

研究报告

Research report

April 30th, 2015

The Great Wall of Debt: The Cross Section of Chinese Local Government Credit Spreads

monetary policy and financial stability research center

Abstract

Issued by local government financing vehicles and backed mostly by land sales, chengtou bonds are an important source of financing for Chinese local governments. We identify large heterogeneity in chengtou bond yields, even though they are implicitly guaranteed by the central government. Factors reflecting China's aggregate credit risk and monetary policy are priced in the cross section. Reflecting the nature of their collateral, real estate variables are important drivers of chengtou bond yields, as are other macro fundamentals and liquidity characteristics. We find a significantly positive relation between chengtou bond yields and an index of local government corruption.

1

24

2008

2014

85%

2014 12

4.95

0.82

2014

GDP

2008

130%

200%

LGFV

LGFV

“

”

1994

1

1 2008

4 2500

1.2 2.8 Lu and Sun,

2013

Li and Zhou, 2005

2

— Husain, Mody, and Rogoff, 2005

Levy and Schich,

2010

2015 2 2

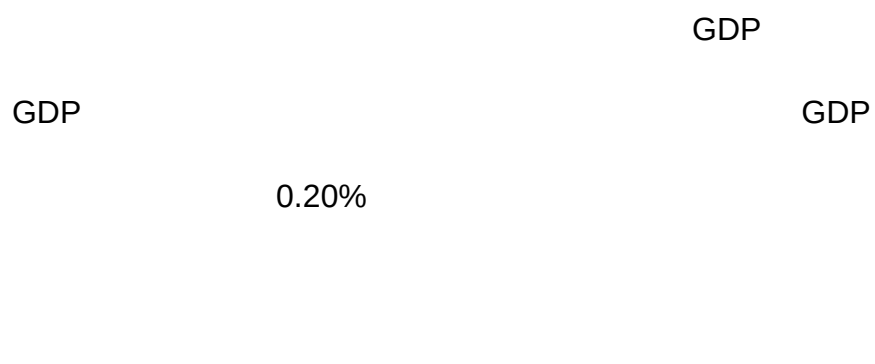
3

Butler,

Fauver, and Mortal 2009

Fisman and Wang, 2011, 2013

—



1

WIND	1	1	1997	2014				
	2005						2008	
					2009			
2008	79	258	2008					
85%	2014		1704				4.95	
					2	2		2008
2014						66%		
	3						chinabond.com	
			31.0%			24.8%		
2015	2	2						

