DEUTSCHE BUNDESBANK
EUROSYSTEM

Inst
Monetar
Finan
Stat

Universität Hamburg
DER FORSCHUNG | DER LEHRE | DER BILDUNG

Workshop on

"Money, Finance and Banking in East Asia"

Training Centre of the Deutsche Bundesbank, Eltville
5-6 December 2011

Mathias Hoffmann
Deutsche Bundesbank

Discussion of

"Firm Productivity and the Current Account: One Country with Two Financial Markets"

Discussion of: "Firm Productivity and the Current Account: One Country with Two Financial Markets"

by Jiaqian Chang

Mathias Hoffmann[1]
Deutsche Bundesbank

MFB East Asia

[1]The views are those of the author and do not necessarily reflect those of the Deutsche Bundesbank or its staff.

Structure of discussion

- Motivation and contribution of the paper
- The paper's modelling approach and main findings
- Discussion
  1. Asymmetric financial markets and productivity
  2. International financial market structure
  3. Open policy questions
- Conclusion

Motivation of the paper

- China has experienced a persistent current account surplus
  - Chinese financial wealth is largely invested in foreign portfolio
- Decline of long run real interest rates over the last decade
  - Allowed especially the US to borrow at a low interest rate
- Productivity differentials between Chinese state-owned enterprises (SOEs) and privately-owned enterprises (POEs)
  - Financial market frictions and borrowing ability
- The three observations raise very important policy questions:
  - Is there an interplay between the borrowing ability of (Chinese) firms and the savings and investment decision?
  - If so, does this explain persistent current account movements?

Contribution of the paper

- The author assesses the effects of differing borrowing constraints on
  - Firms' productivity differentials
  - Savings and investment (by Chinese SOEs and POEs)
  - Real interest rates
- The author convincingly shows that differing financial market structures are able to generate a
  - Decline in the world real interest
  - Chinese current account surplus
- The author applies two alternative policy experiments:
  1. Asymmetric temporary borrowing ability collapse for Chinese SOEs and POEs
  2. Symmetric temporary borrowing ability collapse for Chinese SOEs and POEs

Modelling approach

- The author employs a Blanchard (1985) and Yaari (1965) model of uncertain lifetimes
- Two-country world of Advanced Economy and China
  - Households in each country inelastically provide labour to intermediate goods firms
  - Intermediate goods firms act under monopolistic competition
    - ★ Each intermediate firm faces an entry decision, depending on its average productivity in relation to the initial costs of investment
    - ★ Chinese POEs and SOEs potentially have different borrowing abilities
  - Final goods firms are perfectly competitive, using intermediate inputs
- The model is solved around a non-stochastic steady state which is identical across regions

Main findings of the paper

- 1. Asymmetric temporary borrowing ability collapse
  - SOEs' better credit market access forces POEs with average productive out of the market
  - Highly productive POEs stay in the market which reduces average costs and final goods prices
  - Improvement in the terms of trade causes a trade balance surplus
  - POEs can borrow less, reduce investment and increase savings
  - SOEs can borrow more but investment opportunities are limited due to relatively lower productivity levels
  - Consequently, at home less investable assets are available so that capital flows out (current account surplus)
  - Excess home savings cause a decline in the world real interest rate
- 2. Symmetric temporary borrowing ability collapse
  - Similar results: Chinese current account improves while (world?) real interest rate falls

Discussion

The importance of asymmetric financial markets and firms' productivity differentials (I)

- Simple Ricardian world produces a continuum of $z \epsilon [0, 1]$ goods
- Firms have differing technologies for producing goods
  - At home (foreign) a unit of good z can be made out of $a(z)$ $(a^*(z))$ units of labour
  - The relative amount of goods produced depends on relative unit labour costs $\frac{w}{w*}$ in relation to firms' productivity differential $\frac{a^*(z)}{a(z)}\frac{1}{T} = A(z)\frac{1}{T}$
  - For $T > 1$ less foreign labour is required to produce one unit of goods
- Households inelastically provide labour to domestic firms and maximise their utility

$$U_t = \sum_{s=t}^{\infty} \beta^{s-t} \ln C_s$$

- The home households' budget constraint equals

$$r_{t-1} P_t B_{t-1} + w_t L_t + \Pi(z)_t = P_t C_t + P_t \left(B_t - B_{t-1}\right)$$

