Internet Appendix for

"Issuance Overpricing of China's Corporate Debt Securities"

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In this Internet Appendix, we report the following figures, tables, and additional analyses omitted from the main paper.

- Fig. A1 depicts debt security issuance across the interbank market and the exchange market from 2009 to 2019.

- In Table A1, we list the 68 licensed underwriters in the interbank market at the end of 2019. Information on underwriters is obtained from NAFMII.

- In Table A2, we summarize overpricing for CP and MTNs separately for both before and after the rebate ban period. Although the magnitude declined after the ban for both CP and MTNs, overpricing remains statistically significantly. Taken together, we find significant overpricing in all these issuance categories.

- In Table A3, we report summary statistics of issuance overpricing by using excess returns of the first secondary-market trading day as the overpricing measure. The table shows that the overpricing is robust across time, debt securities, and issuers with different characteristics, consistent with Table 3 in the main paper.

- In Tables A4 and A5, we conduct difference-in-difference analyses to examine how the underwriter rebate ban affects the excess return across different issuers and across different underwriters. Consistent with results in Tables 5 and 6 of the main paper from using the yield-spread measure, these tables show that after the ban, the drop in overpricing is significantly greater for securities issued by central SOEs than for those issued by other firms, and the drop in overpricing is significantly smaller for issuances underwritten by the Big Four banks.

- Table A6 reports the average excess return in three portfolios of issuances: 1) issuance acquired by qualified investors, 2) issuance acquired by licensed underwriters but unwritten by others, and 3) issuance acquired by licensed underwriters that they underwrite. The table shows the average excess return in Portfolio 3 is significantly lower than that in Portfolios 1 and 2, consistent with Table 7 in the main paper.

- Table A7 reports regression results of the initial excess return in each issuance on the share acquired by its underwriter in the auction. The table shows that the excess return is negatively associated with the share of the underwriter's purchase, consistent with Table 8 in the main paper.

Fig. A1. China's Debt Security Issuance

This figure plots China's debt security issuance in the interbank market and the exchange market from 2009 to 2019.

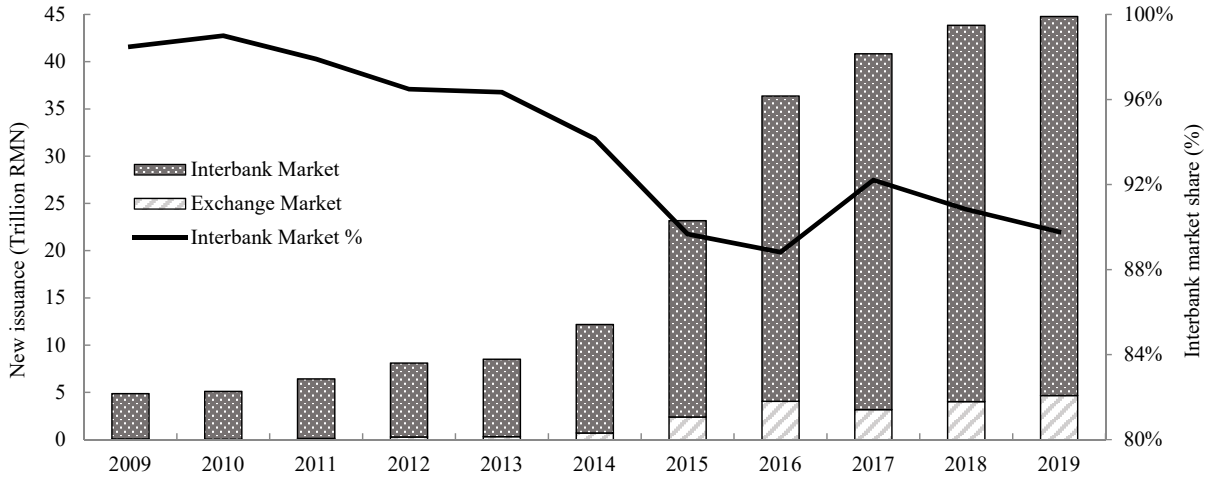

Table A1. List of Licensed Underwriters in the Interbank Market

This table lists licensed underwriters in the interbank market at the end of 2019. The information on underwriters is obtained from NAFMII.