21.4%

LGFV

—

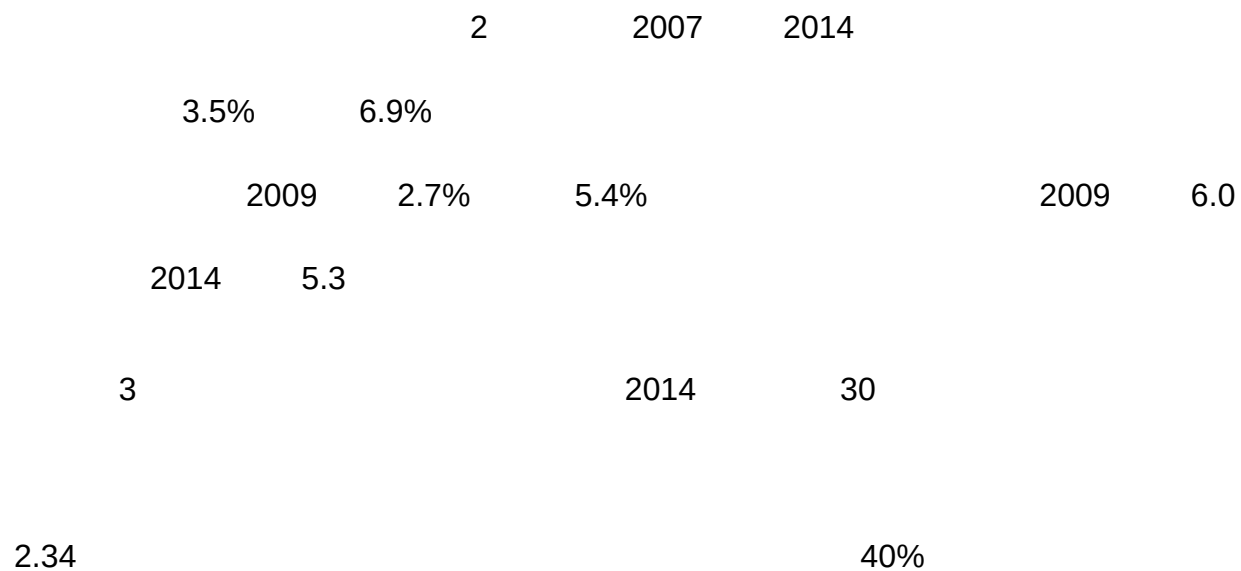
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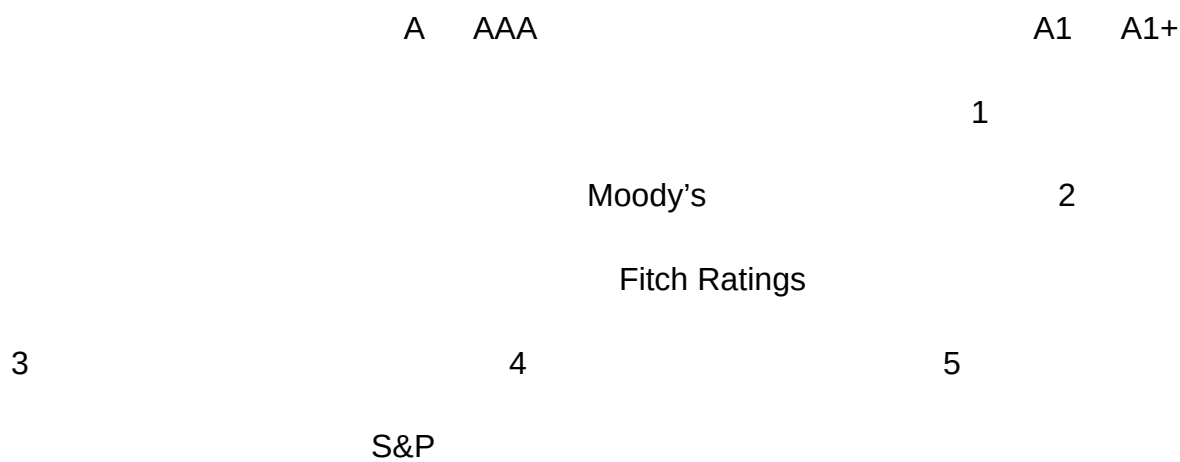
Case, 2007

2007

Brunnereier, 2009

1.1





2.1

“ ”

Knez, Litterman, and Scheinkman, 1994

2

1

$y_{ij}^{CTB}(t)$
 t
 j
 i
 $y_i^{CGB}(t)$
 t
 i

1
20
time-to-maturity
10
3

Svensson 1994

Svensson 1994
instantaneous forward rate

f
6

Nelson Siegel 1987
Svensson 1994

$$f(\sum \theta) = \beta_0 + \beta_1 \exp\left(\frac{m_1}{\tau_1}\right) + \beta_2 \exp\left(\frac{m_2}{\tau_1}\right) + \beta_3 \exp\left(\frac{m_3}{\tau_2}\right)$$

2

m
 $\theta = (\beta_0, \beta_1, \beta_2, \beta_3, \tau_1, \tau_2)$
2

t
 t

$$\{r_s(t)\} \quad s$$

i “ ”
 i

$$P_i^{CGB} = \sum_{s=1}^T \frac{C_i^{CTB}}{(1+r_s(t))^s} + \frac{100}{(1+r_T(t))^T},$$

