Discussion:

Models of foreign exchange settlement and informational efficiency in liquidity risk management

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Bank of Canada Conference

November 2008

Synopsis: questions

- What are the consequences of global liquidity management?
- What are the implications for optimal infrastructure design?

Synopsis: answers

- Global liquidity management (internal financing) increases informational efficiency of bank financing.
- Going from local to global liquidity management leads to (i) higher incidence of technical defaults, (ii) lower transmission of losses within and across systems.
- Constraints on informational efficiency can be relaxed by better "coordination" of FX settlement, which leads to (i) higher incidence of technical defaults, (ii) lower transmission of risk.
- Full coordination is "first-best" in this world.

Synopsis: key assumptions

- No aggregate liquidity shocks: independent liquidity holdings decisions
- Linearity $\longrightarrow$ corner solutions: external financing, internal financing and self-financing choices are mutually exclusive.
- Information asymmetry in interbank market: external financing is more costly than internal financing.
- Lack of same-day PvP settlement for FX transactions (coordination issue) $\longrightarrow$ FX settlement risk to domestic bank is increasing in the duration of this exposure.

Contribution

- Paper's contribution is to consider a bank's refinancing choices when it is part of a global liquidity management scheme, in an environment where FX settlement mechanisms matter.
- Message: The reduction of FX settlement risk matters for the efficiency of global liquidity management. Of course, must weigh this against the cost of coordination.

Minor comments

1. Re-label domestic bank as continuum of domestic banks that is perfectly diversified, hence riskless: justifies assigning bargaining power to liquidity-poor subsidiary in local interbank market.

2. Consider the interbank market for the country in which global bank subsidiary is liquidity-rich and domestic bank is liquidity-poor: internal financing leads to technical default by local bank?

3. Not accurate to call situation “crisis scenario” (in presentation) since no aggregate illiquidity.

4. Information asymmetry in local interbank market but not between global bank subsidiaries.

Some issues

1. No aggregate shocks (within-country and across-subsidiaries) leading to independent liquidity holdings decision by subsidiaries:
   - Consider alternative assumptions about realization of liquidity risk:

	Realization 1	Realization 2
G_E	$-\lambda$	0
G_W	0	$-\lambda$
D_E	λ	0
D_W	0	λ

   - Simple way of generating a joint liquidity holdings decision on day 1 for global bank under global liquidity management.

Some issues

2. Complete crowding out of external financing by internal financing:
   - Consider introducing (reduced-form) "agency" costs to internal financing: an increasing function $\phi(B_{FX})$.
   - Possible equilibrium where internal financing, external financing and self-financing co-exist?
3. Unmodeled policy parameters:
   - t, c_W and c_E as jointly determined.
   - Need to take costs of technical defaults more seriously to think about "optimal" c_W and c_E.

Some issues

4. Need to take market structure more seriously:

   - Bilateral bargaining between subsidiaries over terms of internal financing.
   - Global bank subsidiary with excess liquidity has market power in its local interbank market.
   - For example, G_W does not invest in liquidity on day 1($L_W = 0$) and finds itself liquidity-rich on day 2.

     This implies that both D_W and G_E face liquidity shortages. G_W chooses between lending to G_E and lending to D_W.

     Under current model, indifferent since earns zero returns from lending in expectation and risk-neutral. Not the case if we introduce market power or risk-aversion.