Financial System Resilience:

The Case of Brazil

(Work in Progress)

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Aim of the Paper

- To show how financial system resilience impacts the resilience of regions;
- To analyse how these feature acts in the the case Brazil;

What is Resilience ?

- Recognition that there is many definitions of resilience;
- Deny the equilibrist approach, which argues for the existence of a natural mechanism of adjustment;
- Evolutionary approach and the use of the concepts of adaptation and adaptability;

What is Resilience ?

- Pike et all (2010) definition using the concepts of adaptation and adaptability:
  - “adaptation is defined as a movement towards a pre-conceived path in the short run, characterised by strong and tight couplings between social agents in place.”;
  - “adaptability is defined as the dynamic capacity to effect and unfold multiple evolutionary trajectories, through loose and weak couplings between social agents in place, that enhance the overall responsiveness of the system to unforeseen changes”;
- The tension between adaptation and adaptability will explain different kinds of resilience;
  - When adaptation prevail, resilience will based upon pre-conceived path of development that was successful in the past;
  - When adaptability prevail, the resilience will based in a new, related or alternative path.

Financial System Resilience

- The main mechanism used by the financial system to adapt to ***external schoks*** is through financial innovation
  - Financial innovation as a outcome of the adaptability capacity of the financial system to overcome the regulation and supervision;
  - The history of finance innovation is the search of the financial system to supersede regulation;
- Silber (1983)
  - "New financial instruments or practices are innovations to lessen the financial constraints imposed on firms"
  - "The stimulus to innovation can be interpreted as an increase in the cost of adhering to existing constraints"

Regional Impacts of Financial System Resilience

- Two main dimensions to understand the regional impacts of financial system resilience:
  1. Distribution of financial services over the space;
  2. The behaviour of financial system, especially banks, over the space.

- Distribution of financial services over the space;
  - The adaptability of financial system is not ubiquitous through the space:
    - Sophisticated and specialized financial services concentrated in central places;
    - Less sophisticated financial services goes to periphery:
      - Regional Financial system become more thin:
      - "They may gain in terns of quantity of activities being carried out, but growth occurs predominantly in routine, lower order services while higher quality functions are increasingly lost to the global centres" (Amin and Thrift)

Regional Impacts of Financial System Resilience

- The behaviour of financial system, especially banks, over the space.
  - Financial system behaviour across the territory is not passive (reactive to the features of the productive sector);
  - liquidity preference differentiated in space theory;
  - although the roots of regional income differences may be associated with structural factors, monetary variables may account for maintaining and amplifying such differences when a different approach, in which money and banking are always non-neutral, is adopted (Dow 1982; 1987);
  - The willingness of bank system to supply credit in peripheral regional is shorter compared with central regions >>>> banks acts comparing different regions and their decision is not based only in the structural characteristic of a specific region;

Regional Impacts of Financial System Resilience

- Conclusion:
  - Dual behaviour:
    - In central regions the ***adaptability*** of financial system prevail and this explain why that financial innovation happens to occurs first in Central (or global) financial centres ;
    - In peripheral regions ***adaptation*** prevails.

Resilience of Brazilian Banking System

- Four major shocks from 1994 to 2013:
  - ① The end of hyperinflation (1994);
  - ② Currency crisis (1998);
  - ③ Lula`s election (2003);
  - ④ Global financial crises (2008)

Resilience of Brazilian Banking System

The end of hyperinflation (1994);

- The inflationary process was an important source of revenues for the banks ;
- Floating operations;
  - Banks used to receive payments of government taxes and transfer it to the government with one or two days of delay. During this period the payments are invested in over-night operations with very high returns;
  - The spread of bank branches across the territory was a central strategy of management;
- With the end of hyperinflation these source of revenue disappeared;
- Many banks were unable to adapt to the new macroeconomic conjuncture;
- The government responded by launching two programs, PROES and PROER, encouraging mergers, fusions and acquisitions of private and public banks, respectively.
- In a first moment, banks compensate the inflation revenues with the expansion of credit supply;
- After the Mexican crisis, Brazilian government increased interest rate and banks decrease credit supply and started to finance public debit

Resilience of Brazilian Banking System:

The currency crisis (1998)

