
1998: Chile abandons its capital controls.

The Bank of Chile had become weary of the race between regulation and circumvention.

Circumvention is a first-order issue for the future of capital flow management (through capital controls).
Bengui-Bianchi (BB) present a model

Builds on the new literature on prudential controls (Korinek, 2010; Bianchi, 2011; etc)

An important question and a useful contribution

- theorists often do not pay attention to circumvention
Bianchi (2011)
- class of models in which the boom-bust cycle in capital flows is magnified by fluctuations in the value of the country’s “international collateral”
- a Pigouvian tax on debt inflows can be used to smooth out the excessive volatility in capital flows.

Departure from Bianchi (2011): the tax applies only to a subset of agents

Leakage: the effect of tax is partially undone by the actions of the unregulated agents
The gains from macroprudential controls may remain substantial in spite of leakage.

The optimal tax on capital inflows could be lower or higher than in the absence of leakage.

Macroprudential policy can have significant redistributive effects between regulated and unregulated borrowers.
I like the paper

There seems to be something generic about the question asked by BB
- something that does not depend on the details of the financial friction to be mitigated by macroprudential regulation

Let me explore the answer(s) with a more simple (and ad hoc) model (Jeanne, 2014)
Assume identical atomistic borrowers with ex-ante welfare

\[ V(d, D) - (1 + r)d \]

\( d \) individual debt
\( D \) aggregate debt

\( U_D < 0 \) because of aggregate systemic externality
There are different ways one can think about circumvention in this model:

- intensive margin: all borrowers circumvent at the margin
- extensive margin: some borrowers escape the tax altogether

They may lead to different results
Assume borrowers are identical and can issue regulated and unregulated debt

\[ d = d_r + d_u \]

cost of issuing unregulated debt \( f(d_u) \), where \( f(\cdot) \) is increasing and concave

Each borrower minimizes the non-interest cost of borrowing

\[
C(d) = \min_{d_r + d_u = d} [\tau d_r + f(d_u)]
\]

Envelope theorem,

\[
C'(d) = \tau,
\]

the same as without circumvention, so borrowers choose the same \( d \)

**Irrelevance result:** The macroprudential policymaker should not change the level of the macroprudential tax in response to circumvention
Departure from irrelevance (1)

- Assume now that instead of being strictly concave the cost is a linear function

\[ f(d_u) = \gamma d_u \]

- Then the policymaker should not increase the tax rate above \( \gamma \)

\[ \tau \leq \gamma \]

- Circumvention now constrains regulation

- The same kind of results may be obtained with a fixed cost of circumvention
Assume that borrowers are heterogeneous, and have different costs of circumvention

\[ f_i(d_u) = \gamma_i d_u \]

Then regulation separates the borrowers in two groups, the regulated borrowers (with \( \gamma_i > \tau \)) and the unregulated borrowers (with \( \gamma_i \leq \tau \))

- denote by \( d_r \) and \( d_u \) the debt of the representative agent in each group

Increasing \( \tau \) shifts borrowers from the regulated group to the unregulated group

Extensive margin \( \rightarrow \) reason to moderate regulation
Let us make “Calvinist” assumption that borrowers are predestined to be in regulated or unregulated group (like BB)

- $\gamma_i = 0$ for some borrowers and $\gamma_i = +\infty$ for others

Then leakage operates completely at the intensive margin inside the unregulated group

Incomplete offset of macroprudential policy

$$\frac{\partial d_r}{\partial \tau} < \frac{\partial D}{\partial \tau} < 0 < \frac{\partial d_u}{\partial \tau}$$
How is optimal level of $\tau$ affected by circumvention?

- It takes a higher tax to achieve the same aggregate debt target $\rightarrow \tau$ should be higher

- The tax distorts the allocation of debt between regulated and unregulated borrowers $\rightarrow \tau$ should be lower

- On balance, ambiguous: $\tau$ could be higher or lower
I wrote a generic model in which there is a need to tax debt for prudential reasons

With circumvention:

- Irrelevance result
- Departures from irrelevance; the tax rate could go up or down, depending on how one models circumvention

The only robust result: circumvention does not completely obviate the need for regulation in general

The simple model does not do full justice to BB, but it highlights intuition behind main results and puts them in broader context
- One would like to discipline the model using information about circumvention in the real world.

- One can make a case for BB’s modeling choice:
  - Some agents seem better able to circumvent than others (e.g., large firms vs. small borrowers; Forbes on Chile).

- But seems extreme to assume that some agents are captive at any level of tax:
  - In Bianchi (2011) the optimal tax can exceed 20%; isn’t it too high?

- The private sector can reduce the cost of circumvention by investing in “circumventional capital”:
  - Dynamic problem: the tax should not be kept too high for too long.

- It is difficult to differentiate the tax by type of inflows (Klein and Shambaugh, 2013).
Conclusions

- Very nice paper

- One last thought: one reason to manage capital flows through reserves rather than capital controls may be related to circumvention

THANK YOU