Discussion of Darracq Pariès, Sørensen and Rodriguez Palenzuela
&
Discussion of Antipa, Mengus and Mojon

Matteo Iacoviello
Federal Reserve Board

RTF TF, December 1, 2010
Thanks to the Organizers for inviting me here

- Only problem: things got worse and worse over the last weeks
Thanks to the Organizers for inviting me here

- Only problem: things got worse and worse over the last weeks
- First, I thought I had to discuss one paper I already knew
Thanks to the Organizers for inviting me here

- Only problem: things got worse and worse over the last weeks
- First, I thought I had to discuss one paper I already knew
- Then I realized I had to discuss **two papers I already knew**
Thanks to the Organizers for inviting me here

- Only problem: things got worse and worse over the last weeks
- First, I thought I had to discuss one paper I already knew
- Then I realized I had to discuss **two papers I already knew**
- Then, I learned I had to discuss two papers I did not know
Thanks to the Organizers for inviting me here

- Only problem: things got worse and worse over the last weeks
- First, I thought I had to discuss one paper I already knew
- Then I realized I had to discuss two papers I already knew
- Then, I learned I had to discuss two papers I did not know
- Yesterday, I realized I had to discuss one paper I did not know...
Thanks to the Organizers for inviting me here

- Only problem: things got worse and worse over the last weeks
- First, I thought I had to discuss one paper I already knew
- Then I realized I had to discuss two papers I already knew
- Then, I learned I had to discuss two papers I did not know
- Yesterday, I realized I had to discuss one paper I did not know...
- ... and one book I did not know
  (the paper by Matthieu, Christopher and Diego is 94 pages long)
Overall Considerations

Thinking back to my earlier work, I think two important elements were missing from it and were important topics for future research.

1. “Before borrowing money from a friend, decide which you need more.”
   People do not always repay their debts (default)
Overall Considerations

Thinking back to my earlier work, I think two important elements were missing from it and were important topics for future research.

1. “Before borrowing money from a friend, decide which you need more.”
   **People do not always repay their debts (default)**

2. “Money must be carried from the rich to the poor in a leaky bucket.”
   **Financial intermediation is costly and does not occur smoothly at all times (banks)**
Thinking back to my earlier work, I think two important elements were missing from it and were important topics for future research.

1. “Before borrowing money from a friend, decide which you need more.”
   **People do not always repay their debts (default)**

2. “Money must be carried from the rich to the poor in a leaky bucket.”
   **Financial intermediation is costly and does not occur smoothly at all times (banks)**

Antipa, Mengus and Mojon (AMM) deal primarily with 1
Darracq Pariès, Sørensen and Rodriguez Palenzuela (DSR) deal primarily with 2.
So no future research is needed any longer, and we can write about something else.
Antipa, Mengus and Mojon: What the Paper is About

- Model of collateralized borrowing and lending with default
Antipa, Mengus and Mojon: What the Paper is About

- Model of collateralized borrowing and lending with default
- Borrowing limited by

\[ B_t = \theta_t V_t \]

where \( V_t \) is expected value of collateral next period
Antipa, Mengus and Mojon: What the Paper is About

- Model of collateralized borrowing and lending with default
- Borrowing limited by

\[ B_t = \theta_t V_t \]

where \( V_t \) is expected value of collateral next period
- Bank chooses \( \theta_t \) balancing two considerations; consider raising \( \theta_t \)
  
  \[ MB = p_t s_t, \ p \text{ is probability of repay, } s_t \text{ lending-deposit spread} \]
  
  \[ MC = \kappa (\theta_t - \bar{\theta}), \text{ where } \bar{\theta} \text{ is fraction of collateral that can be recovered in equilibrium, } p_t \text{ is a negative function of } \theta_t, \text{ given by } p_t = \frac{\bar{\theta}}{\theta_t} \]

Solving for \( \theta_t \) yields an equilibrium value for \( \theta_t > \bar{\theta} \)
Antipa, Mengus and Mojon: What the Paper is About

