Currency Substitution in the Economies of Central Asia: How Much Does it Cost?

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November 2009
Presentation Outline

- Recent developments in Central Asia
- Dollarization and currency substitution: definition and motivation
- Model overview
- Empirical results
- Dollarization and seigniorage revenues
- Dollarization and economic welfare
- Concluding remarks
Central Asia: Kazakhstan, the Kyrgyz Republic and Tajikistan
Recent economic developments in Central Asia (before the crisis)

• macroeconomic stability: stable prices and exchange rates
• rapid economic growth
• growing foreign capital inflows: foreign direct investments, crossborder interbank and intrabank lending (Kazakhstan)
• growing amount of remittances inflows (Tajikistan, Kyrgyzstan)
Currency Substitution vs. Dollarization

Money:
- medium of exchange
- unit of account
- store of value

Currency substitution:
foreign currency used as medium of exchange and unit of account

Dollarization (asset substitution):
foreign currency used as a store of value
Dollarization Index: $DI = \frac{FCD}{TD}$
Why Do People Hold Foreign Currency in Central Asia?

- Memory of macroeconomic instability in the 1990s
- Civil war in Tajikistan until 1997; actual stabilization has started in 1999 – 2000
- Political instability in Kyrgyzstan in 2005
- Tajikistan and the Kyrgyz Republic are the poorest economies among the former Soviet Union republics
- Underdeveloped financial markets, low confidence in local banks
- Instability of inflation, exchange rates due to recent financial crisis
The Model

Residents are assumed:
• to get an endowment every period, receive a lump sum transfer from the government and keep some money from the last period
• to derive utility from consumption of goods and holding money (Imrohoroglu 1994, Verbetski&Friedman 2001, Selcuk 2006)
• to diversify money holdings through holding both domestic and foreign money

Government:
• prints money and earns seigniorage
• rebates seigniorage revenue to the public as a lump sum transfer
Dollarization (currency substitution) parameters in the model

The parameters of interest are:

- the share of foreign money in providing utility, or efficiency of foreign currency in providing liquidity services ($0 \leq \alpha \leq 1$)

- degree of substitution between domestic and foreign money ($s > 0$)
## Empirical Results

<table>
<thead>
<tr>
<th></th>
<th>Kazakhstan</th>
<th>Kyrgyz Republic</th>
<th>Tajikistan</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\alpha$</td>
<td>0.50***</td>
<td>0.55*** –</td>
<td>0.46*** –</td>
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<tr>
<td></td>
<td></td>
<td>0.59***</td>
<td>0.54***</td>
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<tr>
<td>$\rho$</td>
<td>-0.87*** –</td>
<td>-0.76*** –</td>
<td>-0.94*** –</td>
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<tr>
<td></td>
<td>- 0.70***</td>
<td>- 0.31*</td>
<td>- 0.68***</td>
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<tr>
<td>$s = \rho/(1+\rho)$</td>
<td>3 - 8</td>
<td>1.45 – 3</td>
<td>3 – 17</td>
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</tbody>
</table>
Seigniorage Revenue in a Dollarized Economy

Seigniorage/GDP (in %)

\[ \alpha = 0.5 \quad \alpha = 0 \]

Domestic inflation (in %) \( (\pi^* = 0) \)
Dollarization: how costly is it?

Welfare gain/GDP (in %)

Domestic inflation $\pi$ (in %)

Welfare gain, %

-2
-1
0
1
2

$\pi^* = 0$
$\pi^* = 5\%$
Concluding remarks

• Currency substitution and dollarization have reached high levels in Central Asia

• Foreign currency is efficient in terms of providing liquidity services and has an important share in money holdings of residents

• Monetary authorities lose seigniorage revenue when dollarization is present due to substitution of domestic currency by foreign currency

• Holding foreign currency can be beneficial due to comparative stability of the foreign currency and households’ perception about efficiency of foreign currency

• Policy questions: should countries de-dollarize?