

Appendix

Table 1

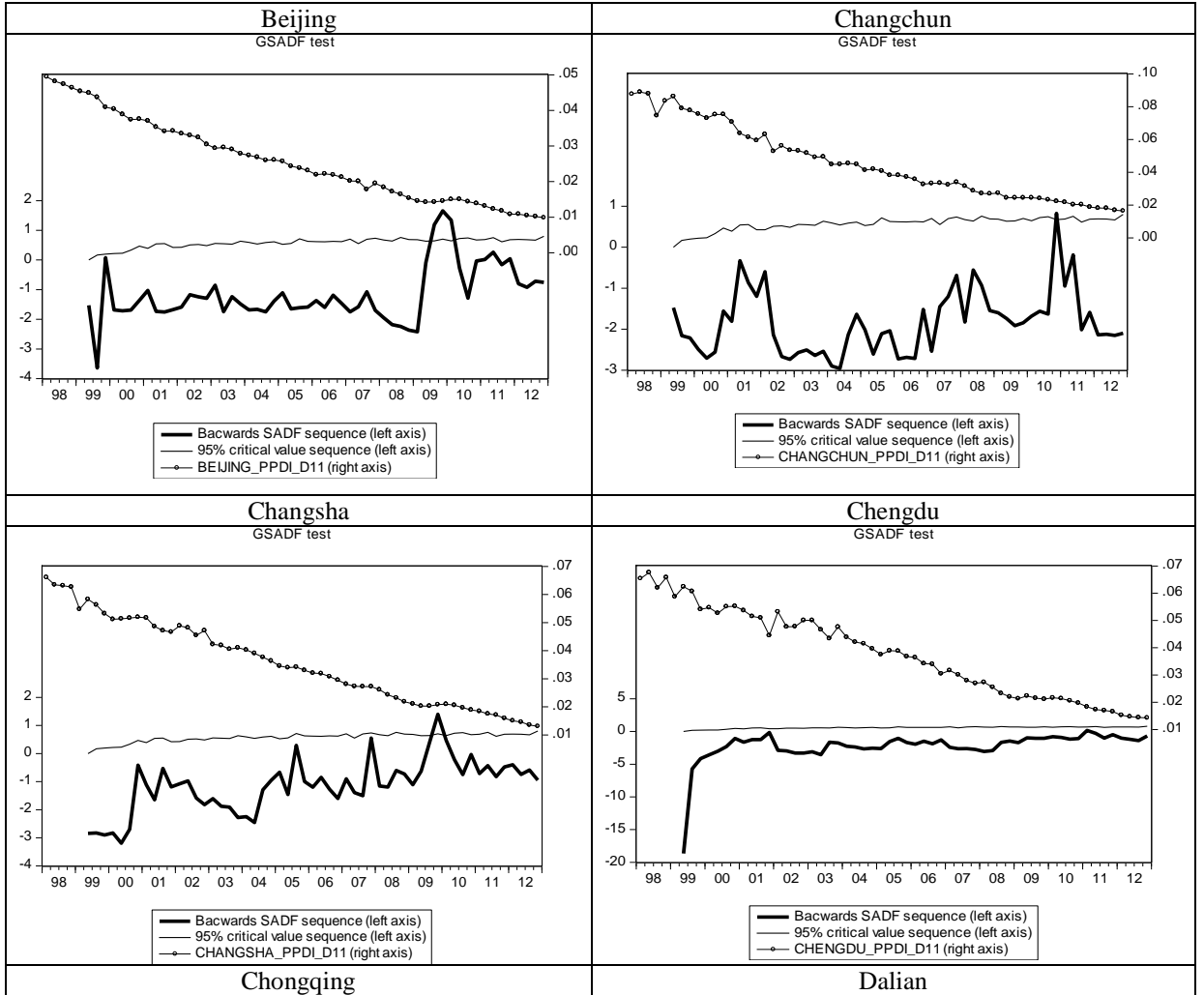
GSADF test with trend of housing price-to-income ratios of 35 cities