3

T
 C_i^{CTB}
 $\{r_s(t)\} \quad t$

P_i^{CGB}
 y_i^{CGB}
 y_i^{CGB}
 i

3
Duffie and

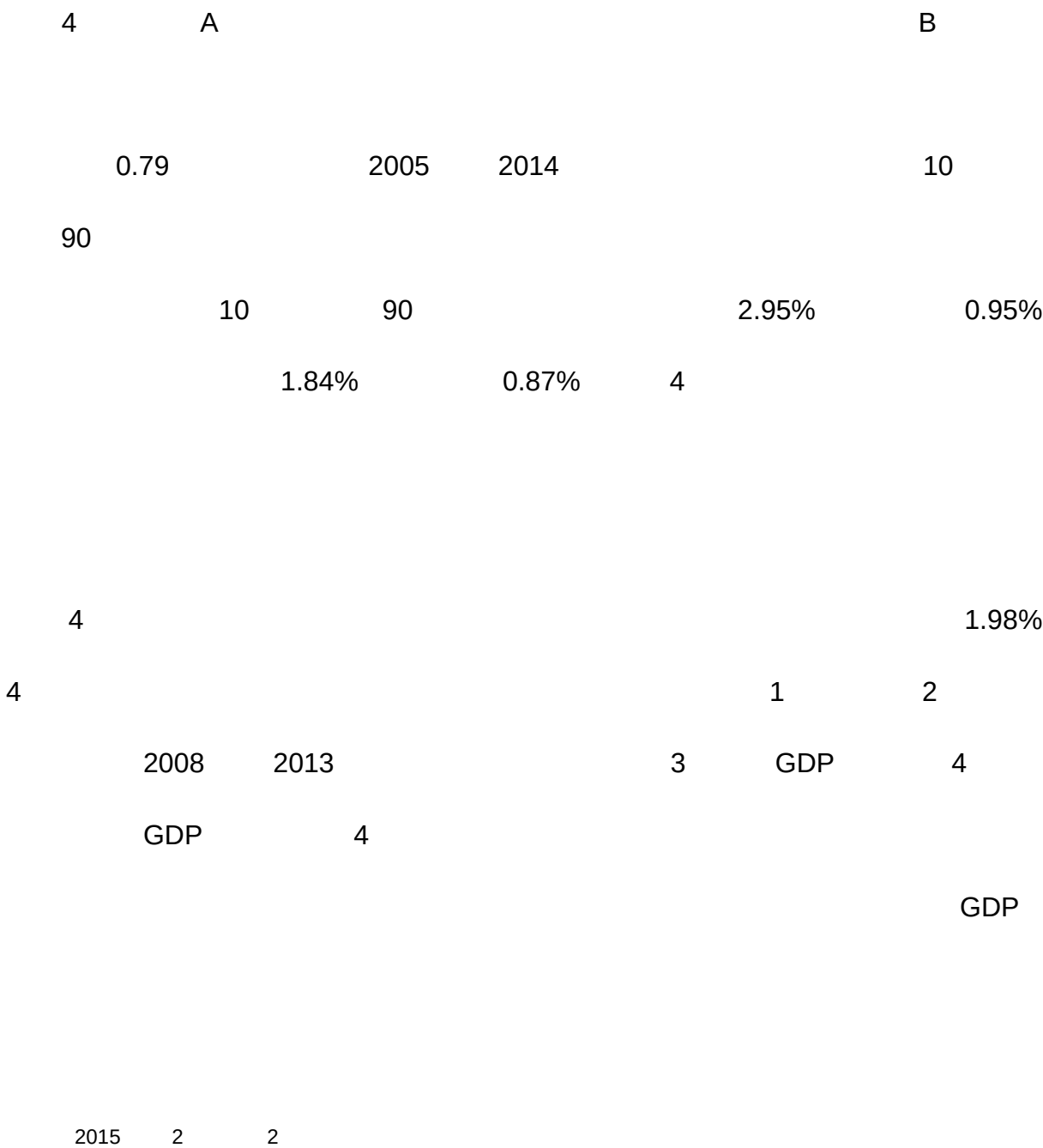
Singleton, 1999
 i

2007
8
2014
12

28
20,357

2015
2
2

2.2



2.3

CDS

FDI

CA

FX

RF

RET

A

B

CDS

FDI

CA

FX

RF

A

B

RET

2005 1 2014

12

2.4

2005 2014

GDP Growth

GDP

Fiscal GDP

GDP

Real Estate GDP

GDP

GDP

Service GDP

GDP

GDP

Retail GDP

GDP

GDP

Hotel GDP

GDP

GDP

Land Cost

GDP

Loans to Real Estate

GDP

2.5 2003-2012

			Carnegie Endowment		2003
860	GDP	3%	2013		13% ⁷
			2012		
	31	753			
			7		
		30			
2.1	0.4		21.2	13.7	
			4		50 51

