Neither a Borrower Nor a Lender: Does China’s Zero Net Foreign Asset Position Make Economic Sense?

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The World Bank

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Motivation

• China’s net foreign asset (NFA) position is surprising for a developing country – slightly positive as a share of its wealth ($W$)

• Probably not an equilibrium given capital controls, financial underdevelopment, and other distortions in Chinese economy

• What is a reasonable long-run NFA position for China and how large are the current account deficits required to achieve it?

• Question is important because of implications for China’s exchange rate, trade surplus, global balances
Plan for Talk

• Basic facts on saving, investment, current account and NFA in China

• What is a reasonable long-run NFA position for China?
  – calibrate simple world equilibrium model
  – non-structural cross-country empirics

• Speculative scenarios for the future
  – what will happen to relative wealth and relative productivity?
  – implications for NFA and current account 20 years out
Net Foreign Assets

NFA/Wealth (PPP)

NFA/GDP
China’s Capital Controls

- tight restrictions on capital inflows and capital outflows (outright restrictions, ownership limits, administrative approval requirements, etc.)
  - China ranks 57 out of 61 countries in regression sample on IMF capital controls measure

- gradual process of liberalizing regime for inward FDI, including recently in services

- capital controls countered by domestic incentives for foreign-funded firms (tax holidays, lower tax rates)

- creates incentives for “round-tripping” => China’s true NFA position may be even more positive
Model and Calibration Exercise

• Take minimalist model of capital flows from Kraay, Loayza, Serven and Ventura (2005)
  – diminishing returns and production risk provide incentives to spread capital across countries
  – (small dose of) sovereign risk provides incentive to keep capital at home

• Calibrate model to China and ROW aggregate
  – data on relative wealth, relative productivity
  – implies NFA/W = -17 percent
Net Foreign Assets and Relative Productivity

ROW Productivity Advantage ($\pi$)

-1  -0.8  -0.6  -0.4  -0.2  0  0.2  0.4  0.6  0.8  1

0.5  0.7  0.9  1.1  1.3  1.5

2025? Today
Net Foreign Assets and Relative Per Capita Wealth

Relative Wealth ($a^* / a$)

Today 2025?
Non-Structural Cross-Country Empirics

• Relatively little existing work on this, due to data scarcity (until recently) – Lane and Milesi-Ferretti (2001), Calderon, Loayza, and Serven (2003)

• Dependent variable is NFA/W, averaged 1980-1999, 61 countries with at least 15 years of data

• Right-hand-side variables:
  – relative per capita wealth
  – proxies for productivity (TFP, institutions)
  – capital controls
  – country size (not in theory, strongly in data)
  – China dummy
Net Foreign Assets and Per Capita Wealth

![Graph showing the relationship between net foreign assets/wealth and ln(relative per capita wealth). The graph includes points for various countries, with a trend line indicating a positive correlation.]
Net Foreign Assets and Country Size

- Net Foreign Assets/Wealth
- ln(Share in World Population)

nfawav
Linear prediction
## Regressions for NFA/Wealth

<table>
<thead>
<tr>
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<th>(6)</th>
<th>(7)</th>
<th>(8)</th>
<th>(9)</th>
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</thead>
<tbody>
<tr>
<td>ln(Realtive Wealth per Capita)</td>
<td>0.053 (0.012)**</td>
<td>0.081 (0.017)**</td>
<td>0.088 (0.023)**</td>
<td>0.102 (0.022)**</td>
</tr>
<tr>
<td>ln(TFP)</td>
<td>0.008 (0.083)</td>
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<tr>
<td>Rule of Law</td>
<td></td>
<td>-0.041 (0.021)*</td>
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<tr>
<td>Expropriation Risk</td>
<td>-0.034 (0.017)*</td>
<td>-0.038 (0.017)**</td>
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<tr>
<td>ln(Population Share)</td>
<td>0.035 (0.008)**</td>
<td>0.033 (0.008)**</td>
<td>0.041 (0.009)**</td>
<td>0.037 (0.009)**</td>
</tr>
<tr>
<td>Capital Controls</td>
<td></td>
<td></td>
<td>0.081 (0.042)*</td>
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<tr>
<td>China Dummy</td>
<td>0.047 (0.027)*</td>
<td>0.052 (0.030)*</td>
<td>0.071 (0.037)*</td>
<td>0.067 (0.036)*</td>
</tr>
<tr>
<td>Constant</td>
<td>0.069 (0.131)</td>
<td>0.101 (0.044)**</td>
<td>0.394 (0.170)**</td>
<td>0.379 (0.162)**</td>
</tr>
<tr>
<td>Observations</td>
<td>61</td>
<td>61</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.46</td>
<td>0.49</td>
<td>0.51</td>
<td>0.54</td>
</tr>
</tbody>
</table>
Summary of Non-Structural Empirics

• small set of variables predict NFA position (surprisingly?) well

• relative wealth, size, capital controls and institutional proxies for productivity matter

• China still has a significant residual around 5-7 percent of wealth – qualitatively consistent with calibrations

• What would China’s NFA position be if relative wealth and productivity increase, capital controls decrease?
Scenarios for NFA and Current Account

- Theory and empirics tell us that China’s NFA position in future will depend importantly on its relative wealth and relative productivity.