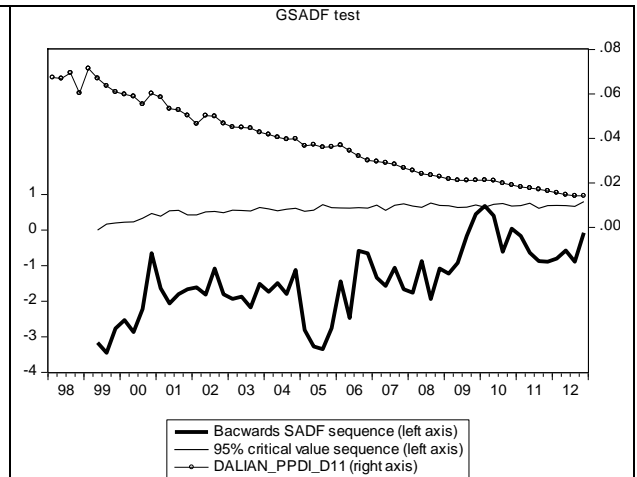
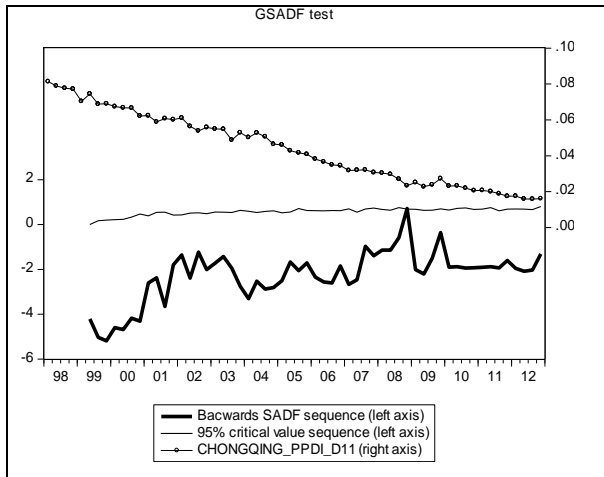
Cities	GSADF whole test	Bubble periods (backward SADF)
Beijing	1.658582	2009Q3~2010Q1
Changchun	0.826709	2010Q4
Changsha	1.399530	2009Q3~2010Q1
Chengdu	0.159217	
Chongqing	0.714139	
Dalian	0.680062	
Fuzhou	3.250905**	2002Q1~2002Q3
Guangzhou	1.919879	2009Q2~2010Q1
Guiyang	0.369936	
Haikou	3.803891**	2009Q4~2010Q2
Hangzhou	1.042273	2009Q4
Harbin	-0.050901	
Hefei	0.599705	
Hohhot	0.367404	
Jinan	0.569524	
Kunming	0.230573	
Lanzhou	0.256638	
Nanchang	1.218562	1999Q2~1999Q3
Nanjing	1.550477	2004Q4~2005Q1 2009Q3~2010Q1
Nanning	-0.616455	
Ningbo	4.317979**	2003Q1~2003Q3 2003Q4
Qingdao	0.750282	2009Q4
Shanghai	0.560740	1999Q2
Shenyang	0.771634	2012Q2
Shenzhen	1.155495	2009Q3
Shijiazhuang	1.895881	2009Q3~2010Q1
Taiyuan	-0.172405	
Tianjin	1.151441	2003Q1 2010Q4
Urumqi	1.391372	2007Q3~2007Q4 2010Q4
Wuhan	0.002060	
Xiamen	0.010093	
Xian	0.356453	
Xining	-0.056450	
Yinchuan	-0.384224	
Zhengzhou	0.870956	2009Q1

Note: The finite sample critical values for 90%, 95%, and 99% levels are 2.021600, 2.635601, and 4.794306, respectively. Critical values were obtained from Monte Carlo simulation with 5,000 replications.