- From 1994 to 1998 there was a *pegged exchange rate system* to combat inflation;
- In 1998, just after the Asia Crisis, the parity strategy started showing signs of failure;
- banks began investing in exchange rate derivatives, betting in the future devaluation of exchange rates ;
- Finally the Brazilian government give up from the *pegged exchange rate system* and adopted a flexible;
- With the currency crisis, the Central Bank deepened the strategy of increasing interest rates ;
- the bank`s revenues related to the public debt increased almost interruptedly, achieving a pick of 70% of total banks revenues in October 2002

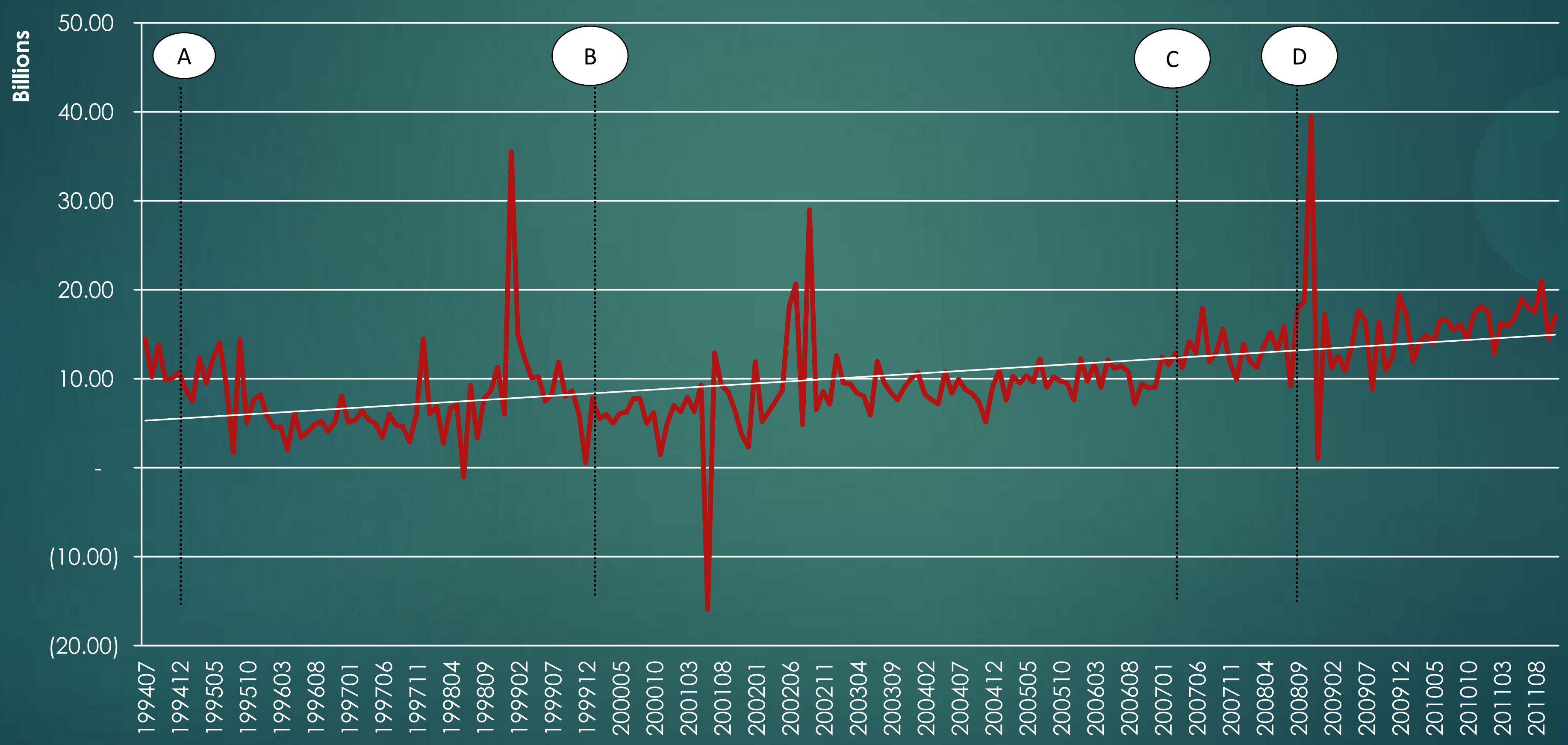
Resilience of Brazilian Banking System:
Interest rate cuts (2003)

- In 2003 Labour Party was elected;
- From 2003 onwards, the share of public debt revenues started to decrease, together with Brazilian interest rates.
- The banks changed once again their behaviour and began expanding credit. In January 2003, the Credit/GDP ratio was around 22%. Since then, this ratio has grown almost uninterruptedly, achieving 54% in March 2013.

