Comments on "On Debt and Unions" by Broner, Martin and Ventura

Philippe Martin\textsuperscript{1}

\textsuperscript{1}SciencesPo and CEPR

Overall assessment

- Timely and relevant paper
- Novel theoretical results on interaction between crowding out of government expenditures, firm financial constraints and externalities in EMU

My discussion:
- Theory: main features of models and comments on role of financial constraints
- Empirically motivated question on public expenditure crowding out of private investment
Main features of the model

Two models:

1. Saving and production are exogenous:
   - governments allocate private saving between public expenditures and private investment
   - crowding out by construction
   - externality in MU: over-spending (crowding out of foreign investment)

2. Saving and production are endogenous
   - ZLB (lower bound on real interest rate) means potentially demand determined
   - public expenditures reduces output gap

Monetary union of I countries: not about money but about financial integration with equalized real returns
Main features of the model

Two models:

1. Saving and production are exogenous:
   - governments allocate private saving between public expenditures and private investment
   - crowding out by construction
   - externality in MU: over-spending (crowding out of foreign investment)

2. Saving and production are endogenous
   - ZLB (lower bound on real interest rate) means potentially demand determined
   - public expenditures reduces output gap

Monetary union of $I$ countries: not about money but about financial integration with equalized real returns
Main features of the model

Two models:

1. Saving and production are exogenous:
   - governments allocate private saving between public expenditures and private investment
   - crowding out by construction
   - externality in MU: over-spending (crowding out of foreign investment)

2. Saving and production are endogenous
   - ZLB (lower bound on real interest rate) means potentially demand determined
   - public expenditures reduces output gap

Monetary union of I countries: not about money but about financial integration with equalized real returns
Main features of the model

Two models:

1. Saving and production are exogenous:
   - governments allocate private saving between public expenditures and private investment
   - crowding out by construction
   - externality in MU: over-spending (crowding out of foreign investment)

2. Saving and production are endogenous
   - ZLB (lower bound on real interest rate) means potentially demand determined
   - public expenditures reduces output gap

Monetary union of I countries: not about money but about financial integration with equalized real returns
Main equation of model (1)

- Public spending optimal choice: *marginal gain − marginal cost = 0*

\[
\frac{\partial W_i}{\partial g_i} = \gamma_i v'(g_i) - \lambda f'(\omega_U - g_U) - \frac{1 - \lambda}{l} f'(\omega_U - g_U) - \frac{\lambda}{l} f''(\omega_U - g_U)(\omega_i - g_i - \omega_U + g_U) = 0
\]

- If \( l > 1 \) then \( i \) marginal cost (crowding out) of extra spending < marginal cost of lost investment \( (f'(\omega_U - g_U)) \)

- Externality more severe with more financial constraints (lower \( \lambda \))
- Perceived marginal cost (too low) is Union wide interest rate:
  \( R_U = \lambda f'(\omega_U - g_U) \)
Main equation of model (1)

- Public spending optimal choice: \textit{marginal gain} – \textit{marginal cost} = 0

\[
\frac{\partial W_i}{\partial g_i} = \gamma_i v'(g_i) - \lambda f'(\omega_U - g_U) - \frac{1 - \lambda}{I} f'(\omega_U - g_U)
\]

\[
- \frac{\lambda}{I} f''(\omega_U - g_U)(\omega_i - g_i - \omega_U + g_U) = 0
\]

- If \( I > 1 \) then \( i \) marginal cost (crowding out) of extra spending < marginal cost of lost investment \( (f'(\omega_U - g_U)) \)

- Externality more severe with more financial constraints (lower \( \lambda \))

- Perceived marginal cost (too low) is Union wide interest rate:

\[
R_U = \lambda f'(\omega_U - g_U)
\]
Comments on model 1

- Argument that MC of increase public expenditures not fully internalized in monetary union more general in any model with crowding out of investment through interest rate
- Overspending externality should be larger for smaller countries
- MU = financial integration but no change in financial constraint $\lambda$
- Intuitive result: creditor countries benefit from higher union-wide interest rate should have more incentive to increase public spending (Germany?)
- No default risk here but $\delta_i$ (access to international financial markets) different must reflect heterogenous default risk
Comments on model 1

- Argument that MC of increase public expenditures not fully internalized in monetary union more general in any model with crowding out of investment through interest rate
- Overspending externality should be larger for smaller countries
- $\text{MU} = \text{financial integration but no change in financial constraint } \lambda$
- Intuitive result: creditor countries benefit from higher union-wide interest rate should have more incentive to increase public spending (Germany?)
- No default risk here but $\delta_i$ (access to international financial markets) different must reflect heterogenous default risk
Comments on model 1