2.6 2012

68%

30% *t*

www.carnegieendowment.org/files/pb55_pei_china_corruption_final.pdf 2012

“ ”

2006

30%

2007

65%

2007

8

60%

70%

2007

8

2014

12

Turnover

Amihud(2002)

Amihud

$$Amihud_i = \frac{1}{N_t} \sum \frac{|R_{it}|}{Vol_{it}},$$

4

R_{it}

i

t

Vol_{it}

i

t

N_t

i

High-Low Spread

4

B

0.21

0.74

42.6%

Amihud

32.9

2015

2

2

4.1

4.2

4.3 4.4 4.5

3.1

$$\Delta Y_{jt} = \alpha_j + \beta_{j,F} \Delta F_t + \varepsilon_{jt} \quad 5$$

$$Y_{jt} \quad j \quad t$$

5 2007 8 2014

$$12 \qquad 89 \qquad t$$

Ang, Bhansali, and Xing(2015)

3.3
5

j,F

5
A

RET

10
90

1.17
1.79

RF

5
B

“ ” “ ”
t

“ ” “ ”
-

0.24%

3.2

$$Y_{it} = \alpha_0 + \alpha Y_{i,t-1} + \sum_{k=1}^K \gamma_k \cdot \beta_{j,E(k)} + \varepsilon_{it}$$
6

j,F(k)

j

F(k)

