# Credit Growth in Moldova: Empirical Analysis and Policy Recommendations

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# 1. Introduction

Starting point: Many transition economies in Central and Eastern Europe have shown strong fluctuations of lending activity (credit growth) in recent years

- Very high lending growth before the crisis
- Abrupt decline during crisis
- Very low lending after crisis

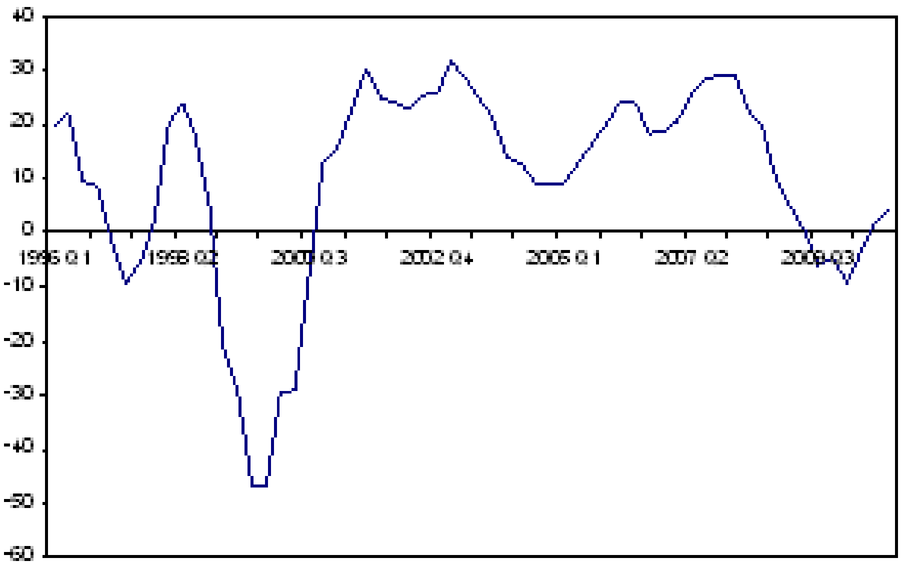
→ Typical **"Boom and bust cycle"**

- While too rapid and excessive credit expansion (credit boom) is clearly a threat to macro-financial and banking sector stability, high credit growth can also be an equilibrium phenomenon during the transition process and supportive of growth/catching up
- Thus: Empirical research necessary to distinguish "good" from "bad" credit growth
- **Our contribution and topic of this presentation: Quantitative Analysis for Moldova during 1995-2010**

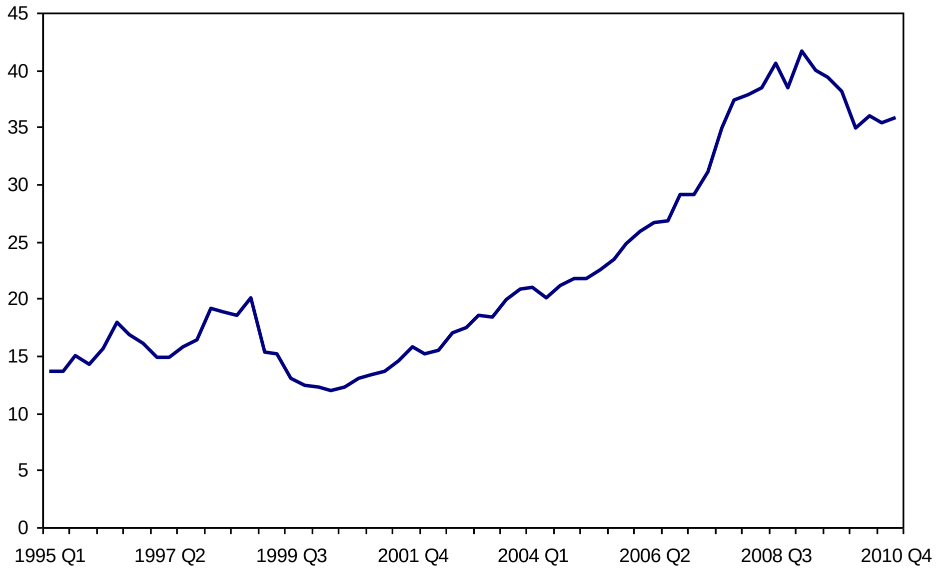
# 2. Credit Growth in Moldova: Stylised Facts

