"Credit Market and Macroeconomic Volatility"

Discussion by

Ferre De Graeve

Ghent University

UNIVERSITEIT GENT

Summary

- γ↓ CAN lead to amplification↑ (theory)

- γ↓ WILL lead to σ(y)↑ (theory + empirics)

UNIVERSITEIT GENT

Summary

- Discussion:

- γ↓ CAN lead to amplification↑ (theory)
- Significant contribution

- γ↓ WILL lead to σ(y)↑ (theory + empirics)
- Challenge this

γ↓ CAN lead to amplification↑ (theory)

- Kiyotaki-Moore: collateral constraints can generate amplification in non-standard model

- Cordoba-Ripoll: generally small effects under standard assumptions

- This paper counters the latter: significant amplification can arise in standard model (with capital reallocation) if stronger rationing is allowed for

γ↓ WILL lead to σ(y)↑

- Theory:
  - What does the model say about corr(γ, σ(y))?
- Empirics:
  - What do the data say about corr(γ, σ(y))?

Theory: given measure of volatility

- Model can have corr(γ, σ(y)) > = < 0
- Ways to see this
  - In the one sector model:
    - Can generate all signs: inverse U (figure 10d, 11c)
    - Two sector model nests the one sector model
  - In the two sector model
    - Simplifying assumptions help to get model intuition across
    - But need to assess robustness of the relation for different parameter values
    - E.g. introducing more heterogeneity between the groups: what happens if unconstrained sector is more productive?

Theory: Measure of Volatility

- "volatility" = amplification after productivity shock
- When studying the effects of changing γ
  - The amplification measure ignores the output volatility generated by the transition from one steady state to the other, that takes place because of the change in γ
  - This (unconditional) volatility:
    - Need not respond in the same direction as amplification after productivity shock
    - Is more tightly linked to the research question (the effect of γ on σ(y)), so why not use it?

UNIVERSITEIT GENT

Theory

- corr(γ, σ(y)) < 0 is not a robust feature of the model

- It depends on
  - Other parameters in the model
  - Measure of volatility chosen

What do the data say about corr(γ, σ(y))?

- Paper result: corr(γ, σ(y))<0
- How does this relate to:
- Existing evidence?
  - Kent, Smith and Holloway (2005): zero or positive (OECD countries)
  - Easterly, Islam and Stiglitz (2001): non-linear
- The model?
  - Raddatz (2003) and Larrain (2004): negative in data, but compete for alternative explanations
  - This paper also has within-country implications that could be tested to validate the model
    - Q implications of this model suggest caution

UNIVERSITEIT GENT

Is γ↑ at the root of the Great Moderation?

