Why do firms issue bonds in the offshore market? Evidence from China

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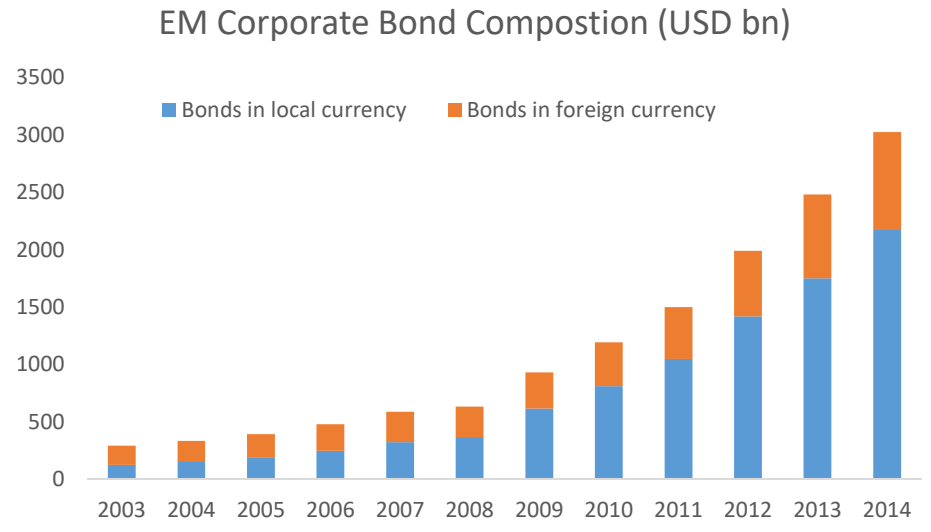
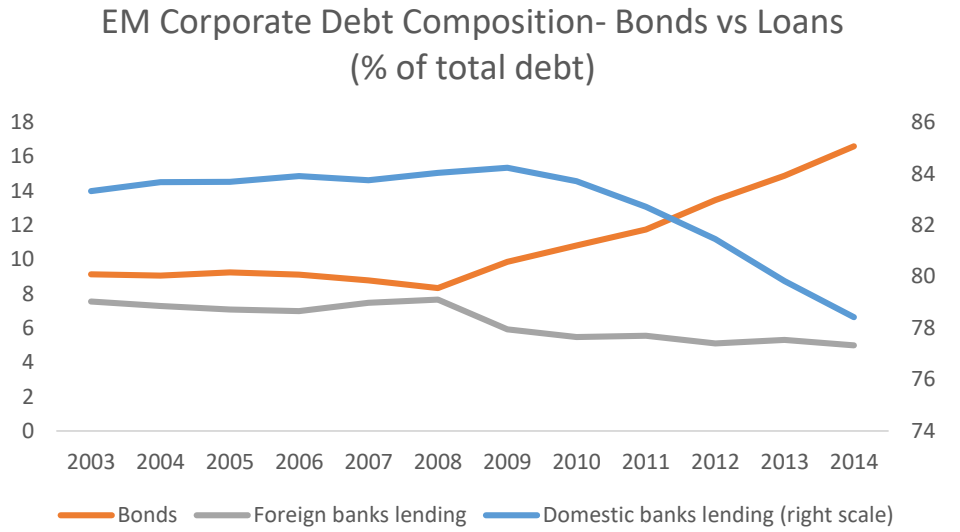
The role of international bond market for EMs

- The existence of deep and liquid international bond markets is a fundamental base for economic development and growth of EMs
  - Alternative option for low-cost and long-term funding (Gozzi et al., 2015)
  - Available channel to international investors to park their savings (Errunza and Miller, 2000; Allen et al., 2012)
  - Offers additional financial source when liquidity in bank systems dry up during financial crisis (Bolton and Frexias, 2006; Chava and Purnanandam, 2011)
- Since 1990s, firms from emerging markets (EMs) began to tap into international bond markets driven by the trend of financial globalization.
- After 2008 financial crisis, the international market has been a more liquid place due to the monetary expansion of advanced economies, which gives EMs firms greater incentives to run towards the international bond market. (Elekdag, et al., 2015; Bruno and Shin, 2016).