- (Educated?) guesses about saving rates and growth rates give us relative wealth in 2025.

- (Educated?) guesses about productivity growth give us relative productivity in China in 2025.

- What are quantitative implications for NFA, and current account deficit required to get there assuming NFA/W gradually reaches its long-run value in 2025?
Will High Saving Rates Continue?

• Life-cycle considerations important for China (Modigliani and Cao (2004))
  – rapid growth and falling dependency ratios explain most of upward trend in household saving
  – rising future dependency rates (eventually) imply lower future household saving

• Credit constraints and advance saving for durable purchases (Prasad and Wei (2005))
  – U-shaped age profile of saving, with min at age 45
  – future demographic trends suggest big increase in share of older savers
  – what will happen to saving of young with financial development?
Demographic Trends
(Relevant to Modigliani and Cao (2004))

Dependency ratio (%)
Age15-64/Age0-15
Will High Savings Continue?

• State enterprises don’t pay dividends, and recently have become profitable => unusually high state enterprise investment out of reinvested earnings (Kuijs (2005))
  – as high as 18 percent of GDP in 2003(!)
  – accounts for much of increase in saving rates in past few years
  – eventual reforms/privatizations imply profits will go to agents with marginal propensity to save < 1

• Bottom line: at most moderate reductions in saving rates likely over next 20 years
Will Past Productivity Growth Continue?

• Serious estimates of TFP growth for China since 1978 are in 1-2 percent per year range (e.g. Young (2003))
  – probably somewhat higher than in industrial countries, also higher than ROW aggregate?

• Substantial productivity gains have also come from intersectoral factor reallocation out of agriculture, and away from state sector
Importance of Factor Reallocation

- Update calculations in Kraay (1996) and World Bank (1996) on contribution of reallocation of labour to growth

<table>
<thead>
<tr>
<th></th>
<th>Overall</th>
<th>Reallocation of Labour Out of Agriculture</th>
<th>Reallocation of Labour Across Ownership Forms</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985-89</td>
<td>1.39</td>
<td>1.31</td>
<td>0.07</td>
</tr>
<tr>
<td>1990-94</td>
<td>1.36</td>
<td>0.46</td>
<td>0.90</td>
</tr>
<tr>
<td>1995-99</td>
<td>1.29</td>
<td>0.16</td>
<td>1.13</td>
</tr>
<tr>
<td>1985-99</td>
<td>1.34</td>
<td>0.64</td>
<td>0.70</td>
</tr>
</tbody>
</table>
Rate of return on capital

- State-owned enterprises: 7%
- Private domestic enterprises: 19%
- Foreign enterprises: 22%
Scope for Future Factor Reallocation?

• Differences in average (and marginal) products of labour and capital across ownership forms remain large
Three Scenarios for NFA/Wealth in 2025

• **Scenario 1**: Past trends continue
  – S/YPPP = 25%, g=6%
  – $\pi = 0.87$, $\Delta ICRG = 1$, $\Delta KControls = -0.7$

• **Scenario 2**: Further reforms
  – S/YPPP = 20%, g=5%
  – $\pi = 0.87$, $\Delta ICRG = 1$, $\Delta KControls = -0.7$

• **Scenario 3**: Reform stagnation
  – S/YPPP = 25%, g=4%
  – $\pi = 1$, $\Delta ICRG = 0$, $\Delta KControls = 0$
# Results for NFA and Current Account

## Table 4: Scenarios for Current Account and Net Foreign Assets

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Scenario 1</th>
<th>Scenario 2</th>
<th>Scenario 3</th>
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</thead>
<tbody>
<tr>
<td><strong>Model Calibrations</strong></td>
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<tr>
<td>ROW relative productivity $\pi$</td>
<td>0.87</td>
<td>0.87</td>
<td>1.0</td>
</tr>
<tr>
<td>Per Capita Wealth Relative to ROW</td>
<td>1.1</td>
<td>0.8</td>
<td>0.9</td>
</tr>
<tr>
<td>Predicted NFA/Wealth in 2025</td>
<td>-5%</td>
<td>-9%</td>
<td>-3%</td>
</tr>
<tr>
<td>Average Current Account Deficit/GDP at Market Prices, 2005-2025</td>
<td>-3%</td>
<td>-5%</td>
<td>-2%</td>
</tr>
<tr>
<td><strong>Non-Structural Cross-Country Empirics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in Expropriation Risk Measure</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Change in log(Per Capita Wealth Relative to US) 2005-2025</td>
<td>1.3</td>
<td>1</td>
<td>1.1</td>
</tr>
<tr>
<td>Predicted NFA/Wealth in 2025</td>
<td>-3%</td>
<td>-6%</td>
<td>-1%</td>
</tr>
<tr>
<td>Average Current Account Deficit/GDP at Market Prices, 2005-2025</td>
<td>-2%</td>
<td>-4%</td>
<td>-1%</td>
</tr>
</tbody>
</table>
Conclusions

• Model calibrations and cross-country empirics suggest that China should be a net debtor today

• Reasonable assumptions on future relative wealth and relative productivity performance also suggest China should be a net debtor in the future

• Achieving even modest negative NFA positions as a share of wealth at PPP will require substantial current account deficits as share of GDP at market prices

• Likely to require adjustment by China and by rest of the world