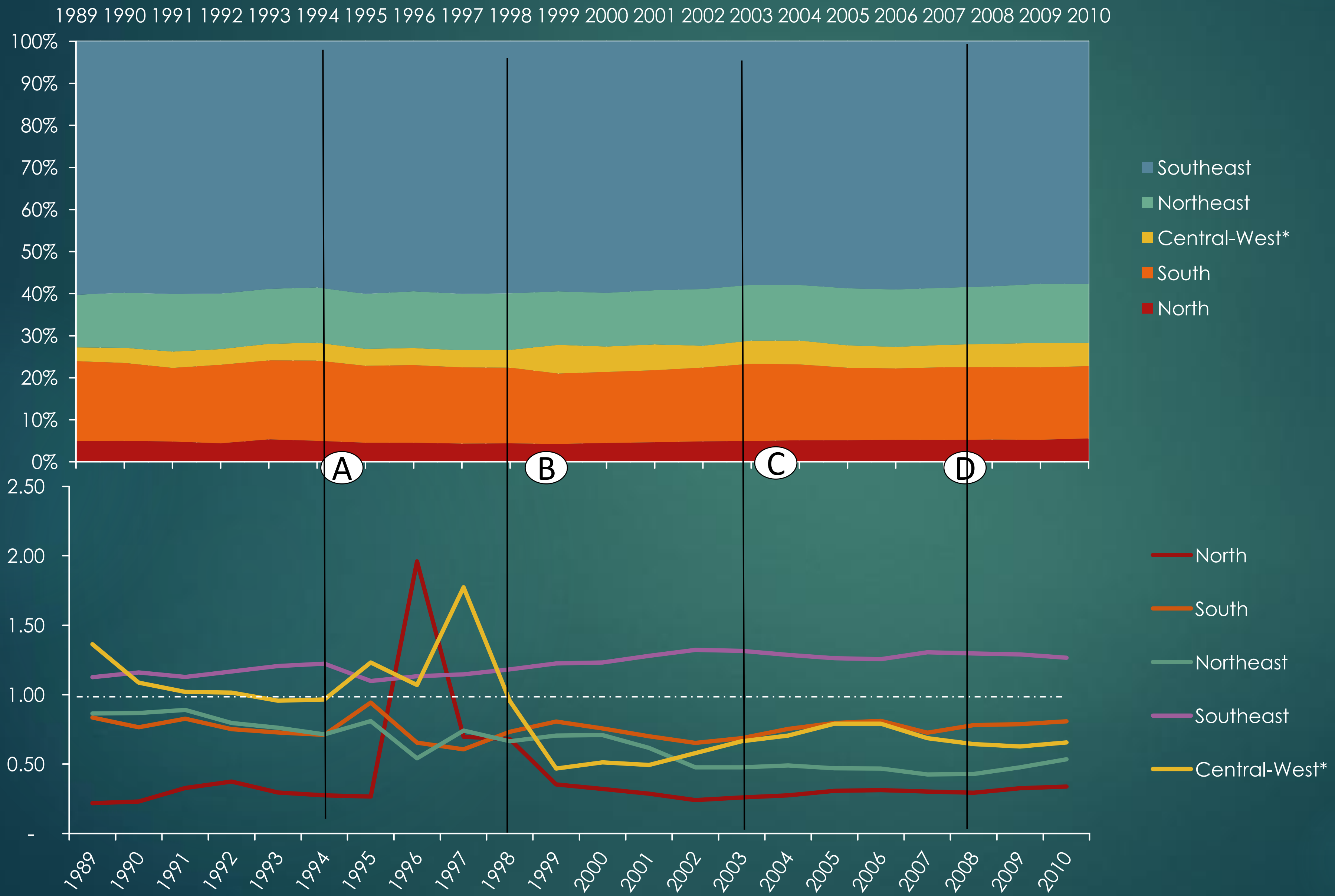
Resilience of Brazilian Banking System:
Financial Crisis (2008)