Institution name	License granted date	Institution name	License granted date
Industrial and Commercial Bank of China	Prior to 2010	Bank of Jiangsu	March 3, 2014
Agricultural Bank of China	Prior to 2010	Huishang Bank	March 3, 2014
Bank of China	Prior to 2010	Bank of Tianjin	March 3, 2014
China Construction Bank	Prior to 2010	Beijing Rural Commercial Bank	March 3, 2014
Bank of Communications	Prior to 2010	Shanghai Rural Commercial Bank	January 15, 2015
China Development Bank	Prior to 2010	Bank of Dalian	January 15, 2015
The Import-Export Bank of China	Prior to 2010	Guangdong Shunde Rural Commercial Bank Company	January 15, 2015
China Merchants Bank	Prior to 2010	Bank of Ningbo	January 15, 2015
China CITIC Bank	Prior to 2010	Bank of Hangzhou	January 15, 2015
Industrial Bank	Prior to 2010	Postal Saving Bank of China	December 31, 2015
China Everbright Bank	Prior to 2010	Bank of Chengdu	May 18, 2016
China Minsheng Bank	Prior to 2010	Bank of Zhengzhou	May 18, 2016
Hua Xia Bank	Prior to 2010	Chongqing Rural Commercial Bank	May 18, 2016
Shanghai Pudong Development Bank	Prior to 2010	Bank of Qingdao	May 18, 2016
China Guangfa Bank	Prior to 2010	Hankou Bank	May 18, 2016
Ping An Bank	Prior to 2010	Xiamen Bank	May 18, 2016
Hengfeng Bank	Prior to 2010	Bank of Changsha	May 18, 2016
China Bohai Bank	Prior to 2010	Agricultural Development Bank of China	August 7, 2017
Bank of Beijing	Prior to 2010	HSBC Bank (China)	October 27, 2017
Bank of Shanghai	Prior to 2010	Standard Chartered Bank (China)	January 31, 2018
Bank of Nanjing	Prior to 2010	BNP Paribas (China)	December 7, 2018
China Zheshang Bank	Prior to 2010	Jiangnan Rural Commercial Bank	February 22, 2019
CITIC Securities Company	Prior to 2010	Guangzhou Rural Commercial Bank	February 22, 2019
China International Capital Corporation	Prior to 2010	Bank of Hebei	February 22, 2019
Guotai Junan Securities Company	November 28, 2012	Jiangxi Bank	February 22, 2019
China Merchants Securities Company	November 28, 2012	Zhongyuan Bank	February 22, 2019
Everbright Securities Company	November 28, 2012	Jin Shang Commercial Bank	February 22, 2019
China Securities Company	November 28, 2012	Bank of Jilin	February 22, 2019
GF Securities Company	November 28, 2012	Bank of Guiyang	February 22, 2019
Huatai Securities Company	November 28, 2012	Dongguan Rural Commercial Bank	February 22, 2019
China Galaxy Securities Company	November 28, 2012	Bank of Jiujiang	February 22, 2019
Guosen Securities Company	November 28, 2012	Bank of Chongqing	February 22, 2019
Orient Securities Company	November 28, 2012	Chang'an Bank	February 22, 2019
Haitong Securities Company	November 28, 2012	Deutsche Bank (China)	September 2, 2019

Table A2. Issuance Overpricing by Type of Security

Panel A reports summary statistics of the two overpricing measures across CP and MTN. Panel B reports summary statistics of the two overpricing measures by type of security before and after the rebate ban. In each panel, we first report ΔSpread, which is the spread difference between the issuance and the first trading day since issuance, $\Delta Spread_{15\ days}$, which is the spread difference between the issuance and the fifteenth calendar day since issuance, and the difference between ΔSpread and $\Delta Spread_{15\ days}$. We then report summary statistics of the excess return on the first trading day, the excess return over the initial 15 calendar days, and the excess return between the first trading day and the fifteenth calendar day. The number of observations, the mean, the standard deviation, and the *t*-statistics clustered by issuance date are reported. Both spread change and excess return are in basis points (bps).