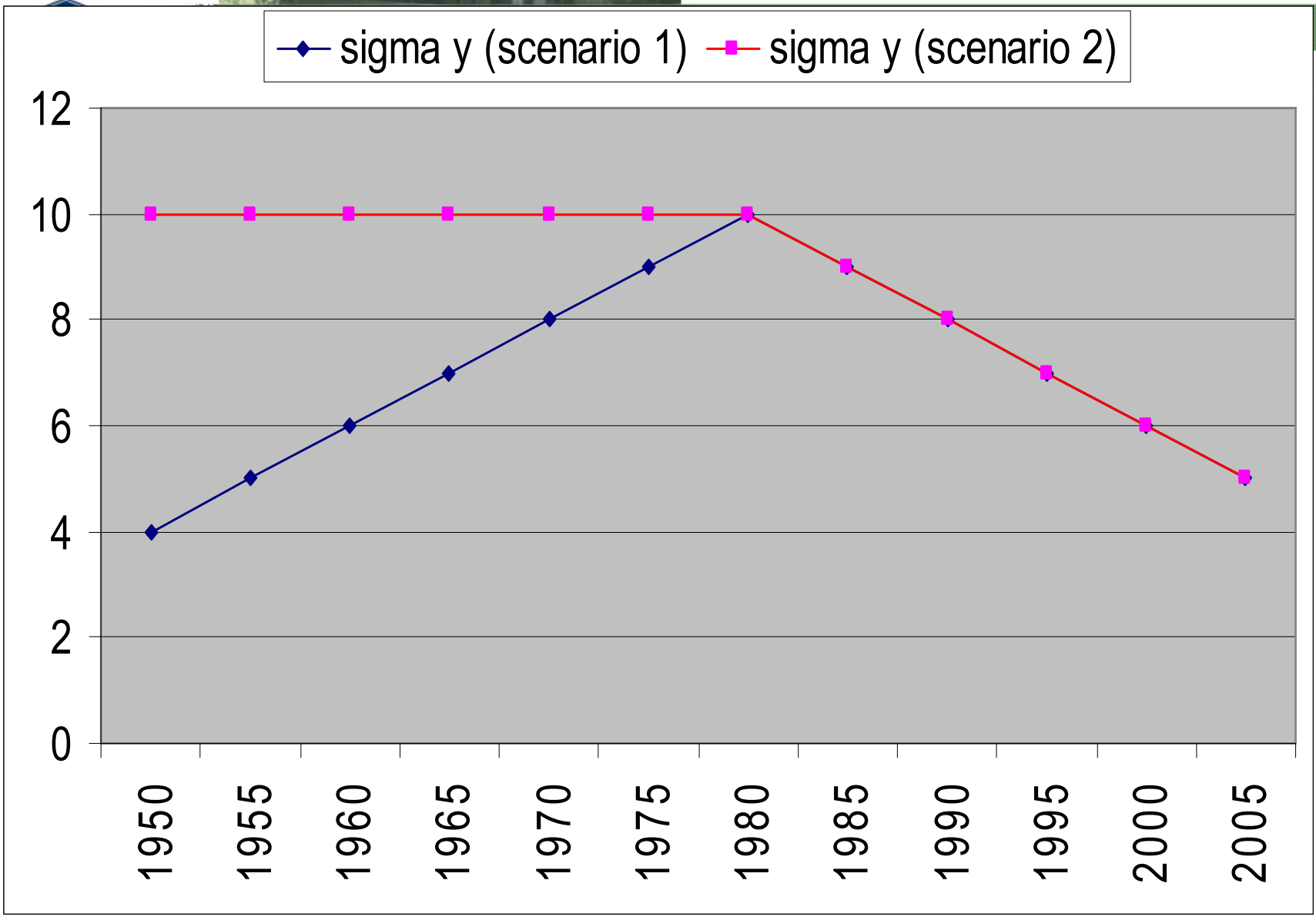
- Paper result: corr(γ, σ(y))<0, so yes.
- For OECD
- Post 1983

UNIVERSITEIT GENT

Is γ↑ at the root of the Great Moderation?