- Model of collateralized borrowing and lending with default
- Borrowing limited by
  \[ B_t = \theta_t V_t \]
  where \( V_t \) is expected value of collateral next period
- Bank chooses \( \theta_t \) balancing two considerations; consider raising \( \theta_t \)
  \[ MB = p_t s_t, \] \( p \) is probability of repay, \( s_t \) lending-deposit spread
  \[ MC = \kappa (\theta_t - \bar{\theta}), \] where \( \bar{\theta} \) is fraction of collateral that can be recovered in equilibrium, \( p_t \) is a negative function of \( \theta_t \), given by \( p_t = \bar{\theta} / \theta_t \)
  Solving for \( \theta_t \) yields an equilibrium value for \( \theta_t > \bar{\theta} \)
- Idea: excess leverage occurs and default occur when individual lenders do not internalize that by lending more they reduce aggregate probability of repayment
Overall Comments on the Papers: Two Nice Papers!

Antipa, Mengus and Mojon (AMM)
Darracq Pariès, Sørensen and Rodriguez Palenzuela (DSR)

Common Comments

Antipa, Mengus and Mojon: What the Paper is About

- Model of collateralized borrowing and lending with default
- Borrowing limited by
  \[ B_t = \theta_t V_t \]
  where \( V_t \) is expected value of collateral next period
- Bank chooses \( \theta_t \) balancing two considerations; consider raising \( \theta_t \)
  \[ MB = p_t s_t, \text{ } p \text{ is probability of repay, } s_t \text{ lending-deposit spread} \]
  \[ MC = \kappa (\theta_t - \bar{\theta}) \], where \( \bar{\theta} \) is fraction of collateral that can be recovered in equilibrium, \( p_t \) is a negative function of \( \theta_t \), given by \( p_t = \bar{\theta} / \theta_t \)
  Solving for \( \theta_t \) yields an equilibrium value for \( \theta_t > \bar{\theta} \)
- Idea: excess leverage occurs and default occur when individual lenders do not internalize that by lending more they reduce aggregate probability of repayment
- This idea is embedded in an estimated DSGE model where spread is assumed (?) to rise when policy rate falls, and where default is a choice variable for household.
AMM: Comments

Not entirely clear to me how default works on borrowers’ side; what is the cost of defaulting on entire stock of debt? It would be important to clarify how one can get an internal solution for $\theta_t$ from borrower’s perspective. From equation (7), it looks like gains are on average zero.
Overall Comments on the Papers: Two Nice Papers!

Antipa, Mengus and Mojon (AMM)
Darracq Pariès, Sørensen and Rodriguez Palenzuela (DSR)

Common Comments

AMM: Comments

- Not entirely clear to me how default works on borrowers' side; what is cost of defaulting on entire stock of debt? It would be important to clarify how one can get an internal solution for $\theta_t$ from borrower’s perspective. From equation (7), it looks like gains are on average zero.

- Two things would be worth studying further before jumping to estimation so quickly:

  1. Characterize steady state analytically: does default occur in steady state? Is spread between lending and deposit rates determined only by policy rate (how about intermediation costs or default risk)?
  2. In terms of dynamics, what are key elements relative to my previous work? To me, two new elements:
     a. LTVs fall, defaults rise (how much?) when house prices fall (ok);
     b. Spreads fall when policy rates rise (not sure);

- Do (1) and (2) improve …t of model?

For estimation, measures of defaults and spreads could be useful.
AMM: Comments

- Not entirely clear to me how default works on borrowers' side; what is cost of defaulting on entire stock of debt? It would be important to clarify how one can get an internal solution for $\theta_t$ from borrower's perspective. From equation (7), it looks like gains are on average zero.