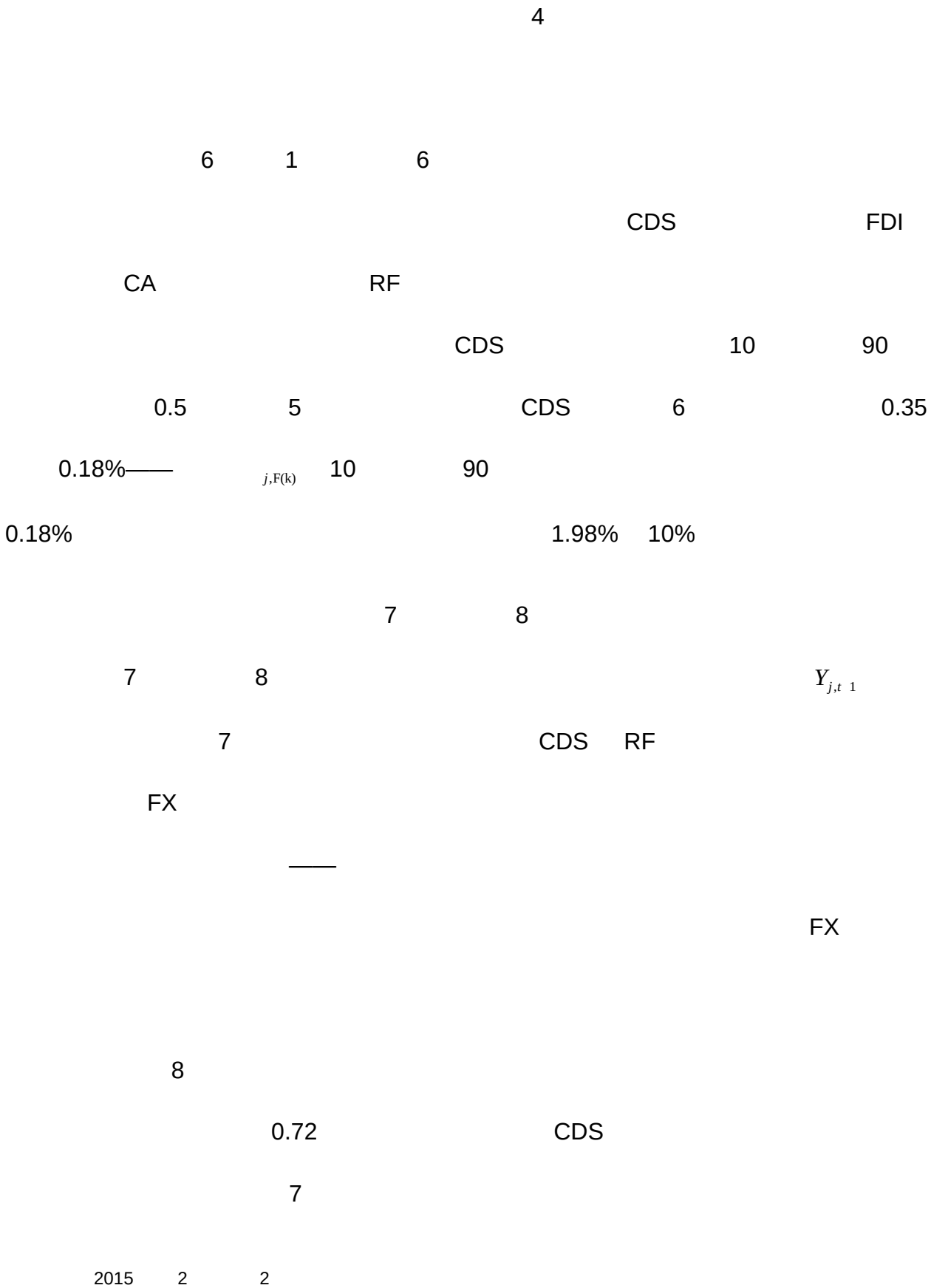
k

F(k)