Panel A: Overpricing by type of security

	CP				**MTN**			
Variables: Spread change (bps)	N	Mean	SD	*t*-Statistic	N	Mean	SD	*t*-Statistic
ΔSpread	12,592	6.44***	13.91	28.19	5,637	1.46***	6.30	9.01
$\Delta Spread_{15\ days}$	3,757	10.40***	45.74	11.49	1,707	2.51***	18.02	4.81
$\Delta Spread_{15\ days}$ -ΔSpread	3,757	2.52***	44.45	2.97	1,707	0.71	17.61	1.39
Variables: Excess return (bps)	N	Mean	SD	*t*-Statistic	N	Mean	SD	*t*-Statistic
Excess return	12,592	-7.79***	9.47	-43.27	5,637	-7.40***	12.51	-29.55
Excess return $_{15\ days}$	3,757	-13.33***	35.02	-15.25	1,707	-10.55***	60.01	-5.70
Excess return $_{15\ days}$ - Excess return	3,757	-4.73***	32.64	-6.29	1,707	-2.64	58.86	-1.47

Panel B: Overpricing by type of security before and after rebate ban

	CP before rebate ban				CP after rebate ban			
Variables: Spread change (bps)	N	Mean	SD	*t*-Statistic	N	Mean	SD	*t*-Statistic
ΔSpread	6,622	9.29***	11.49	38.50	5,970	3.28***	15.57	9.84
$\Delta Spread_{15\ days}$	2,214	12.99***	42.26	11.11	1,543	6.67***	50.08	4.85
$\Delta Spread_{15\ days}$ -ΔSpread	2,214	3.37***	42.12	2.98	1,543	1.30	47.58	1.03
Variables: Excess return (bps)	N	Mean	SD	*t*-Statistic	N	Mean	SD	*t*-Statistic
Excess return	6,622	-9.93***	9.49	-40.26	5,970	-5.42***	8.85	-26.01
Excess return $_{15\ days}$	2,214	-17.35***	36.81	-13.99	1,543	-7.57***	31.40	-7.30
Excess return $_{15\ days}$ - Excess return	2,214	-7.16***	34.38	-6.65	1,543	-1.25	29.63	-1.36

	MTNs before rebate ban				MTNs after rebate ban			
Variables: Spread change (bps)	N	Mean	SD	*t*-Statistic	N	Mean	SD	*t*-Statistic
ΔSpread	2,404	2.34***	7.43	10.44	3,233	0.81***	5.21	3.62
$\Delta Spread_{15\ days}$	770	3.46***	20.06	4.13	937	1.73***	16.12	2.65
$\Delta Spread_{15\ days}$ -ΔSpread	770	0.72	19.51	0.88	937	0.70	15.88	1.09
Variables: Excess return (bps)	N	Mean	SD	*t*-Statistic	N	Mean	SD	*t*-Statistic
Excess return	2,404	-11.34***	14.71	-27.97	3,233	-4.47***	9.58	-19.15
Excess return $_{15\ days}$	770	-15.67***	65.21	-5.54	937	-6.35***	55.06	-2.63
Excess return $_{15\ days}$ - Excess return	770	-4.17	64.35	-1.53	937	-1.38	53.93	-0.58

Table A3. Summary Statistics: Excess Return across Security Characteristics, Issuer Characteristics, and Years

This table reports summary statistics of the first trading day excess return across different debt ratings, maturities, issuers' total assets, issuing histories, issuer and underwriter types, and issuing years in basis points (bps). We present the number of observations, the mean, the standard deviation, the *t*-statistics clustered by issuance date, the 25th percentile, the median, and the 75th percentile.