- Two things would be worth studying further before jumping to estimation so quickly:
  
  - Characterize steady state analytically: does default occur in steady state? Is spread between lending and deposit rates determined only by policy rate (how about intermediation costs or default risk)
Not entirely clear to me how default works on borrowers’ side; what is cost of defaulting on entire stock of debt? It would be important to clarify how one can get an internal solution for $\theta_t$ from borrower’s perspective. From equation (7), it looks like gains are on average zero.

Two things would be worth studying further before jumping to estimation so quickly:

- Characterize steady state analytically: does default occur in steady state? Is spread between lending and deposit rates determined only by policy rate (how about intermediation costs or default risk)?
- In terms of dynamics, what are key elements relative to my previous work? To me, two new elements
  (1) LTVs fall, defaults rise (how much?) when house prices fall (ok);
  (2) spreads fall when policy rates rise (not sure);
Do (1) and (2) improve fit of model?
AMM: Comments

- Not entirely clear to me how default works on borrowers' side; what is cost of defaulting on entire stock of debt? It would be important to clarify how one can get an internal solution for $\theta_t$ from borrower's perspective. From equation (7), it looks like gains are on average zero.

- Two things would be worth studying further before jumping to estimation so quickly:
  - Characterize steady state analytically: does default occur in steady state? Is spread between lending and deposit rates determined only by policy rate (how about intermediation costs or default risk)?
  - In terms of dynamics, what are key elements relative to my previous work? To me, two new elements
    1. LTVs fall, defaults rise (how much?) when house prices fall (ok);
    2. Spreads fall when policy rates rise (not sure);
    Do (1) and (2) improve fit of model?

- For estimation, measures of defaults and spreads could be useful.
Model of borrowing and lending with default, modeled a-la Carlstrom-Fuerst, and with banks (and bank capital constraints), as in Gerali et al.
Darracq Pariès et al: What the Book is About

- Model of borrowing and lending with default, modeled a-la Carlstrom-Fuerst, and with banks (and bank capital constraints), as in Gerali et al.
- The repayment decision has elements in common with a paper by Forlati and Lambertini (“Risky Mortgages in a DSGE Model”)

Model is estimated using Bayesian methods: has all the potential candidates for explaining the 2007 recession: shocks to bank capital; shock to creditworthiness of debtors and to their repayment schedule; plus all the usual stuff from modern medium-scale DSGE models. Using the estimated model, DSR study the appropriateness of alternative monetary policy and macro prudential rules.
Darracq Pariès et al: What the Book is About

- Model of borrowing and lending with default, modeled a-la Carlstrom-Fuerst, and with banks (and bank capital constraints), as in Gerali et al.
- The repayment decision has elements in common with a paper by Forlati and Lambertini (“Risky Mortgages in a DSGE Model”)
- Model is estimated using Bayesian methods: has all the potential candidates for explaining the 2007 recession: shocks to bank capital; shock to creditworthiness of debtors and to their repayment schedule; plus all the usual stuff from modern medium-scale DSGE models.
Darracq Pariès et al: What the Book is About

- Model of borrowing and lending with default, modeled a-la Carlstrom-Fuerst, and with banks (and bank capital constraints), as in Gerali et al.
- The repayment decision has elements in common with a paper by Forlati and Lambertini ("Risky Mortgages in a DSGE Model")
- Model is estimated using Bayesian methods: has all the potential candidates for explaining the 2007 recession: shocks to bank capital; shock to creditworthiness of debtors and to their repayment schedule; plus all the usual stuff from modern medium-scale DSGE models.
- Using the estimated model, DSR study the appropriateness of alternative monetary policy and macro prudential rules.
DSR: Comments

- DSR conclude that “... capital requirements have no tangible impact on the real allocation over the long term.” Is it because we are embracing a new standard too quickly? In GNSS, capital requirements do not impact long-run capital; yet policy debate on long-run costs of high capital requirements centers around this issue.
DSR: Comments

- DSR conclude that “… capital requirements have no tangible impact on the real allocation over the long term.” Is it because we are embracing a new standard too quickly? In GNSS, capital requirements do not impact long-run capital; yet policy debate on long-run costs of high capital requirements centers around this issue.