- Argument that MC of increase public expenditures not fully internalized in monetary union more general in any model with crowding out of investment through interest rate
- Overspending externality should be larger for smaller countries
- \( \text{MU} = \text{financial integration but no change in financial constraint } \lambda \)
- Intuitive result: creditor countries benefit from higher union-wide interest rate should have more incentive to increase public spending (Germany?)
- No default risk here but \( \delta_i \) (access to international financial markets) different must reflect heterogenous default risk
Comments on model 1

- Argument that MC of increase public expenditures not fully internalized in monetary union more general in any model with crowding out of investment through interest rate
- Overspending externality should be larger for smaller countries
- $\mu = \text{financial integration but no change in financial constraint } \lambda$
- Intuitive result: creditor countries benefit from higher union-wide interest rate should have more incentive to increase public spending (Germany?)
- No default risk here but $\delta_i$ (access to international financial markets) different must reflect heterogeneous default risk
Comments on model 1

- Argument that MC of increase public expenditures not fully internalized in monetary union more general in any model with crowding out of investment through interest rate
- Overspending externality should be larger for smaller countries
- MU = financial integration but no change in financial constraint $\lambda$
- Intuitive result: creditor countries benefit from higher union-wide interest rate should have more incentive to increase public spending (Germany?)
- No default risk here but $\delta_i$ (access to international financial markets) different must reflect heterogenous default risk
Model with ZLB and potential useful extra public spending

- Potentially most interesting (still incomplete)
- Two regimes that both generate low private investment
  1. low financial constraints ($\lambda > \bar{\lambda}$): overspending with crowding out (model 1)
  2. high financial constraints ($\lambda < \bar{\lambda}$): underspending with crowding in and ZLB
Model with ZLB and potential useful extra public spending

- Potentially most interesting (still incomplete)
- Two regimes that both generate low private investment
  1. low financial constraints ($\lambda > \bar{\lambda}$): overspending with crowding out (model 1)
  2. high financial constraints ($\lambda < \bar{\lambda}$): underspending with crowding in and ZLB
What happens to private investment?

Union private investment

Public overspending: crowding out

Public underspending: crowding in

\( \lambda \)
Euro crisis: $\lambda$ falls in some but not in all countries

- Case of counterproductive rules: two externalities of opposite sign
  - International externality: financial integration leads to overspending
  - Domestic externality: zero lower bound leads to underspending

Doom loop means financial constraints on governments come at same time as financial constraints on firms investment: how do financial constraints and government borrowing constraints interact?
Euro crisis: $\lambda$ falls in some but not in all countries

Case of counterproductive rules: two externalities of opposite sign
- International externality: financial integration leads to overspending
- Domestic externality: zero lower bound leads to underspending

Doom loop means financial constraints on governments come at same time as financial constraints on firms investment: how do financial constraints and government borrowing constraints interact?
Comments on model 2

- Euro crisis: $\lambda$ falls in some but not in all countries
- Case of counterproductive rules: two externalities of opposite sign
  - International externality: financial integration leads to overspending
  - Domestic externality: zero lower bound leads to underspending
- Doom loop means financial constraints on governments come at same time as financial constraints on firms investment: how do financial constraints and government borrowing constraints interact?
Comments on model 2

- Euro crisis: $\lambda$ falls in some but not in all countries
- Case of counterproductive rules: two externalities of opposite sign
  - International externality: financial integration leads to overspending
  - Domestic externality: zero lower bound leads to underspending
- Doom loop means financial constraints on governments come at same time as financial constraints on firms investment: how do financial constraints and government borrowing constraints interact?
Empirical question: Short term crowding-out or crowding-in?

- Little empirical validation of crowding out of investment due to rise in interest rate
- Guajardo, Leigh, and Pescatori (2014): 1 percent GDP fiscal consolidation $\Rightarrow$ -1.5 percent fall in investment
- Romer and Romer (2010): "Conventional interest rate effects are not key"
- Points to positive externality of public expenditures with or without ZLB
Romer and Romer (2010): impact of a tax increase
Alesina, Favero and Giavazzi (2019): impact of austerity
ST and LT nature of fiscal externality in EZ

- ST: positive because investment demand driven
- LT: issue of debt accumulation
- Gourinchas, Martin and Messer (2019): what distinguishes eurozone from financially integrated zone is collateral damage that a debt/re denomination crisis imposes on others
- The no-bailout rule is not credible: expected bailout generates overborrowing because risk shifting