Panel A: Sort by rating		N	Mean	SD	*t*-Stat.	P25	P50	P75
AAA		8,038	-7.92	10.72	-39.07	-10.73	-5.54	-2.70
AA+		5,706	-6.77	9.71	-28.48	-10.45	-5.84	-1.67
AA		4,275	-8.36	10.95	-28.06	-13.55	-8.39	-2.82
AA- and A+		210	-10.08	11.14	-12.28	-16.89	-10.46	-6.13
Panel B: Sort by rating and maturity		N	Mean	SD	*t*-Stat.	P25	P50	P75
	Maturity							
AAA	≤1 year	4,905	-8.13	9.97	-36.80	-11.45	-5.80	-2.74
	1–2 year	734	-7.80	10.47	-18.11	-11.76	-5.77	-2.77
	>2 year	2,399	-7.21	12.16	-22.79	-8.59	-4.86	-2.60
AA+	≤1 year	3,001	-6.09	7.20	-26.50	-9.47	-5.52	-1.55
	1–2 year	1,005	-8.05	11.04	-19.42	-12.94	-7.34	-2.57
	>2 year	1,700	-7.22	12.28	-18.87	-10.60	-5.84	-1.63
AA, AA-, and A+	≤1 year	1,658	-7.43	8.97	-23.25	-12.56	-7.48	-2.26
	1–2 year	1,289	-10.73	9.98	-25.95	-15.75	-10.51	-4.93
	>2 year	1,538	-7.89	13.26	-18.43	-13.21	-8.16	-2.20
Panel C: Sort by rating and assets		N	Mean	SD	*t*-Stat.	P25	P50	P75
	Total Assets							
AAA	Larger	4,026	-8.21	11.40	-32.66	-11.21	-5.59	-2.63
	Smaller	4,012	-7.44	9.98	-34.34	-10.35	-5.48	-2.76
AA+	Larger	2,853	-6.67	10.62	-23.34	-10.05	-5.76	-1.65
	Smaller	2,853	-6.87	8.70	-27.08	-10.85	-6.03	-1.70
AA, AA-, and A+	Larger	2,244	-8.12	12.00	-23.06	-13.38	-7.98	-2.79
	Smaller	2,241	-8.95	9.84	-28.06	-14.07	-8.97	-3.07
Panel D: Sort by history		N	Mean	SD	*t*-Stat.	P25	P50	P75
First-time issuance		1,305	-7.91	11.87	-19.35	-13.00	-7.40	-2.30
Seasoned offering		16,924	-7.65	10.39	-43.23	-11.46	-6.10	-2.46
Panel E: Sort by issuer type		N	Mean	SD	*t*-Stat.	P25	P50	P75
Central SOE		1,635	-10.20	12.27	-27.72	-14.49	-7.55	-3.39
Other		16,594	-7.42	10.28	-41.27	-11.31	-6.08	-2.33
Panel F: Sort by underwriter type		N	Mean	SD	*t*-Stat.	P25	P50	P75
Big Four banks		6,399	-7.66	9.94	-36.14	-11.70	-6.12	-2.51
Other		11,830	-7.67	10.79	-40.93	-11.55	-6.26	-2.40
Panel G: Sort by issuing year		N	Mean	SD	*t*-Stat.	P25	P50	P75
2015		3,379	-11.97	12.11	-24.50	-17.49	-11.13	-5.49
2016		3,441	-11.03	11.19	-32.98	-15.18	-11.03	-6.94
2017		2,880	-6.27	8.42	-19.06	-8.62	-4.91	-0.34
2018		4,087	-3.38	8.00	-11.19	-7.20	-3.70	-0.90
2019		4,442	-6.66	10.00	-29.44	-7.63	-4.51	-2.64

Table A4. Difference-in-Difference Analysis of the Rebate Ban: Evidence from Issuers

This table reports results of the difference-in-difference analysis of how the rebate ban affected issuance overpricing, measured by the first trading day excess return in basis points (bps). The sample includes all MTN and CP issued by nonfinancial firms in China's interbank market from April 1, 2017, to March 31, 2018, a twelve-month window around the rebate ban beginning October 1, 2017. Treat equals 1 if the issuance is issued by a central SOE, and 0 otherwise. Post equals 1 in the months following the policy shock. Columns (1) and (2) use the full sample. Columns (3) and (4) use the matched sample, which includes only sequential issuances before and after the rebate ban. Heteroskedasticity-consistent *t*-statistics clustered by issuance date are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Full sample		Matched sample	
Dependent: Excess Ret.	(1)	(2)	(3)	(4)
Treat	-1.905*	-2.210*	-3.718***	-4.229***
	(-1.75)	(-1.88)	(-2.80)	(-2.96)
Post	5.500***	5.269***	4.948***	4.707***
	(11.10)	(10.90)	(8.46)	(8.02)
Treat × Post	2.456*	2.191*	4.682***	4.553***
	(1.85)	(1.69)	(2.91)	(2.96)
Ln(Issue Amount)		0.263		-0.120
		(0.60)		(-0.17)
Subscription Ratio		0.121		0.178
		(0.66)		(0.51)
Maturity		-0.237**		-0.503*
		(-2.27)		(-1.77)
Ln(Trading Volume)		-0.421		-0.197
		(-1.55)		(-0.47)
First Issue Dummy		-0.243		-2.597
		(-0.44)		(-1.51)
Recent Issuance Dummy		0.015		-0.544
		(0.04)		(-0.34)
$Dummy_{AAA}$		0.653		-0.102
		(1.16)		(-0.11)
$Dummy_{AA+}$		0.266		-0.168
		(0.62)		(-0.27)
Leverage		0.025		-0.176
		(0.02)		(-0.09)
ROA		2.977		5.331
		(0.55)		(0.66)
Ln(Asset)		-0.098		0.433
		(-0.27)		(0.82)
Ln(Sales)		-0.045		-0.214
		(-0.38)		(-1.10)
Ln(Cash)		0.265		0.296
		(1.09)		(0.90)
Constant	-6.646***	-6.414***	-6.012***	-8.059**
	(-16.52)	(-2.76)	(-13.01)	(-2.05)
Observations	3,252	3,164	1,481	1,445
R-squared	0.143	0.147	0.147	0.157