k
1,...,K

4.1

6



Daniel and Titman, 1997

beta

 $j, F(k)$

7

 $j, F(k)$

3.3

7

$$Y_{ijt}$$
 t j

i

9

S

i

 j $j, F(k)$

K=3

CDS FX RF

beta

6

Fang et al., 2015

2003

7

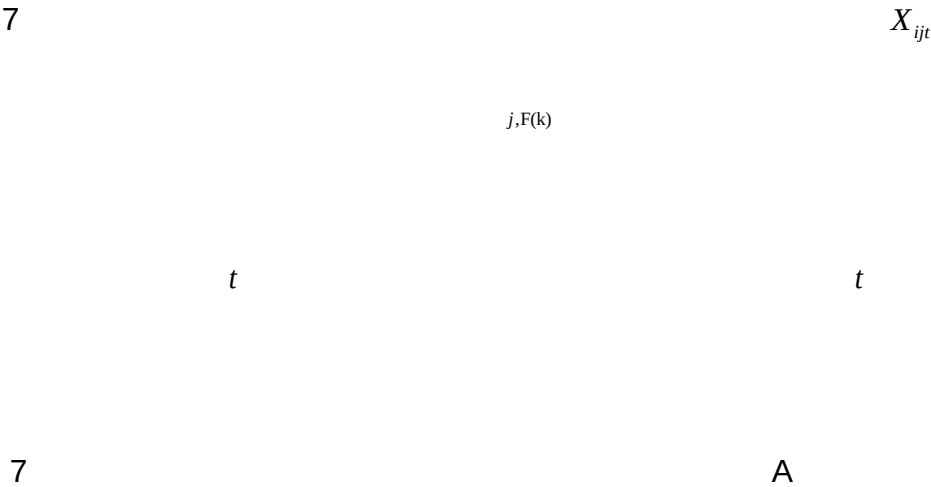
2015

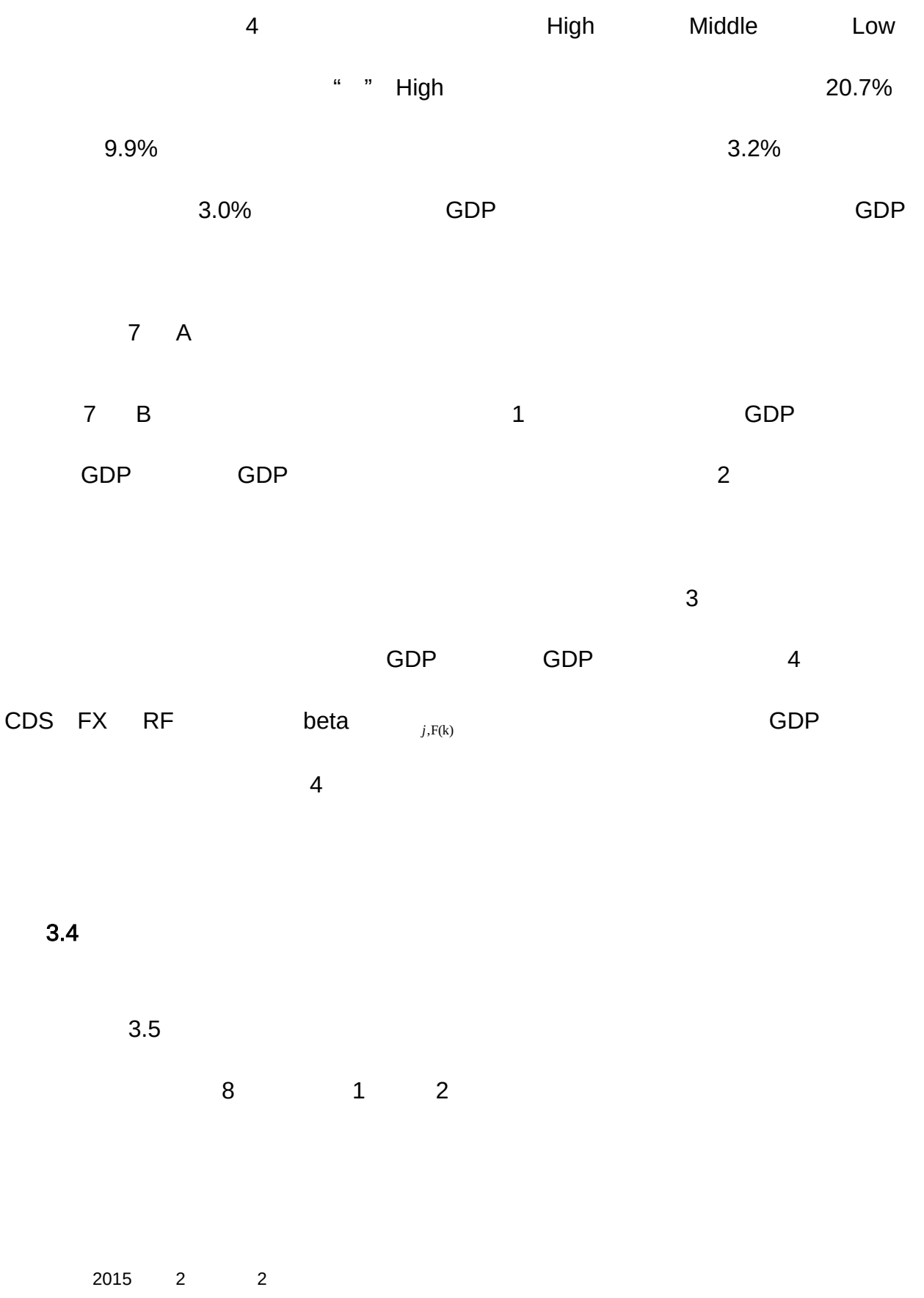
2

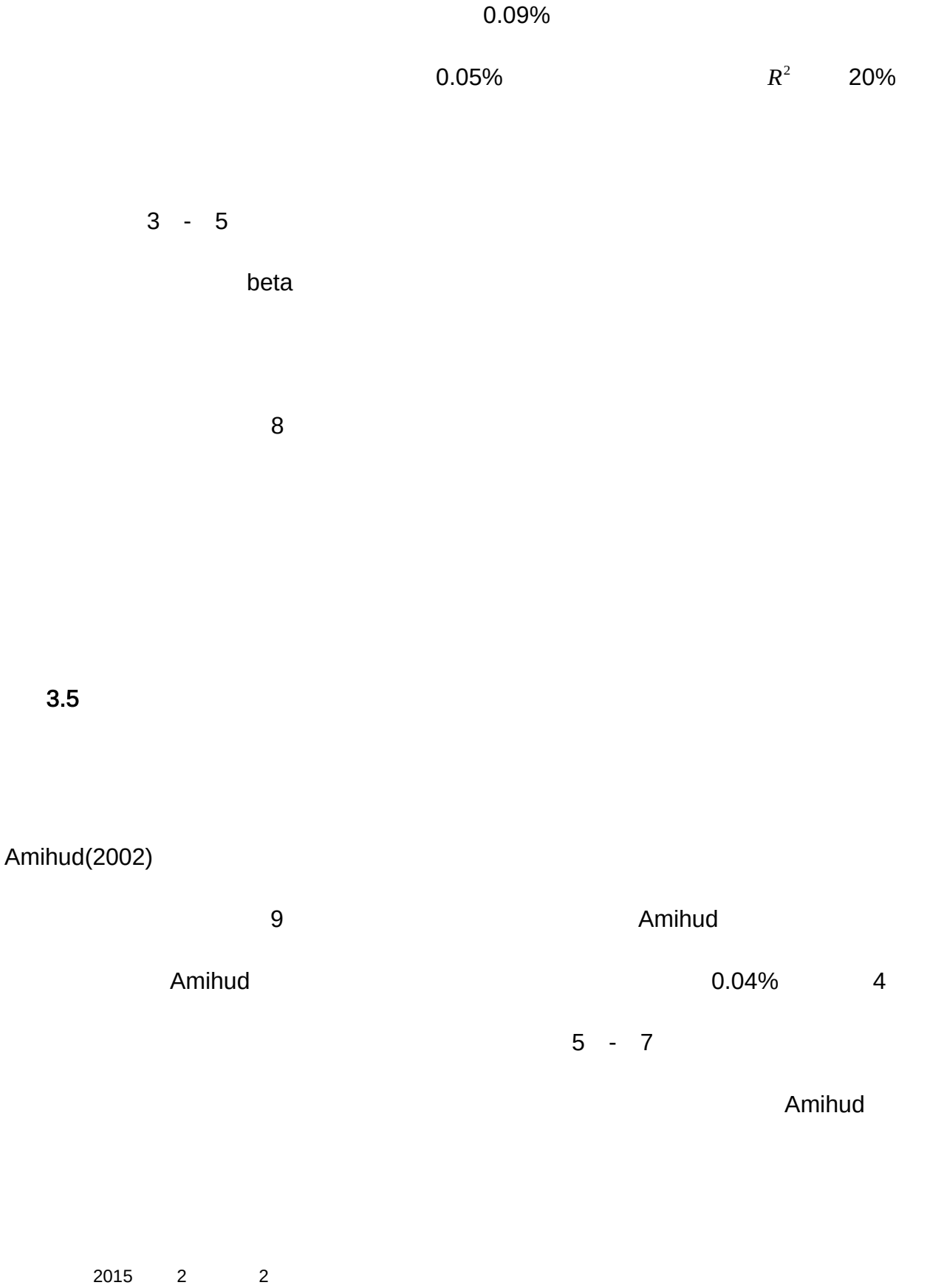
2

time-fixed effect

t







4 - 6

				Gervais, Kanieal and	
Mingelgrin(2001)					Gervais,
Kaniel and Mingelgrin					
				Miller 1997	Harrison and Kreps
1978					Mei and Xiong
(2009)					
				AA	52.4%
AAA		32.4%		“	”
	7				
	AAA	1		0	2
Amihud				4 - 6	
Amihud				9	7

4

2008

2014 12

4.95

0.82

2014

2014 10

43

2016 1 1

1

2

2015 2 2

1. - Asset-backed Securitization in China:
Current Issues and Recommendations-----2015-01
- 2 -The Great Wall of Debt: The Cross
Section of Chinese Local Government Credit Spreads----2015-02