The risk of international debt raising - a contagion channel

- However, the financial crisis in the late 1990s significantly shook up policymakers and scholars due to the risks of offshore financing (the cases of Mexico 1994-95; Russia 1998; East Asia, 1997-98)
- The recent increase in corporate leverage in emerging markets also raises concerns (McClauley et al. 2015; Bruno and Shin, 2016)





Data source: Global financial stability report (IMF, 2015)

The role of offshore financing for EMs

Bonding / Signaling view: improving the credibility and governance structure of domestic issuers

- The bonding hypothesis initiated by Coffee (1999, 2002) and Stulz (1999): Cross-listing outside home countries implies a commitment to a relative stringent jurisdiction with more information disclosure and better investor protection.

- Offshore financing under the regime with stricter market discipline and information disclosure would make the issuer to be more transparent and creditable, which, in turn, send positive signals to domestic market and hereby improve the debtor's financing conditions afterwards (Licht, 2003; Doidge, et al., 2004).

The bonding/signaling effect is still in a controversy

- Licht (2003): Bonding or Avoiding?
  - SEC is an inefficient body that does not enforce corporate governance rules for foreign issuers.
- Siegel (2005) and Gande and Miller (2011)
  - The SEC and minority shareholders have not effectively enforced the law against foreign firms cross-listed in U.S.
  - However, the market penalizes these firms in the form of a less supply of outside finance or a negative reaction on stock price.
- Gozzi et al. (2008)
  - Investigated the evolution of Tobin's Q before, during, and after firms internationalized.
  - Showed that Tobin's Q rises significantly before and during the internationalization year, but then falls sharply in the following year.
  - Challenged the findings of Doidge et al. (2004) that offshore financing produces an enduring effect on Tobin's Q by bonding firms to a better corporate governance system.

Rethinking the role of offshore debt financing

1. Does the offshore financing serve as a signal and then influence the firm's funding terms in the subsequent domestic issuance?
2. What is the difference in the magnitude of signaling effect to the domestic market, according to different settings of information disclosure?
3. How is the disparity of the signaling effect across financial centers?
4. Does offshore financing have a better signaling effect on financially-constrained companies after they commit themselves to a more stringent regime?

The advantage of Chinese bond dataset

- China is a country with large institutional disparity between onshore and offshore market:
  - The domestic bond market is still under developed with less creditability and transparency, compared to mature international peers.
  - After the gradual ease of capital controls, offshore financing by Chinese firms has experienced a rapid growth from non-existence to a total of USD 458 billion (as of 2015).

Major findings

- The firms that have access to offshore bond financing indeed reduce the funding cost in the subsequent domestic bond issuance.
- The decrease of funding cost is much more significant for domestic issuance by the firms that : (1) have been granted a investment-grade rating in the offshore market; or (2) have public issuance in the offshore market.
- The offshore bonds issued (1) with a registration domain in Hong Kong or (2) under Hong Kong law have a stronger signaling effects on the funding cost in the subsequent domestic issuance than other offshore locations.
- The offshore financing favor more those financial constrained firms than less constrained peers in their subsequent domestic issuance, including (1) non-SOEs; (2) non-listed firms; and (3) firms with lower cash ratio.

Contributions

- The bonding hypothesis is still subject to great debate and the empirical evidence is also mixed. **Our results strongly support the bonding hypothesis** in the bond markets.

- Most existing studies are based on cross-listing of equity shares and largely overlook the debt market due to data availability. **We are the first one to use debt issues data** to study the bonding hypothesis.

- Compared to the studies focusing on how contagion channel influence firms' debt issuance internationally and domestically (Black and Munro, 2010; Bruno and Shin, 2016), our research focuses **on the impact of information spill-over channel on domestic market.**

- Our study is also related to the literature of financial globalization and international financing patterns. We clarify the interaction mechanism by which the international debt market help the development of domestic market.

Organization of the rest of the presentation

- Database construction and variables
- Spill-over channels of bonding hypothesis
- The disparity of the bonding effects across locations
- The bonding effect on financially-constrained firms
- Robustness checks
- Conclusions

Identifications

- Onshore/ Offshore issuance
  - Domestic issuances: exchanged at China inter-bank market, Shenzhen Stock Exchange or Shanghai Stock Exchange, otherwise as offshore bonds (Black and Munro, 2010; Gozzi, et al., 2010).

- Nationality of offshore issuers:
  - Bloomberg's criteria of nationality: depending on the management location, country of primary listing, or country of major revenue.

The scope of database

- To restrict our sample to Chinese non-financial corporate bonds, we exclude:
  - All debt securities issued by public sectors, including those issued by government agencies, policy banks and municipal bonds
  - The debt securities from banks, asset management companies, non-banking financial institutions, insurance companies
  - The debt securities with an original maturity less than one year, including commercial papers, super commercial papers, structured notes, certificates of deposit (CDs)
  - The bond issued by Hong Kong and Taiwan firms.