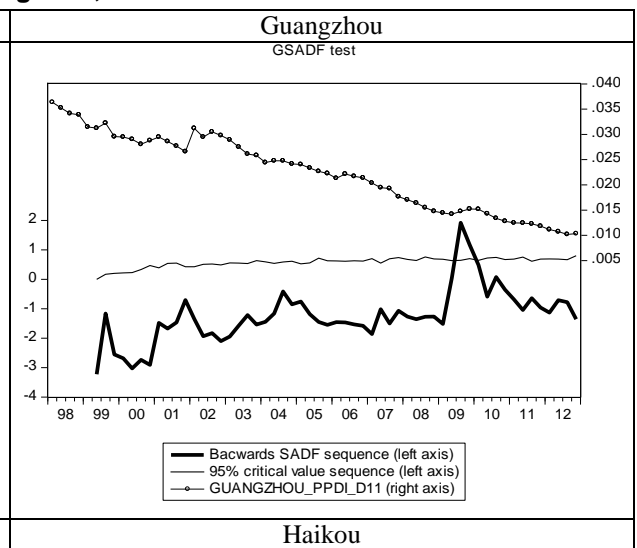
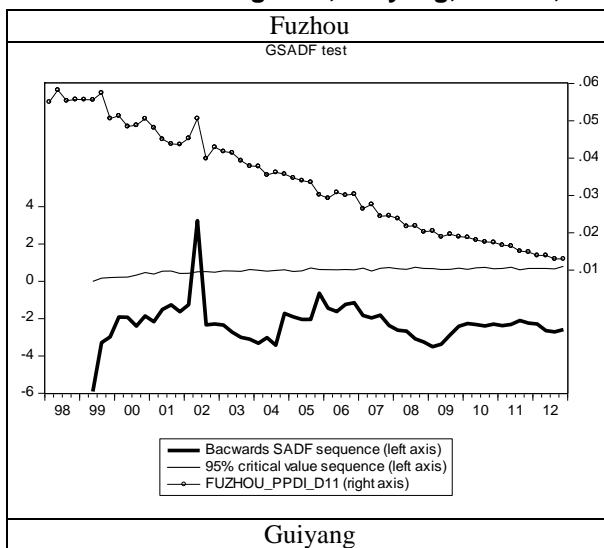
Appendix 1

Date-stamping bubble periods in housing price-to-income ratios in Beijing, Changchun, Changsha, Chengdu, Chongqing, and Dalian