- Rapid and considerable devaluation of Real brought serious problems and represented real losses to financial institutions;
- The interbank market was affected, because banks didn't have knowledge about the exposure of the other institutions to those exchange rate derivatives.
- The consequence was a high liquidity pooling, which created serious difficulties for small and medium sized banks that depended on the interbank market to raise funds;
- The result of the crisis was:
  - another concentration wave in Brazilian Bank system;
  - Interest rate increases again;
  - Banks reduce the credit supply and started to increase the revenues on public debt.

Resilience of Brazilian Banking System: profits 1994 to 2012

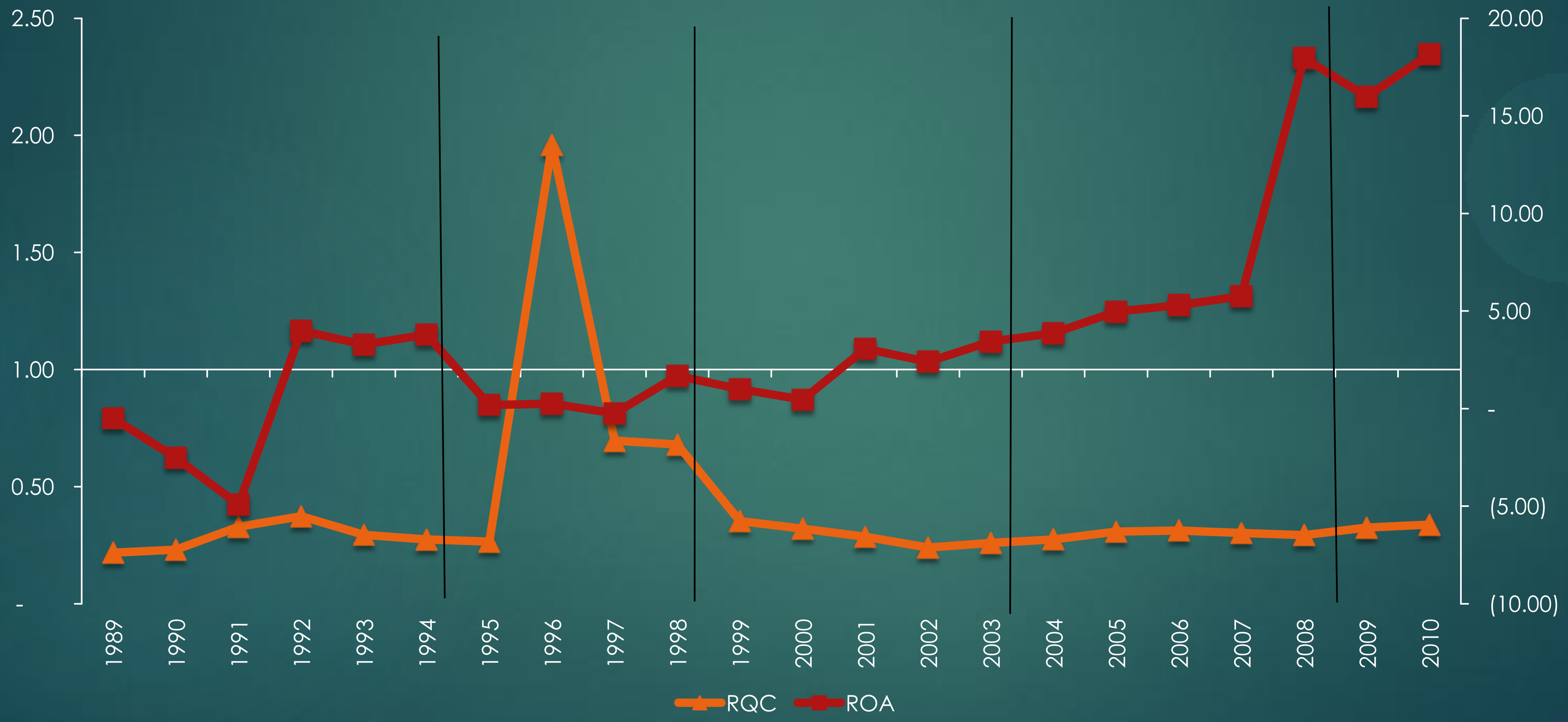


Share of regions GDP *versus* Regional Quotient of Credit

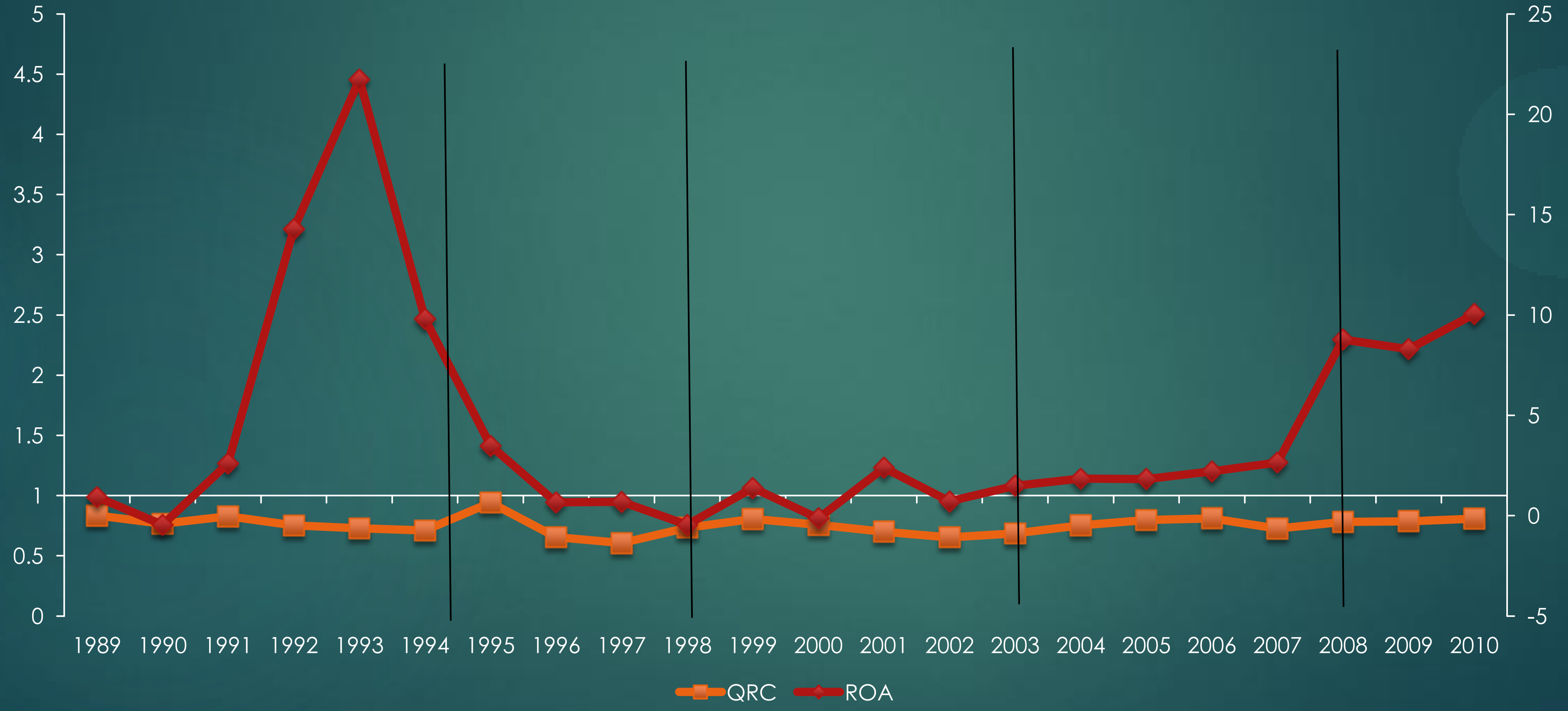


$$RQC_i = \frac{\dfrac{CRED_i}{CRED_{br}}}{\dfrac{GDP_i}{GDP_{br}}}$$

Dysfunctionality of Financial System North Region



Dysfunctionality of Financial System Northeast Region



Dysfunctionality of Financial System Southeast Region

Thank you

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