- Home households face a higher interest rate than foreign agents, so that $r_t = r_t^W + \mathcal{P}_t$, with $\mathcal{P}_t > 0$

Discussion

The importance of asymmetric financial markets and firms' productivity differentials (II)

- The model is solved around a symmetric steady state, given the optimal labour choice by firms and consumption choice by households
- Current account in closed-form

$$\widehat{CA}_t = \beta(1-\beta)\widehat{\mathcal{P}} - \beta\frac{\widehat{T}}{2-\frac{1}{2}A'(z)}$$

- World real interest in closed form

$$\widehat{r}_t^W = -\frac{1}{1-\beta}\frac{\widehat{T}}{2}$$

- Asymmetric financial markets cause a current account surplus for $\widehat{\mathcal{P}} > 0$
- Asymmetric financial markets would affect $\widehat{r}_t^W$ only if the financing conditions affect productivity differentials $\widehat{T}$

Discussion

The importance of asymmetric financial markets and firms' productivity differentials (III)

- The author's work shows how financial market conditions influence productivity differentials and hence the world real interest rate
- The two policy experiments of a symmetric as well as asymmetric borrowing collapse point in the same direction:
  - Current account surplus and decline in the world real interest rate
- It would be of help to read more about the (relative) importance of
  - asymmetric financial markets on the country level
  - asymmetric financial markets between different types of firms

  for a deeper understanding of the paper's main results
- What are the welfare effects of the two alternative policy experiments?

Discussion

Underlying international financial market structure

- Bonds issued by intermediate goods firms are the only savings option of households
- Do these savings options offer households enough possibilities of international risk sharing?
- How is the households' welfare affected by credit market frictions faced by Chinese firms?
- Would international consumption risk sharing help to cushion potential negative effects of credit market imperfections?
- The paper could further elaborate on the risk sharing possibilities of households in the paper
  - The structure of international financial markets affects households consumption and savings behaviour
  - The structure of international financial markets affects the international transmission of shocks

Discussion

Open policy questions: Liberalisation of the domestic financial market

- Persistent Chinese current account surplus is mirrored by an allocation of Chinese wealth in US assets
- Decline of long run real interest rates over the last decade allowed the US to borrow at a low interest rate (exorbitant privilege)
  - Both facts might have caused a misallocation of assets and goods
- The paper might suggest a way out of this possible misallocation
  - Would a liberalisation of the Chinese financial system cause a reallocation of savings and investment?
  - Would this cause a rebalancing of the current account?
  - Would it be sufficient to relax POEs' borrowing constraint by offering better access to (international) financial markets?

Discussion

Open policy questions: Relative price adjustments and the exchange rate regime

- The paper suggests that relative productivity dynamics feed directly into relative price adjustments
  - Causes a Chinese trade balance (current account) surplus
- Would this result also remain valid in an economy with sticky prices?
- It has been argued that the Chinese fixed exchange rate policy contributed to its persistent current account surplus
- Interesting policy experiment:
  - What are the effects of introducing a fixed exchange rate regime
    - ★ How do relative prices react?
    - ★ Does it amplify or cushion the Chinese current account dynamics?
    - ★ What happens to the world real interest rate?
  - Compare those results with a movement towards flexible exchange rates
    - ★ What would the welfare implications be?

Discussion

Open policy questions: Labour market effects

- In the current version of the model there is no endogenous labour supply decision
- The model's labour market does not reflect the Chinese large rural labour pool available to firms
- Including a more sophisticated labour market into the model framework might be an interesting extension which would shed light on the following questions:
  - Does an opening up the labour market lowers relative wage costs and boost investment and production of financially constrained POEs?
  - What would be the effect on relative productivity differentials and relative prices?
  - How would the current account and world real interest rate be affected?

Conclusion

- Paper assesses an important policy question
- The paper is very interesting and well written
- Results of the paper are clear and intuitive
- The paper's result add to the literature by clarifying the link between current account and world interest rate movements when credit market frictions are present
- Summary of Discussion
  - The paper's result would be further enhanced by
    - ★ clarifying the importance of asymmetric financial markets
    - ★ assessing the consequences of financial market liberalisation
    - ★ giving monetary authorities a more active role
    - ★ analysing the importance of a more realistic labour market