**DOLLAR BORROWING BY NON-FINANCIAL FIRMS AND THE REAL EFFECTS OF US MONETARY POLICY ABROAD**

Robin Tietz

AEA poster session 2021

---

**Firm-level estimates of the real effects of US monetary policy on investment in 36 countries**

- US monetary policy has significant real effects in all countries but largest in countries with pegged or managed exchange rates ("non-floaters").
- Stronger spillovers to investment in non-floaters arise from a relatively stronger response by firms with high leverage.
- These findings are based on transmission through international corporate bonds and suggest banking regulation is not enough to shore up the economy.

---

**Motivation and contribution**

- International transmission of monetary policy
- Previous papers focus on financial spillovers
- Role of banks in the transmission
- New in my paper:
  - Estimate international real effects on investment
  - Focus on non-financial firms
  - International corporate bonds
  - Identify firm-financing spillover channel (right-hand box)
  - Blending out non-financial channels, e.g., agg. demand, information effects etc.

---

**Identifying real effects through firm-financing spillovers**

Identification approach combines two arguments:
1. Firms with maturing debt shortly after monetary announcement more exposed relative to firms without.
   - Firms with maturing debt experience drop in net worth and feasible borrowings, relative to those without maturing debt.
   - Argument formalized in simple theoretical framework.
2. Exact timing of long-term debt maturity within a given quarter (before/after FOMC) exogenous.
   - Bonds issued long before FOMC schedule known, many other determinants of issuance date.
   - I verify that corporate bond maturity is approximately uniformly distributed over the FOMC cycle.
   - Monetary policy shocks adds additional layer of identification as they capture policy surprises.
   - Corporate bond issuance yields are significantly affected by the associated monetary shocks.

---

**Specification**

I regress firm-level investment on an interaction of the maturing debt dummy with the monetary policy shock:

\[
\Delta k_{p,t} = \alpha_k + \alpha_{f,t} + \beta_1 \text{Mat}^{f}_{p,t-1} + \beta_2 \text{Mat}^{f}_{p,t-1} \times \text{MP}_{p,t-1} + \gamma X_{p,t-1} + \epsilon_{p,t}
\]

- \(\Delta k_{p,t} = \) quarterly log-change in net property, plant and equipment.
- Maturing-debt dummy:
  \(\text{Mat}^f_{p,t-1} = 1\) if USD debt matures between FOMC\(_{c-1}\) and FOMC\(_t\) and 0 otherwise
  \(-\text{FOMC}_{c-1}\) is the last FOMC meeting of quarter \(t-1\)
- Robustness with various alternative schemes
- \(\text{mp}_{p,t-1}\) is the high-frequency US monetary shock from FOMC\(_{c-1}\)
- Vector of controls, firm and country-date fixed effects

---

**Data**

- Quarterly accounting: Compustat Global and Worldscope; Corporate bond info: Mergent, SDC, Dealogic
- 10431 non-financial firms from 36 countries (excl. utilities, public sector), 2003 Q1 - 2016 Q4 (excl. crises)
- Of 36 countries: 23 high income, 19 with floating exchange rate
- De-factor exchange rate regime classification from Ilzetzki, Reinhart, Rogoff (2019)

---

**Overview of findings**

1. Investment reductions after US monetary tightening significant in all countries, but largest in non-floaters.
2. Relatively stronger spillovers in non-floaters arise from firms with high-leverage.
4. Simple theoretical framework of currency choice rationalizes findings 1-3: Exchange rate management allows smaller and less productive firms to borrow in foreign currency \(\rightarrow\) raises financial vulnerability.

---

**Sample split by net leverage and exchange rate**

<table>
<thead>
<tr>
<th>Dep-var: (\Delta k_{p,t})</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net leverage</td>
<td>(0.760)</td>
<td>(0.983)</td>
<td>(0.375)</td>
<td>(0.616)</td>
</tr>
<tr>
<td>(\text{mp}_{p,t-1})</td>
<td>0.031</td>
<td>0.061</td>
<td>0.054</td>
<td>0.061</td>
</tr>
<tr>
<td>(\text{mat}<em>{p,t-1}\times\text{mp}</em>{p,t-1})</td>
<td>0.044</td>
<td>0.044</td>
<td>0.044</td>
<td>0.044</td>
</tr>
<tr>
<td>(\text{mp}<em>{p,t-1}\times\text{mp}</em>{p,t-1}\times\text{mp}_{p,t-1})</td>
<td>(0.805)</td>
<td>(0.898)</td>
<td>(1.183)</td>
<td>(1.382)</td>
</tr>
<tr>
<td>(\text{mp}<em>{p,t-1}\times\text{mp}</em>{p,t-1}\times\text{mp}_{p,t-1})</td>
<td>0.048</td>
<td>0.048</td>
<td>0.048</td>
<td>0.048</td>
</tr>
</tbody>
</table>

---

**Conclusion**

- US monetary policy has significant real effects outside of the USA. Exchange rate management associated with significantly stronger spillovers.
- Importance of leverage by non-financial firms & corporate bond borrowing \(\Rightarrow\) banking regulation not enough to shore up economy.