- Empirical patterns of credit extension during 1995-2010 (our sample period)
- Scope: Local bank credit to the private sector

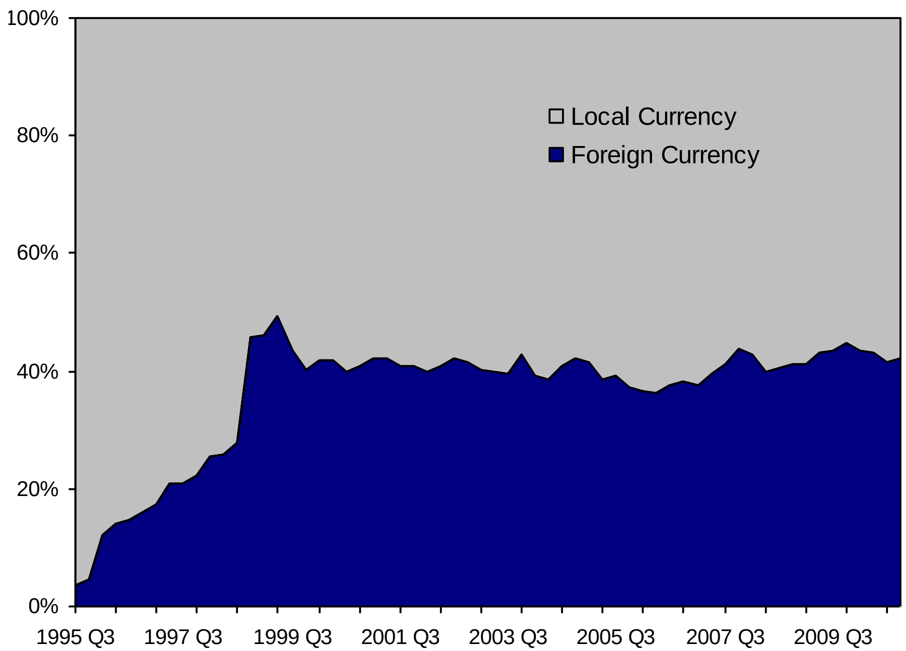
Real credit growth (%, yoy)



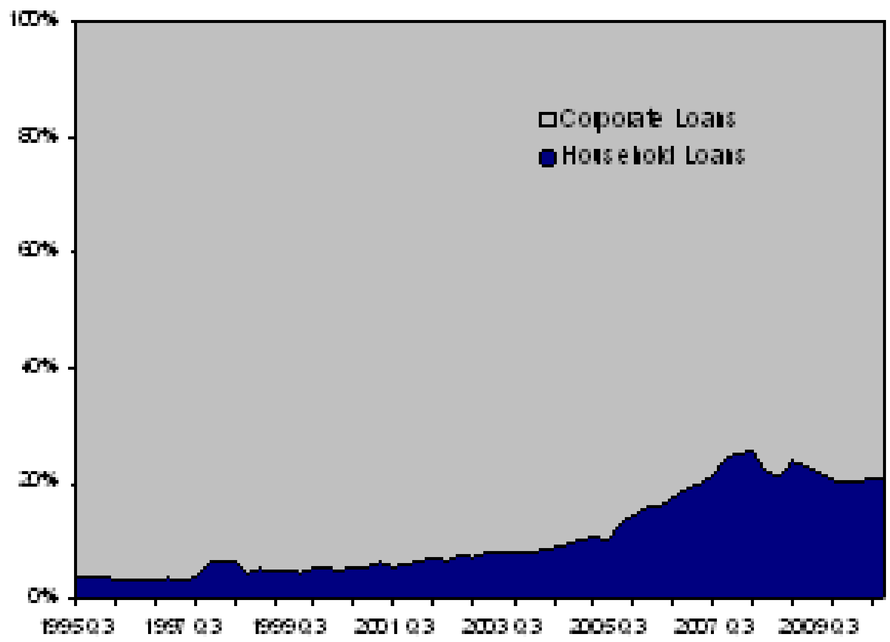

Credit-GDP Ratio (in %)