- Does model explain debt, defaults or asset prices better than competitors? Hard vs soft borrowing constraint: which one fits best?
DSR: Comments

- DSR conclude that "... capital requirements have no tangible impact on the real allocation over the long term." Is it because we are embracing a new standard too quickly? In GNSS, capital requirements do not impact long-run capital; yet policy debate on long-run costs of high capital requirements centers around this issue.

- Does model explain debt, defaults or asset prices better than competitors? Hard vs soft borrowing constraint: which one fits best?

- DSR report 1600 impulse responses, but no historical decompositions. Key question should be WHAT CAUSED THE GREAT RECESSION, not how do wages respond to a price-markup shock. Then, if the paper succeeds on positive side, can be used to address policy questions.
Overall Comments on the Papers: Two Nice Papers!
Antipa, Mengus and Mojon (AMM)
Darracq Pariès, Sørensen and Rodríguez Palenzuela (DSR)
Common Comments

DSR: Comments

- DSR conclude that “… capital requirements have no tangible impact on the real allocation over the long term.” Is it because we are embracing a new standard too quickly? In GNSS, capital requirements do not impact long-run capital; yet policy debate on long-run costs of high capital requirements centers around this issue.
- Does model explain debt, defaults or asset prices better than competitors? Hard vs soft borrowing constraint: which one fits best?
- DSR report 1600 impulse responses, but no historical decompositions. Key question should be WHAT CAUSED THE GREAT RECESSION, not how do wages respond to a price-markup shock. Then, if the paper succeeds on positive side, can be used to address policy questions.
- It would be also nice to do some counterfactual exercises. How would have variables evolved under the optimal rules being studied?
DSR: Comments

- DSR conclude that “... capital requirements have no tangible impact on the real allocation over the long term.” Is it because we are embracing a new standard too quickly? In GNSS, capital requirements do not impact long-run capital; yet policy debate on long-run costs of high capital requirements centers around this issue.

- Does model explain debt, defaults or asset prices better than competitors? Hard vs soft borrowing constraint: which one fits best?

- DSR report 1600 impulse responses, but no historical decompositions. Key question should be WHAT CAUSED THE GREAT RECESSION, not how do wages respond to a price-markup shock. Then, if the paper succeeds on positive side, can be used to address policy questions.

- It would be also nice to do some counterfactual exercises. How would have variables evolved under the optimal rules being studied?

- Model is estimated using 15 variables and 15 shocks. Yet no variable informing about bank capital or defaults is used in estimation (bank capital cost parameter $\chi$ is unidentified according to authors).
Let me clear: these are two fascinating papers.
Let me clear: these are two fascinating papers.

I know the goals they have in mind, but I think in the trade-offs between simplicity and realism, they are trying to make things too complicated (especially DSR).
Overall Comments on the Papers: Two Nice Papers!
Antipa, Mengus and Mojon (AMM)
Darracq Pariès, Sørensen and Rodriguez Palenzuela (DSR)

Common Comments

- Let me clear: these are two fascinating papers.
- I know the goals they have in mind, but I think in the trade-offs between simplicity and realism, they are trying to make things too complicated (especially DSR).
- Main suggestion for AMM: clarify how the default decision of the borrower works, and whether model generates realistic default rates over the business cycles. Likewise, for the loan supply function (and the LTV) of the bank.
Common Comments

- Let me clear: these are two fascinating papers.
- I know the goals they have in mind, but I think in the trade-offs between simplicity and realism, they are trying to make things too complicated (especially DSR).
- Main suggestion for AMM: clarify how the default decision of the borrower works, and whether model generates realistic default rates over the business cycles. Likewise, for the loan supply function (and the LTV) of the bank.
- Main suggestion for DSR: for the next paper, first present a toy model that conveys the main intuition and can feature a shock that can make sense of the great recession (housing demand, bank capital shock, or something else....). Such a model has great potential to inform policy analysis.