Data coverage

- 2, 240 corporate bonds issuance in the domestic market
- 687 offshore issuance
- 799 Chinese issuers, 123 cross-border issuing groups
- Bond issuance data and balance sheet information of issuers from 2007-2015

Year	N	Total volume of domestic issuance (RMB billion)									
		2007	2008	2009	2010	2011	2012	2013	2014	2015	Total Size
Full Sample	2240	98	328	684	367	587	940	639	634	718	4994
Basic Materials	402	14	52	72	59	101	116	96	73	108	691
Communications	39	2	24	34	3	1	7	9	5	10	95
Consumer Cyclical	252	7	4	30	19	32	56	63	45	31	287
Consumer Non-cyclical	172	2	19	17	6	34	24	38	23	36	201
Diversified	94	4	10	19	11	24	18	15	32	28	159
Energy	353	32	81	171	131	132	350	174	162	175	1408
Industrial	484	15	37	117	64	111	160	59	91	55	710
Real Estate	98	.	19	12	1	16	4	4	10	126	190
Technology	24	.	.	.	.	1	7	3	6	4	21
Utilities	322	21	81	214	74	135	197	177	188	144	1233
SOE	1592	94	310	634	352	519	826	558	546	501	4341
Non-SOE	648	3	18	50	15	68	114	81	88	216	653

Dependent variable

- The yield spread between the bond yield to maturity and risk-free rate of every domestic issuance

$$Spread_{i,\,j,\,t} = Yield_{i,\,j,\,t} - Rf_t$$

  - The bond yield to maturity which is calculated based on bond features (issue price, maturity and coupon rate).

  - Risk-free rate which is calculated from China's sovereign bond with a similar maturity on the issuance date.

Main independent variables

- ***Offshore*** (Offshore financing dummy): equals one for the bonds issued by the groups which have been issued offshore sometime during the entire sample period, and zero for others.
- Domestic bond issuance are divided into two sections:
  - Offshore financing section: the groups within which one of the subsidiaries have been issued offshore sometime during the entire sample period
  - Domestically-issuing only section: the groups which are only active in the domestic bond market
- ***Before***: equals one on and before the month of the first offshore issuance of the given group, and zero otherwise.
- ***After***: equals one after the month of the first offshore issuance of the given group and zero otherwise.

Control variables

- Bond features:
  - Issuance size, Tenor, Rating (Liu et al., 2010; Kabir et al., 2013)
- Firm-level:
  - Total assets, Long-term debt ratio, Profitability, Liquid assets, Collaterals (Mizen, et al., 2012)
- Market level
  - VIX, the averagely stock market turnover at issue month (Mizen, et al., 2012; Elekdag, et al., 2015; Bruno and Shin, 2016)
- Industry and year dummies

Summary statistics

variable	N	mean	sd	p5	p25	p50	p75	p95
Bondsize	2240	2.229	3.127	0.300	0.600	1.200	2.500	8
Tenor	2240	4.571	2.348	3	3	5	5	10
Yield	2240	5.499	1.216	3.755	4.800	5.400	6.200	7.600
Spread	2240	2.215	1.105	0.955	1.517	2.062	2.809	4.162
Offshore	2240	0.338	0.473	0	0	0	1	1
Before	2240	0.155	0.362	0	0	0	0	1
After	2240	0.183	0.387	0	0	0	0	1
SIZE	2240	11.07	1.597	8.553	9.917	11.06	12.08	13.99
LDEBT	2240	0.192	0.126	0.009	0.101	0.177	0.264	0.452
PROF	2240	0.043	0.038	-0.003	0.022	0.037	0.06	0.115
COLL	2240	0.967	0.052	0.873	0.958	0.989	0.997	1.000
LIQUID	2240	0.010	0.005	0.003	0.007	0.010	0.013	0.020
STOCKTVR	2240	1.513	0.848	0.598	0.850	1.161	1.982	3.328
VIX	2240	18.07	7.154	11.82	13.55	15.69	20.09	34.87
Listed	2240	0.424	0.494	0	0	0	1	1
SOE	2240	0.711	0.454	0	0	1	1	1