Table A5. Difference-in-Difference Analysis of the Rebate Ban: Evidence from Underwriters

This table reports results of the difference-in-difference analysis of how the rebate ban affected issuance overpricing, measured by the first trading day excess return in basis points (bps). The sample includes all MTN and CP issued by nonfinancial firms in China's interbank market from April 1, 2017, to March 31, 2018, a twelve-month window around the rebate ban on October 1, 2017. Treat equals 1 if the issuance is issued by one of the Big Four banks in China, and 0 otherwise. Post equals 1 in the months following the policy shock. Columns (1) and (2) use the full sample. Columns (3) and (4) use the matched sample, which includes only sequential issuances before and after the rebate ban. Heteroskedasticity-consistent *t*-statistics clustered by issuance date are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Full sample		Matched sample	
Dependent: Excess Ret.	(1)	(2)	(3)	(4)
Treat	0.795*	1.127***	0.835	1.275**
	(1.90)	(2.69)	(1.37)	(2.17)
Post	5.986***	5.873***	5.986***	5.791***
	(12.34)	(12.16)	(9.74)	(9.19)
Treat × Post	-0.759	-1.210**	-0.985*	-1.427*
	(-1.58)	(-2.25)	(-1.67)	(-1.86)
Issuance Controls	No	Yes	No	Yes
Firm Controls	No	Yes	No	Yes
Constant	-7.064***	-4.176*	-6.752***	-1.854
	(-17.98)	(-1.90)	(-12.93)	(-0.46)
Observations	3,252	3,164	1,481	1,445
R-squared	0.149	0.155	0.156	0.169

Table A6. Overpricing of Issuance Acquired by Qualified Investors and Licensed Underwriters

This table reports the average overpricing, measured by the first trading day excess return in basis points (bps), of issuances acquired by qualified investors (column 1), acquired by licensed underwriters but underwritten by others (column 2), and acquired and underwritten by the same licensed underwriters (column 3). We first calculate both the equal-weighted average excess return and the value-weighted average excess return (using purchase amount as the weight) for each institution and then take the average across the institutions in each category. The table also reports *t*-statistics for the differences between (1) and (3) and between (2) and (3), with *, ** or *** indicating statistical significance at 10%, 5% and 1% levels, respectively.

	Overpricing of issuances acquired by qualified investors (1)	Overpricing of issuances acquired by licensed underwriters but underwritten by others (2)	Overpricing of issuances acquired and underwritten by the same licensed underwriters (3)	Difference (3)–(1)	Difference (3)–(2)
Equal-weighted portfolio average	-4.77	-5.81	-6.69	-1.92***	-0.88*
				(3.77)	(1.94)
Value-weighted portfolio average	-4.48	-6.31	-8.01	-3.53***	-1.70***
				(5.41)	(2.68)
No. of institutions	69	64	60		

Table A7. Regressions of the Overpricing on Underwriter Purchases

This table reports regressions of issuance overpricing, measured by the first trading day excess return in basis points (bps), on the share purchased by the underwriter. The independent variable *Underwriter Share* is the share purchased by the underwriter. Columns (1) and (2) report regression results for the full sample. Columns (3) and (4) report regression results for issuances before and after the rebate ban, respectively. Heteroskedasticity-consistent *t*-statistics clustered by issuance date are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Full sample	Full sample	Before ban	After ban
Dependent: Excess Ret.	(1)	(2)	(3)	(4)
Underwriter Share	-5.901***	-6.269***	-1.340***	-6.941***
	(-15.32)	(-15.72)	(-2.71)	(-10.64)
Issuance Controls	No	Yes	Yes	Yes
Firm Controls	No	Yes	Yes	Yes
Constant	-5.099***	-4.346***	-5.834***	-6.590*
	(-25.97)	(-3.04)	(-3.03)	(-1.76)
Observations	16,384	15,465	7,091	8,374
R-squared	0.033	0.052	0.020	0.058