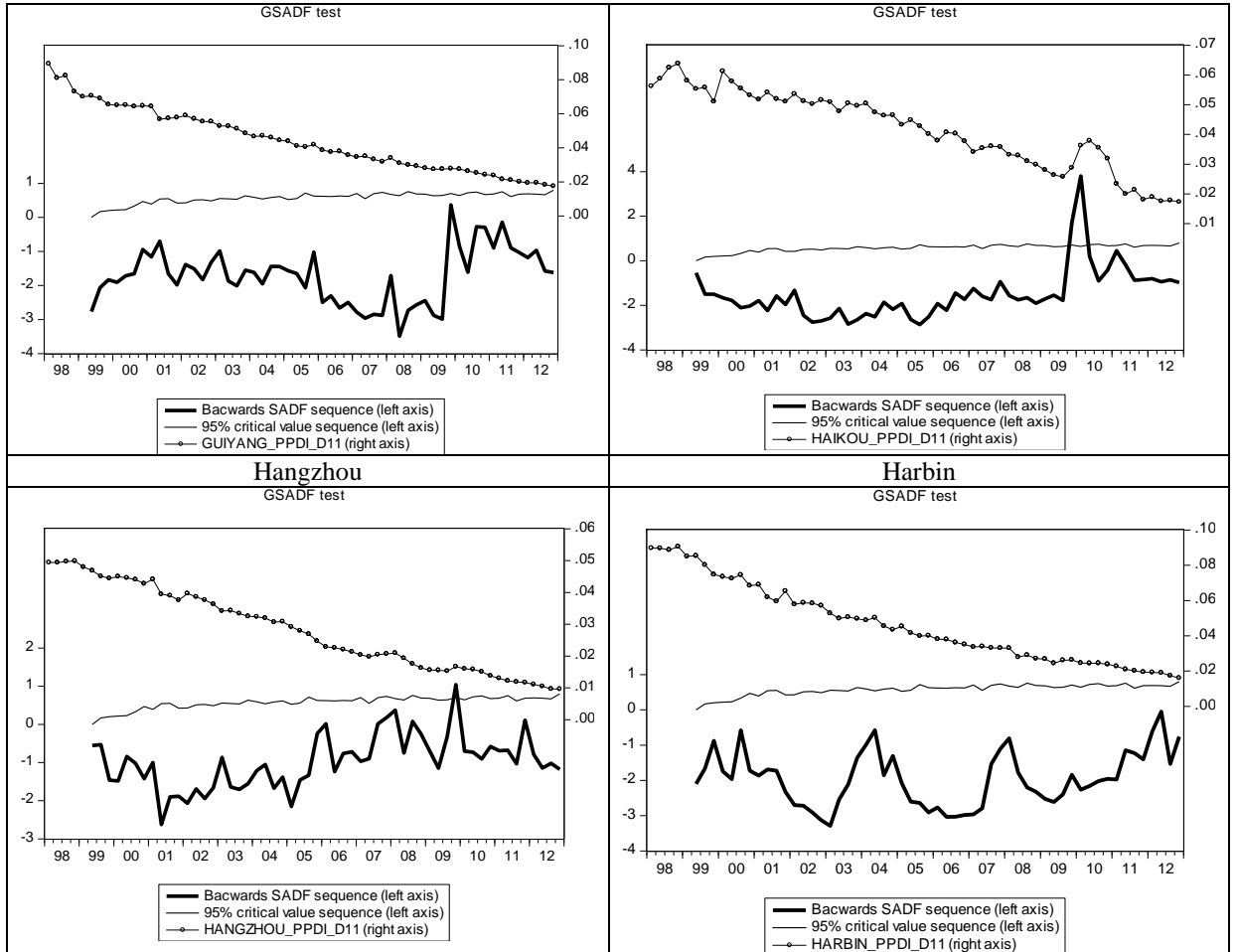
Appendix 2
Date-stamping bubble periods in housing price-to-income ratios in Fuzhou, Guangzhou, Guiyang, Haikou, Hangzhou, and Harbin