## Currency breakdown




## Sectoral breakdown

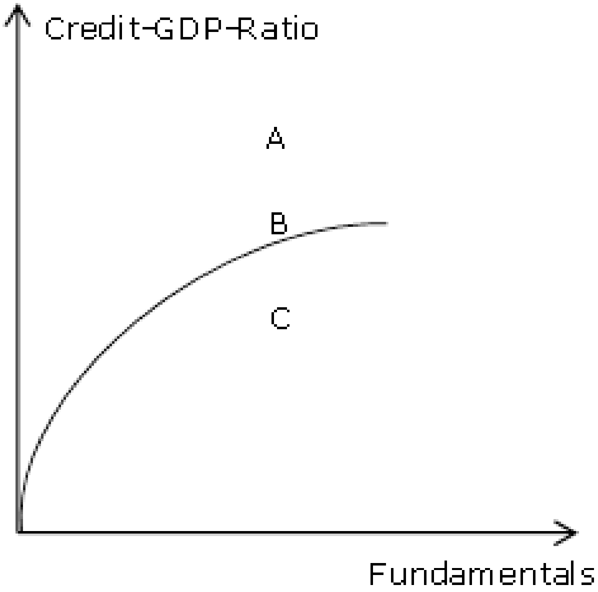


# 3. Theoretical and Empirical Framework

# a) Empirical Definition

- How do we define “equilibrium level of credit” and “excessive credit booms”?

Stylised Development of Credit




Situation A: “credit boom”

Situation B: “equilibrium level”

Situation C: “credit undershooting”

*Source*: Own display based on Egert et al. (2006), p. 14

# b) Methodology

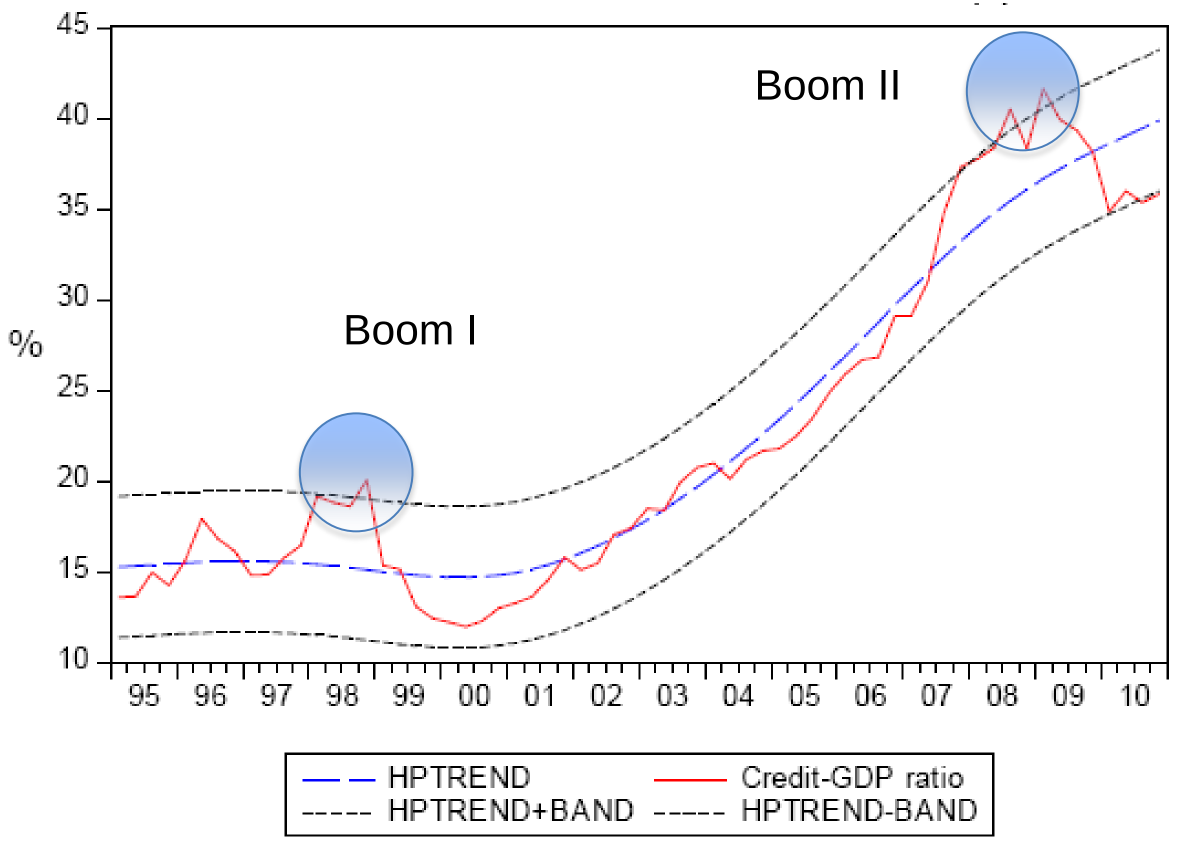
- There are two main empirical approaches in the literature:
  - Statistical
  - Fundamental
- Statistical:
  - Approach tries to identify significant deviations from long-term (or equilibrium) trends in the data
- Fundamental:
  - The dependent variable (credit-GDP-ratio) is explained by a number of fundamental economic variables like GDP per-capita, interest rates, inflation, etc.
  - Long-term relationships define equilibrium values
- In our analysis, we use <u>both methods</u> in order to arrive at robust results