Basic regression:
The bonding effect of offshore bond financing

	(1)	(2)	(3)
After		-0.156***	-0.182***
		(-2.81)	(-3.52)
Offshore	-0.110**	-0.042	
	(-2.55)	(-0.84)	
Before			0.001
			(0.02)
SIZE	-0.146***	-0.141***	-0.145***
	(-7.25)	(-6.98)	(-7.20)
LDEBT	0.445**	0.438**	0.436**
	(2.56)	(2.51)	(2.49)
PROF	-2.632***	-2.570***	-2.581***
	(-4.49)	(-4.39)	(-4.41)
COLL	0.268	0.328	0.349
	(0.74)	(0.91)	(0.97)
LIQUID	-1.920	-1.925	-2.140
	(-0.39)	(-0.39)	(-0.43)
STOCKTVR	-0.228***	-0.230***	-0.231***
	(-4.28)	(-4.32)	(-4.33)
VIX	0.009**	0.009**	0.009**
	(2.06)	(2.07)	(2.08)
Bond- level controls	Yes	Yes	Yes
Year & Industry dummy	Yes	Yes	Yes

Spill-over channels of bonding hypothesis

- The bonding hypothesis implies that the offshore financing under various disclosure and governance settings may serve as different signals → **The degree of influence on domestic market may vary according to the offshore debt-raising settings**.

- Divide samples according to the criteria:
  - Whether the issuers have been obtained an investment-grade rating, or a lower rating from offshore market?
  - Whether issuers have been raising capital offshore through public issuance, or private placement?
  - Identify the features of latest offshore issuance to circumvent the time-varying effect.

Subsample by international Ratings

	High rating		Low rating	
	(1)	(2)	(3)	(4)
After	-0.167**	-0.198**	-0.143	-0.134
	(-2.10)	(-2.48)	(-1.31)	(-1.22)
Offshore	-0.044		0.037	
	(-0.68)		(0.57)	
Before		-0.049		0.021
		(-0.73)		(0.31)
Bond level control	Yes	Yes	Yes	Yes
Firm level control	Yes	Yes	Yes	Yes
Market level control	Yes	Yes	Yes	Yes
Year & Industry dummy	Yes	Yes	Yes	Yes
N	1891	1891	1752	1752

Subsample by public issuance/private placement

	Public issuance		Private placement	
	(1)	(2)	(3)	(4)
After	-0.185***	-0.181***	-0.167	-0.120
	(-3.09)	(-3.38)	(-1.49)	(-1.06)
Offshore	0.003		0.047	
	(0.07)		(0.86)	
Before		0.003		0.047
		(0.07)		(0.86)
Bond level control	Yes	Yes	Yes	Yes
Firm level control	Yes	Yes	Yes	Yes
Market level control	Yes	Yes	Yes	Yes
Year & Industry dummy	Yes	Yes	Yes	Yes
N	2121	2121	1757	1757

The disparity of the bonding effects across locations

- Offshore issuance at financial centers around the world may show different degree of signaling effects, given their own requirements of information disclosure and investor protection (Chung, 2015).

- Consider three characteristics of each security to identify the market of issue: (the methodology of Bank of International Settlement)
  - The registration domain (ISIN code)
  - Governing law of offshore issuance

Splitting the sample by ISIN country code

- ISIN code with Hong Kong (18%), US (11%), pan-European and other areas (51%)

	with an ISIN country code of Hong Kong in the latest offshore issuance +Controls		with an ISIN country code of U.S. in the latest offshore issuance +Controls		with an ISIN country code of pan-Europe in the latest offshore issuance +Controls	
	(1)	(2)	(3)	(4)	(5)	(6)
After	-0.345***	-0.325***	-0.096	-0.075	-0.191**	-0.172**
	(-3.69)	(-3.47)	(-1.05)	(-0.82)	(-2.34)	(-2.22)
Offshore	0.020		0.021		0.018	
	(0.35)		(0.38)		(0.33)	
Before		0.020		0.021		0.018
		(0.35)		(0.38)		(0.33)
Bond level control	Yes	Yes	Yes	Yes	Yes	Yes
Firm level control	Yes	Yes	Yes	Yes	Yes	Yes
Market level control	Yes	Yes	Yes	Yes	Yes	Yes
Year & Industry dummy	Yes	Yes	Yes	Yes	Yes	Yes
N	1806	1806	1781	1781	1941	1941