- Example: US
  - Example applies to many OECD countries

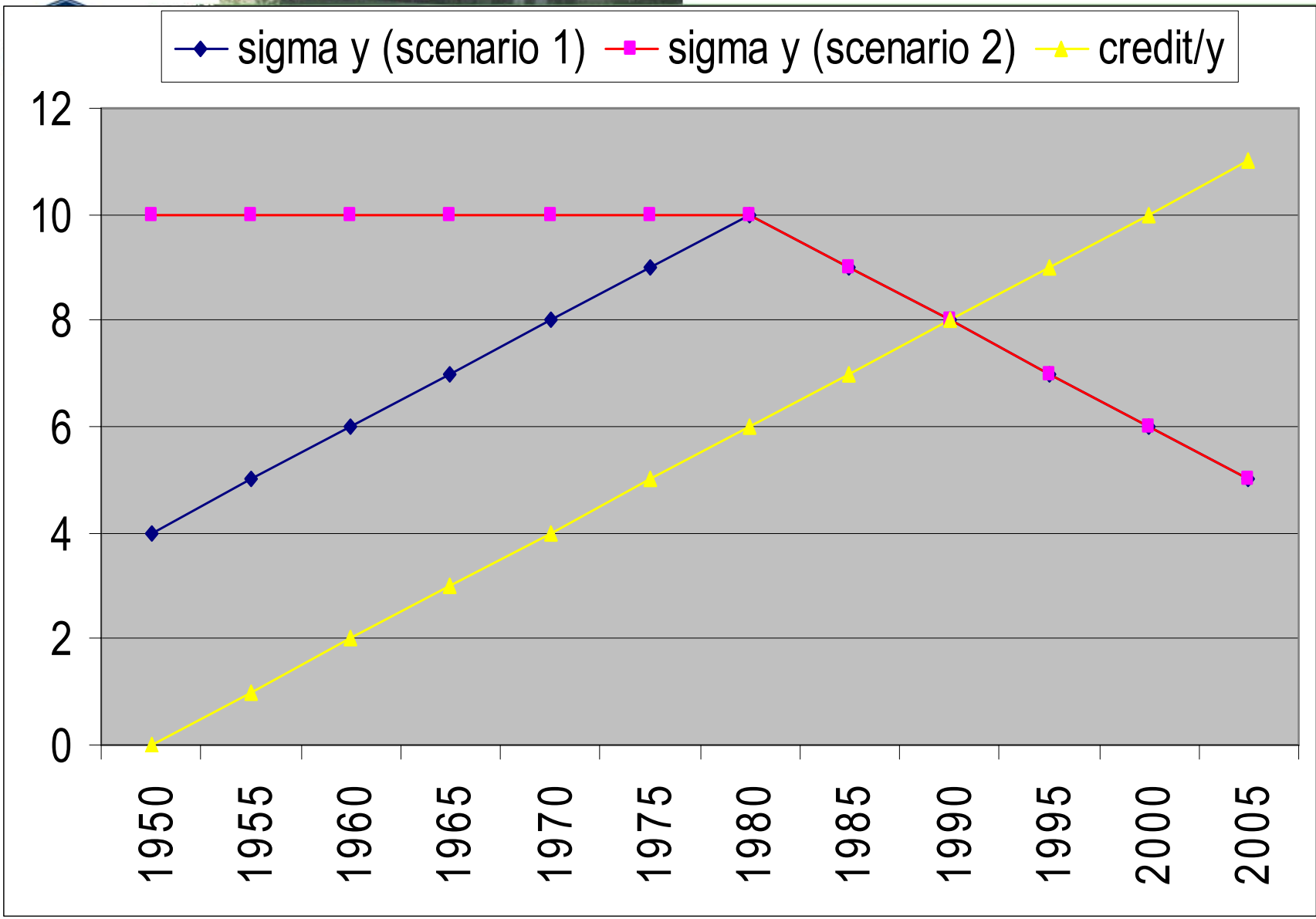
- σ(y)↓ started only in early 80's
  - Scenario 1: increased prior to 80's
  - Scenario 2: constant prior to 80's