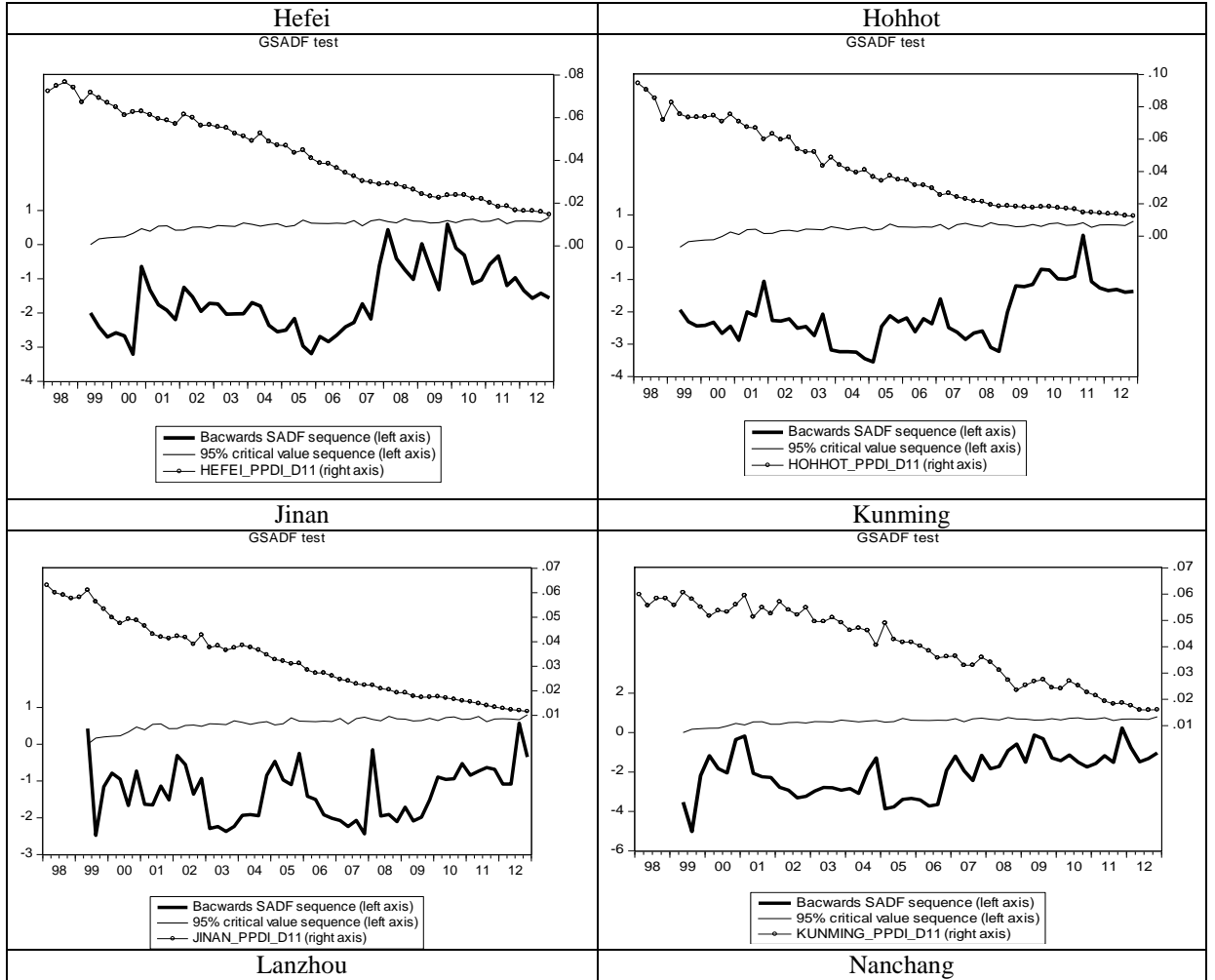
Guiyang

Haikou

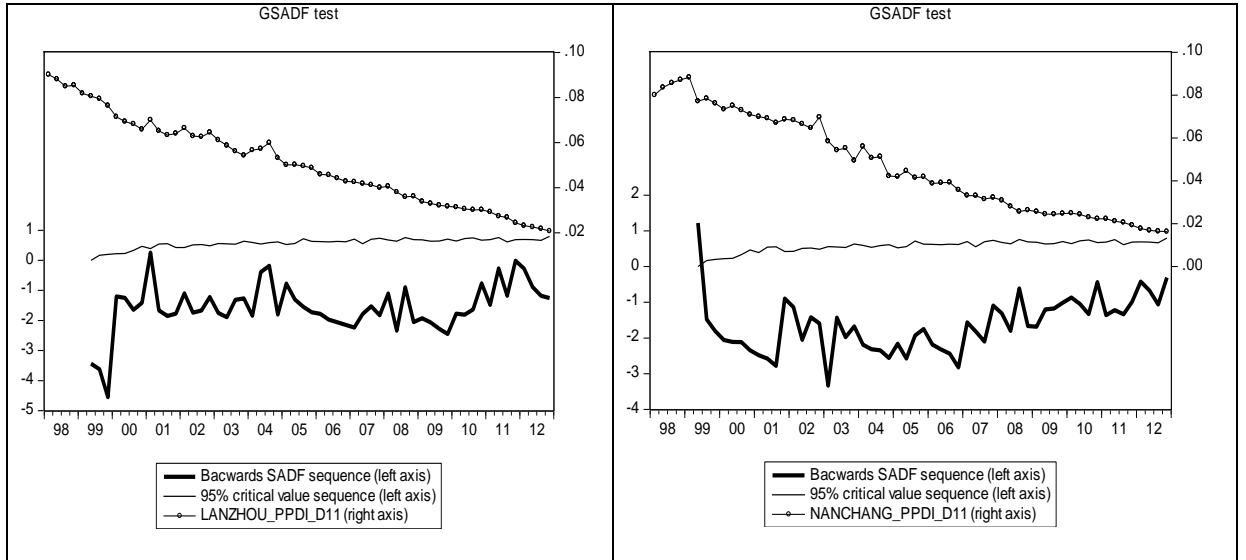
Do Multiple Housing Bubbles Exist in China?



Appendix 3
Date-stamping bubble periods in housing price-to-income ratios in Hefei, Hohhot, Jinan, Kunming, Lanzhou, and Nanchang