Splitting the sample by governing law

- Hong Kong law (35%), New-York law (12%) and English law (34%)

	the latest offshore issuance by its offshore subsidiary is governed by Hong Kong law +Controls		the latest offshore issuance by its offshore subsidiary is governed by English law +Controls		the latest offshore issuance by its offshore subsidiary is governed by New York law +Controls	
	(1)	(2)	(3)	(4)	(5)	(6)
After	-0.342***	-0.309***	-0.169*	-0.160*	-0.097	-0.076
	(-3.98)	(-3.71)	(-1.94)	(-1.84)	(-0.86)	(-0.68)
Offshore	0.033		0.010		0.021	
	(0.58)		(0.17)		(0.37)	
Before		0.033		0.010		0.021
		(0.58)		(0.17)		(0.37)
Bond level control	Yes	Yes	Yes	Yes	Yes	Yes
Firm level control	Yes	Yes	Yes	Yes	Yes	Yes
Market level control	Yes	Yes	Yes	Yes	Yes	Yes
Year & Industry dummy	Yes	Yes	Yes	Yes	Yes	Yes
N	1875	1875	1785	1785	1784	1784

Hong Kong has better function to reveal information?

- This seems inconsistent with literature, assuming that the offshore financing in U.S. should send a clearer signal than other countries where offer a stricter jurisdiction with better protection of minority shareholder interests.

- Given close cultural- and industrial-linkage between Hong Kong and China than other centers, **the analysts, investment bankers, auditors and other market participants in Hong Kong have better information access to China's issuer,** and therefore have a stronger capability to identify credit risk.

- **The destination-specific factors**, including cultural factors and geographic distance from home countries, would be important determinants in the degree of signaling effect.

Does the bonding effect favour financially-constrained firms?

	SOE		Non-SOE	
	(1)	(2)	(3)	(4)
After	-0.109**	-0.085	-0.446**	-0.466***
	(-2.00)	(-1.62)	(-2.26)	(-3.25)
Offshore	0.005		-0.007	
	(0.09)		(-0.04)	
Before		0.057		-0.149
		(1.12)		(-0.70)
Bond level control	Yes	Yes	Yes	Yes
Firm level control	Yes	Yes	Yes	Yes
Market level control	Yes	Yes	Yes	Yes
Year & Industry dummy	Yes	Yes	Yes	Yes
N	1592	1592	648	648

Does the bonding effect favour financially-constrained firms?

	Listed		Non-Listed		High cash ratio		Low cash ratio	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
After	-0.038	-0.130	-0.204***	-0.250***	-0.144	-0.119	-0.176**	-0.245***
	(-0.36)	(-1.47)	(-3.41)	(-4.02)	(-1.36)	(-1.22)	(-2.55)	(-4.01)
Offshore	-0.135		-0.057		0.013		-0.080	
	(-1.31)		(-1.04)		(0.16)		(-1.27)	
Before		-0.016		-0.039		0.073		-0.056
		(-0.15)		(-0.75)		(0.85)		(-0.85)
Bond level control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm level control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Market level control	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year & Industry dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	949	949	1291	1291	769	769	1471	1471

Robustness

- Re-defined cross-border financing group by different matching: parent company → issuer

	(1)	(2)	(3)
After		-0.140*	-0.184***
		(-1.96)	(-2.82)
Offshore	-0.107**	-0.044	
	(-2.47)	(-0.93)	
Before			-0.044
			(-0.93)
Bond level control	Yes	Yes	Yes
Firm level control	Yes	Yes	Yes
Market level control	Yes	Yes	Yes
Year & Industry dummy	Yes	Yes	Yes
N	2240	2240	2240

Robustness

- Replace the yield spread with the relative value over industry average level to avoid industry variation

	(1)	(2)	(3)
After		-0.156***	-0.181***
		(-2.80)	(-3.50)
Offshore	-0.109**	-0.041	
	(-2.53)	(-0.81)	
Before			0.001
			(0.02)
Bond level control	Yes	Yes	Yes
Firm level control	Yes	Yes	Yes
Market level control	Yes	Yes	Yes
Year & Industry dummy	Yes	Yes	Yes
N	2240	2240	2240

Conclusions and policy discussion

- There has been yet no systematic analysis of the role of the offshore bond market in promoting China's financial openness and the development of domestic market. Our research is the first one to investigate the role of offshore issuance in China's bond market: **Offshore bonding sends out signals/credit information to domestic market.**

- **Offshore ratings and public issuance** plays significant role in revealing firms' credibility and then change domestic financing conditions.

Conclusions and policy discussion

- A stronger signaling effect of Hong Kong market
  -- Special geographic and culture connections between Hong Kong and China

  -- the quality and the scope of information disclosure matter more than the investor protection mechanism in bonding hypothesis (Siegel, 2005, Reputational bonding v.s. legal bonding)

- Does offshore market help financially constrained firms? -- By directly providing funding (depending on financial conditions) and through signaling channels.

Thank you!

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