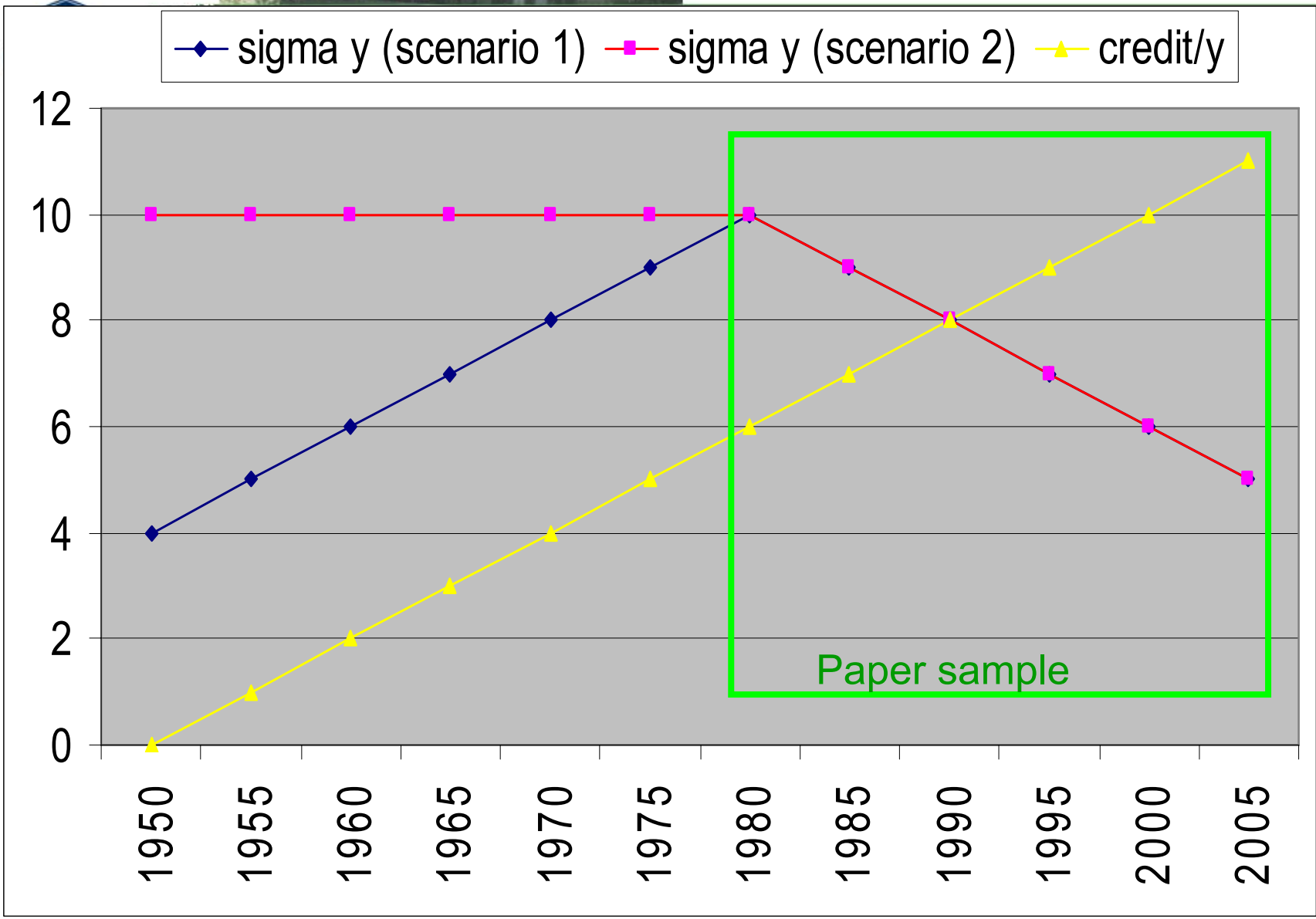

sigma y (scenario 1)
sigma y (scenario 2)
12
10
8
6
4
2
0
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005

Sample period (cont'd)

- Credit/y ↑ fairly continuously:
  - Table: private credit / GDP
  - (Source: US FOF, households+nonfinancial businesses)

1955	1965	1975	1985	1995	2005
66.1	89.4	97.5	115.1	121.3	158.9


sigma y (scenario 1)
sigma y (scenario 2)
credit/y
12
10
8
6
4
2
0
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005


sigma y (scenario 1)
sigma y (scenario 2)
credit/y
12
10
8
6
4
2
0
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
Paper sample

UNIVERSITEIT GENT

Sample period

- This is a challenge for the model (as discussed by the author):
- In a longer sample the negative correlation may break down (scenario 2) or even become positive (scenario 1)!

- Bad news?
  - Not necessarily, because the model CAN, but NEED NOT have corr(y, σ(y))<0

UNIVERSITEIT GENT

Conclusion

- γ↓ CAN lead to amplification↑
- Significant theoretical contribution

- γ↓ WILL lead to σ(y)↑
- NOT NECESSARILY
  - Not in the data
  - Not in the model
  - Which is exactly why this may be a good model!

UNIVERSITEIT GENT

Suggestions

- Use unconditional measure of volatility
- Validate the mechanisms specific to this model
- To explain the Great Moderation, need to answer why γ↑ did not generate lower volatility prior to 80's