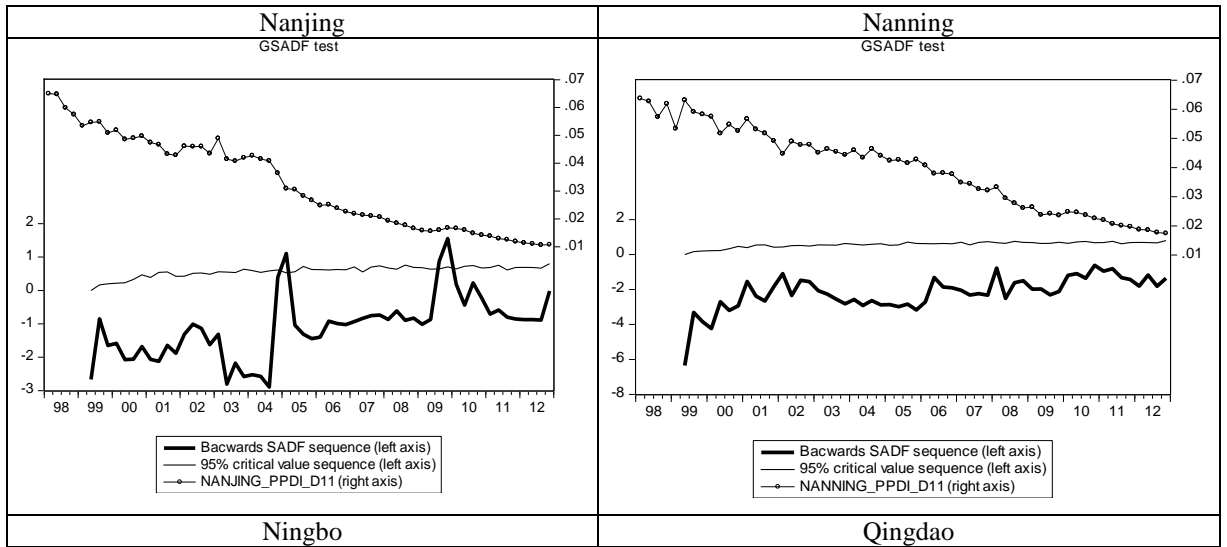


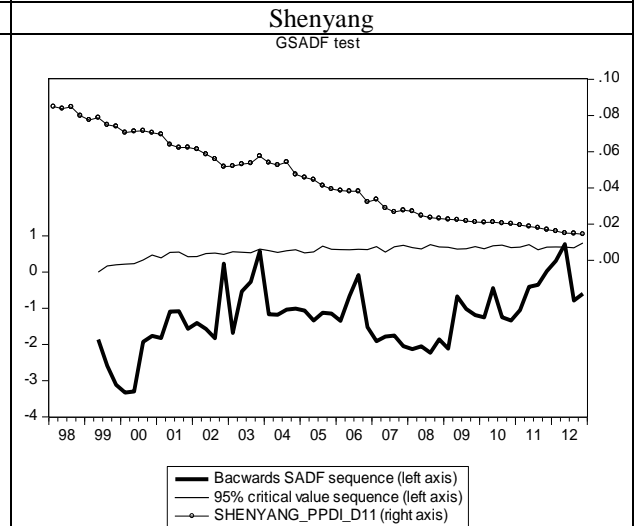
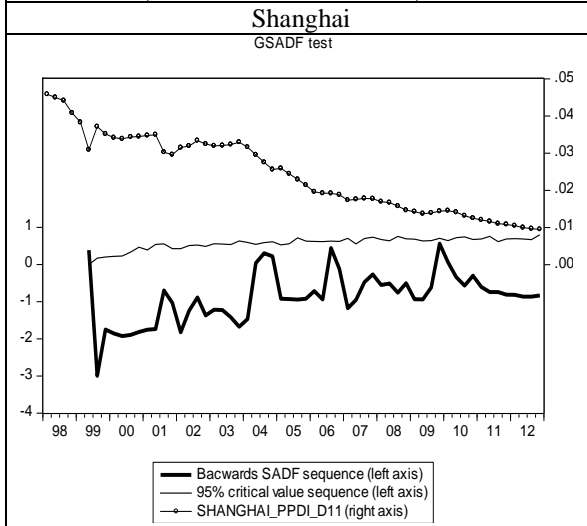
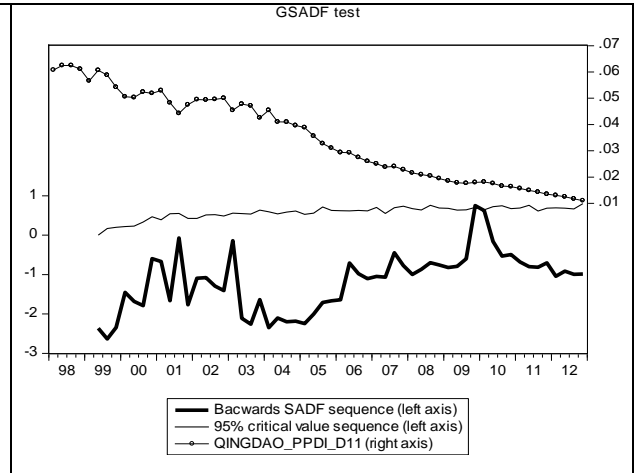
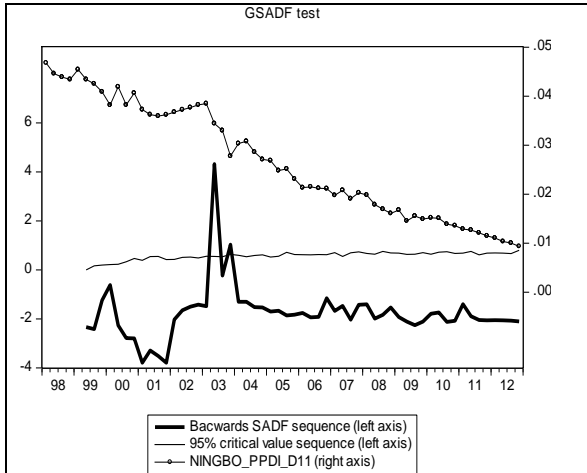
Do Multiple Housing Bubbles Exist in China?



