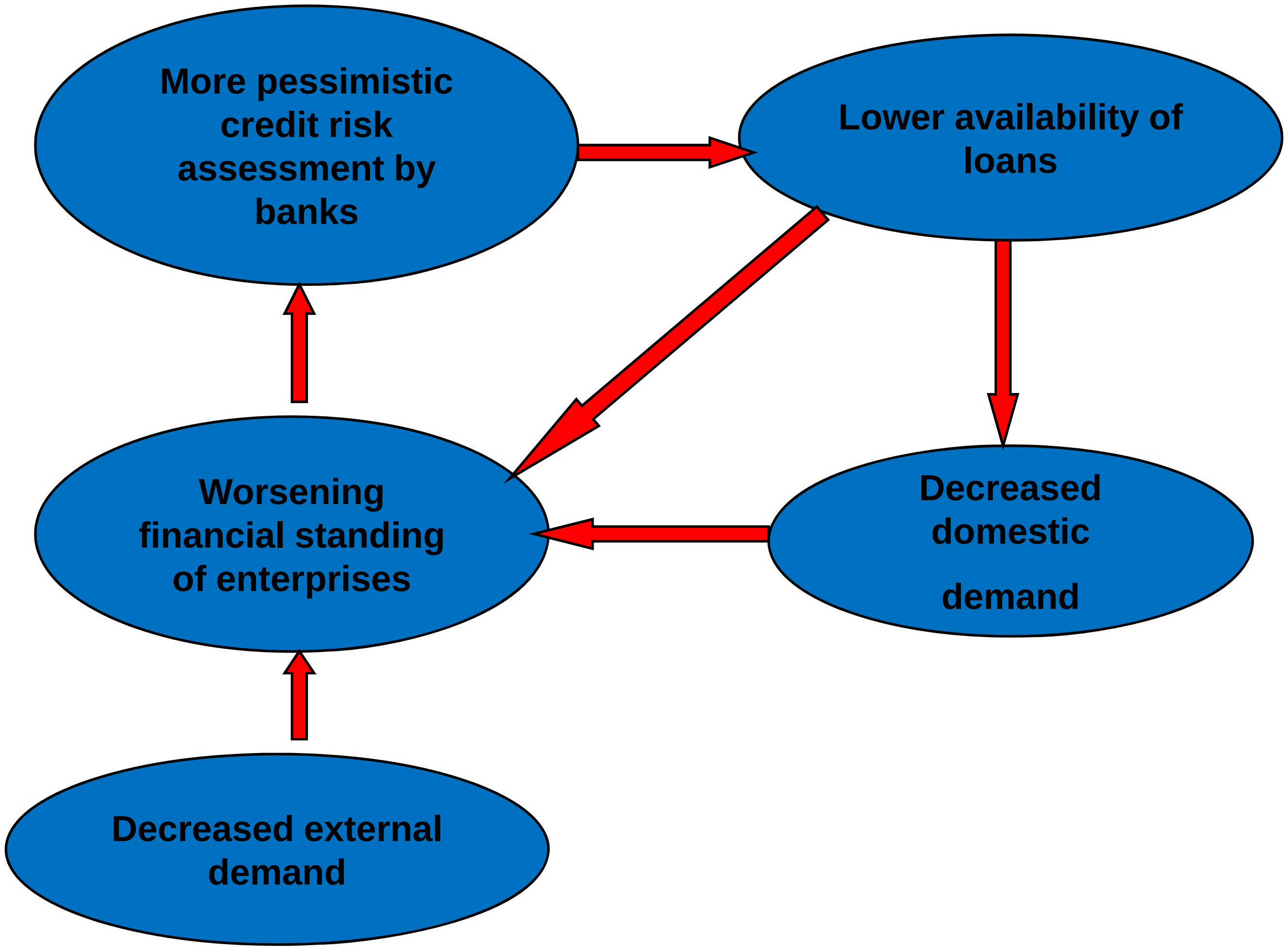
Loan survey – housing loans



Loan survey – consumer loans



Risk of a ‘vicious circle’



Current challenges – policy response

- NBP’s proposal on **Lending Support Pact**

- Meetings with representatives of commercial banks discussing the issue of how to stimulate lending to real economy

- Need for a firm reaction of the Supervision Authority – foreign parent entities are obliged to support Polish subsidiaries with sufficient capital

- Availability of public intervention – Flexible Credit Line granted by IMF