# 4. Estimation Results

# a) Statistical Approach

- Univariate time series method applied to our data (credit-GDP-ratio) by means of a simple Hodrick-Prescott filter
- Analysis of deviations between filtered values (“equilibrium”) and actual values
- Need to identify threshold deviation which defines a “boom”
- Here: Following the literature we take a symmetric band around the equilibrium value (distance: 1.75 standard deviations of fluctuations around trend)
- Once the upper band threshold is crossed, we speak of a “credit boom”

# Credit booms in Moldova: Empirical Evidence (1)




*Source: GET Moldova Policy Paper PP/03/2011: "Credit Growth in Moldova: Empirical Analysis and Policy Recommendations"*

# b) Fundamental Approach

- Different approaches in the literature, using slightly different variables, methods, countries, sample periods
- We follow the work by Kiss et al (2006) from the National Bank of Hungary
- Two-stage procedure:

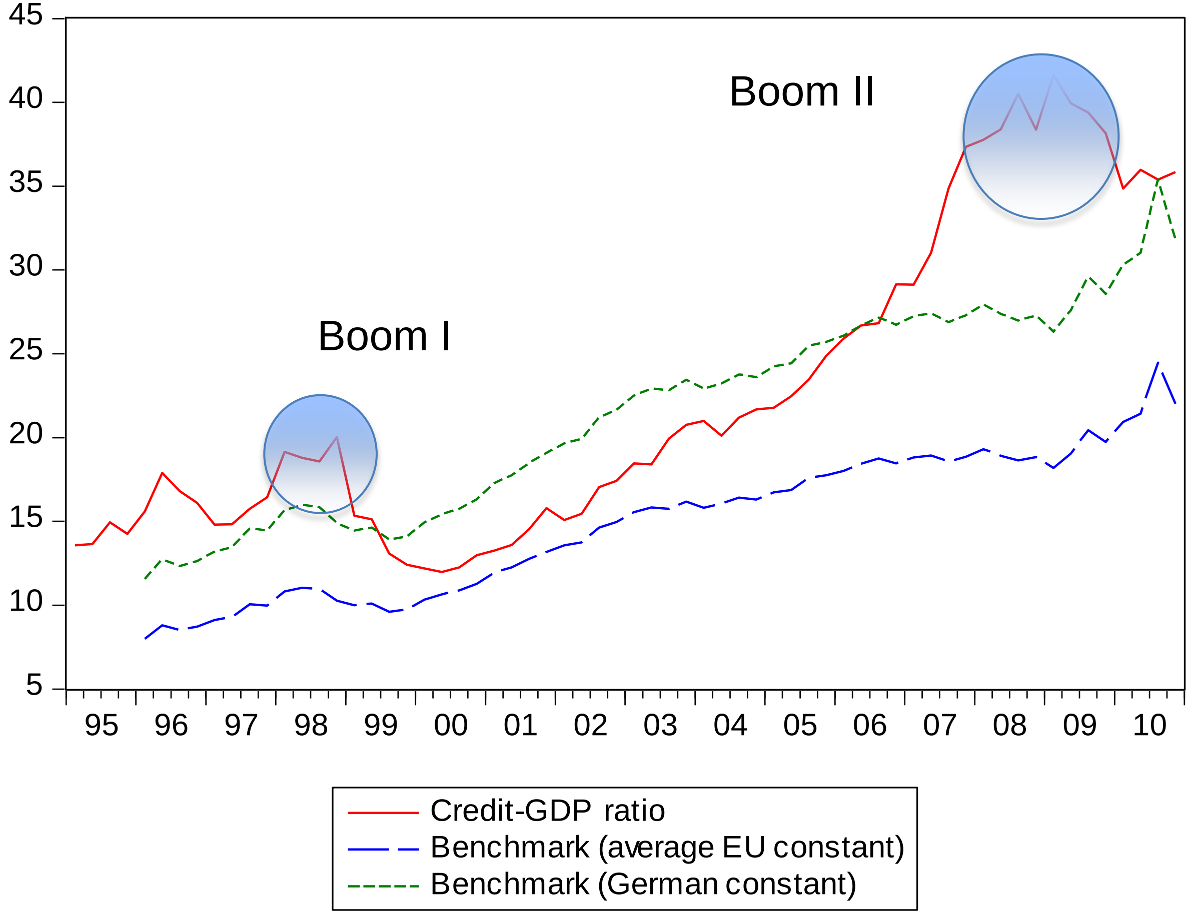
First stage

- Credit-GDP ratio is estimated as a function of a set of fundamentals for developed Eurozone countries

Second stage

- Out-of sample exercise for Moldova using the parameters obtained from stage 1
- Avoidance of transition bias; but strong assumption!

# Credit booms in Moldova: Empirical Evidence (2)




*Source: GET Moldova Policy Paper PP/03/2011: "Credit Growth in Moldova: Empirical Analysis and Policy Recommendations"*

# Results

- Both approaches yield roughly the same results – quite robust
- Moldova experiences 2 distinct credit booms in the past 15 years:
  - Boom I: 1998 (before Russian crisis)
  - Boom II: 2007-08 (before global financial crisis)
- Between the 2 booms, development was in line with fundamentals, i.e. close to equilibrium
- End of sample (end-2010): Roughly comparable with equilibrium development; no major deviation in both directions

# 5. Policy Recommendations

- Our historical (“backward-looking”) analysis pointed to two different periods of credit booms in Moldova’s recent past
- It is of paramount importance to extend this analysis and install a monitoring system so that the regulator (NBM) can analyse credit growth on a permanent basis (“early warning system”), using a range of models/tools