Appendix 4

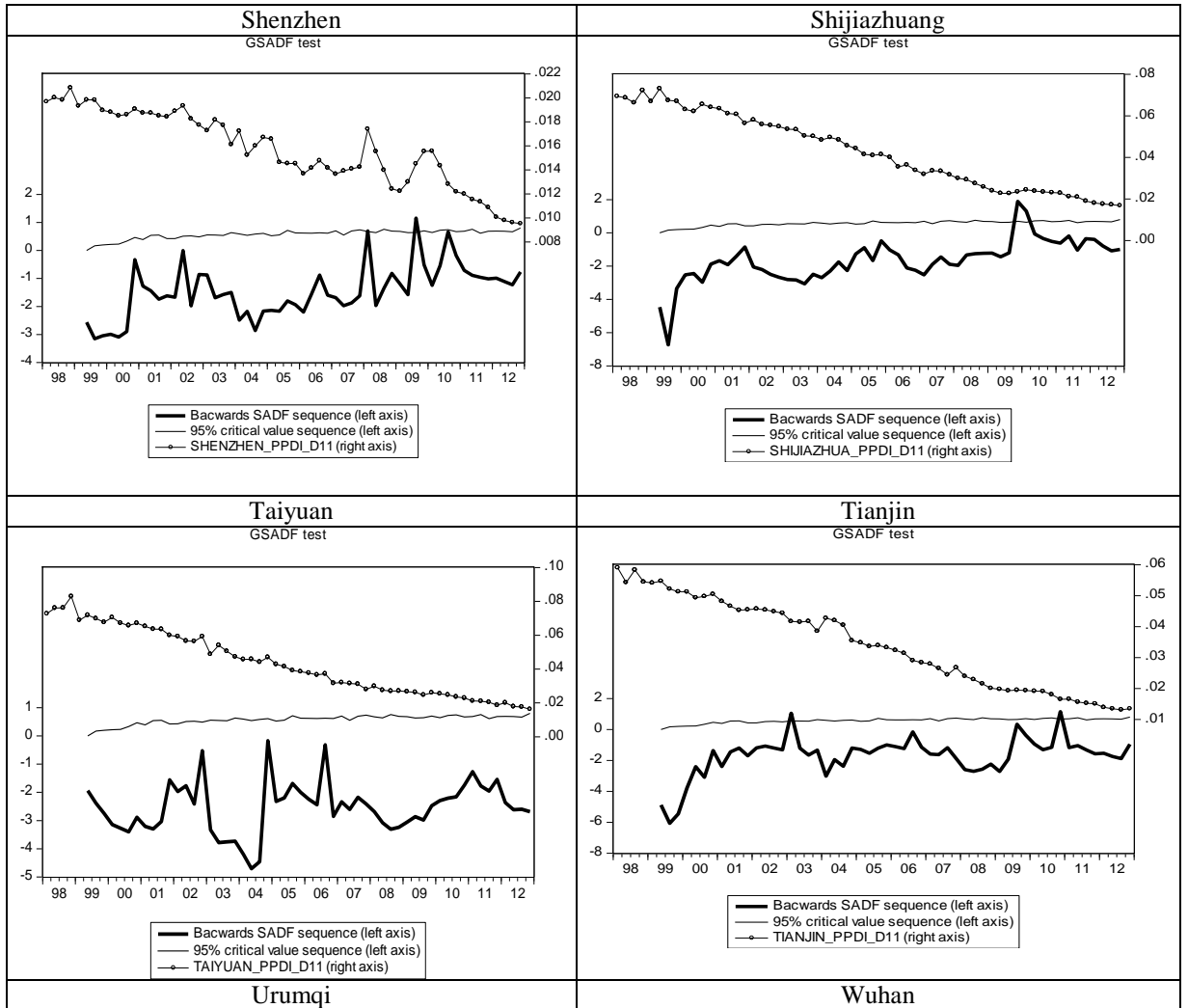
Date-stamping bubble periods in housing price-to-income ratios in Nanjing, Nanning, Ningbo, Qingdao, Shanghai, and Shenyang