- This monitoring system needs to answer the following question: Is observable credit growth the result of:
  1. Equilibrium convergence process?
     – Good; financial deepening
     – Should be supported by policy
  2. Credit boom?
     – Bad; negative macroeconomic and financial stability implications are clear
     – **Policy makers need to act decisively to combat risks**

# Policy options to address credit booms:

**Policy Options**

- **Macroeconomic Policy Measures**
- **Prudential Measures**
- **Supervisory/ Monitoring Measures**
- **Market Development Measures**
- **Administrative Measures**
- **Promotion of Better Understanding Risks**

1. <u>Macroeconomic measures</u>

- Monetary, fiscal, and exchange rate policy
- Dependent on FX-regime

2. <u>Prudential measures</u>

- Wide range of tools: capital requirements, provisioning and loan classification rules

3. <u>Supervisory/monitoring measures</u>

- Disclosure requirements, stress testing, supervisory dialogue and coordination

4. Market development measures

- Strengthen institutional framework (e.g. develop credit bureaus, local capital markets, shift to IAS accounting)

5. Administrative measures

- Harsh measures like credit ceilings; likely not to be effective

6. Promotion of better understanding of risks

- Bank’s capabilities to monitor, assess, and manage risks related to credit growth should be strengthened
- Raise awareness among demand side

# 6. About GET Moldova

# About the German Economic Team Moldova ("GET Moldova")

- The German Economic Team Moldova (GET Moldova) advises the Moldovan government and other Moldovan state authorities such as the National Bank on a wide range of economic policy issues. Our analytical work is presented and discussed during regular meetings with high-level decision makers.
- GET Moldova is financed by the German Federal Ministry of Economics and Technology under the TRANSFORM programme and its successor.
- Our publications are publicly available at our website www.get-moldova.de

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