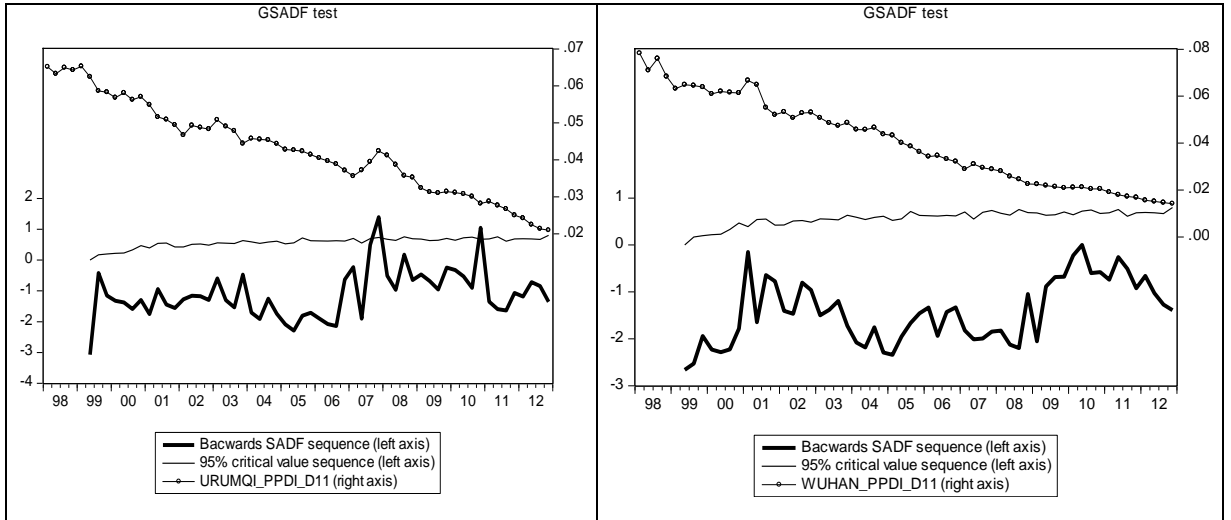




Appendix 5

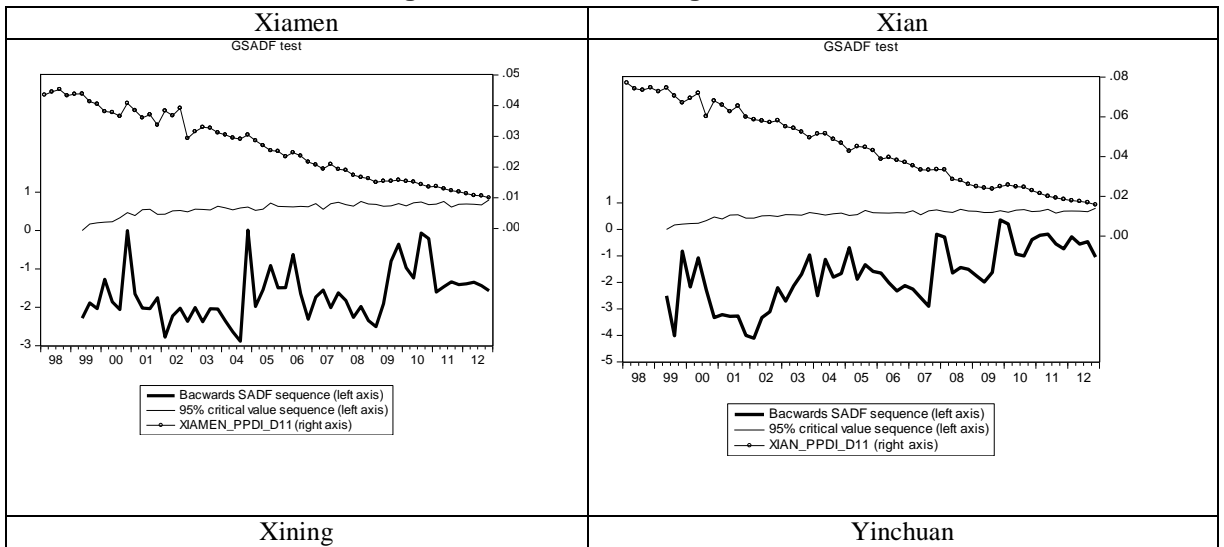
Date-stamping bubble periods in housing price-to-income ratios in Shenzhen, Shijiazhuang, Taiyuan, Tianjin, Urumqi, and Wuhan





Appendix 6

Date-stamping bubble periods in housing price-to-income ratios in Xiamen, Xian, Xining, Yinchuan, and Zhengzhou



Do Multiple Housing Bubbles Exist in China?

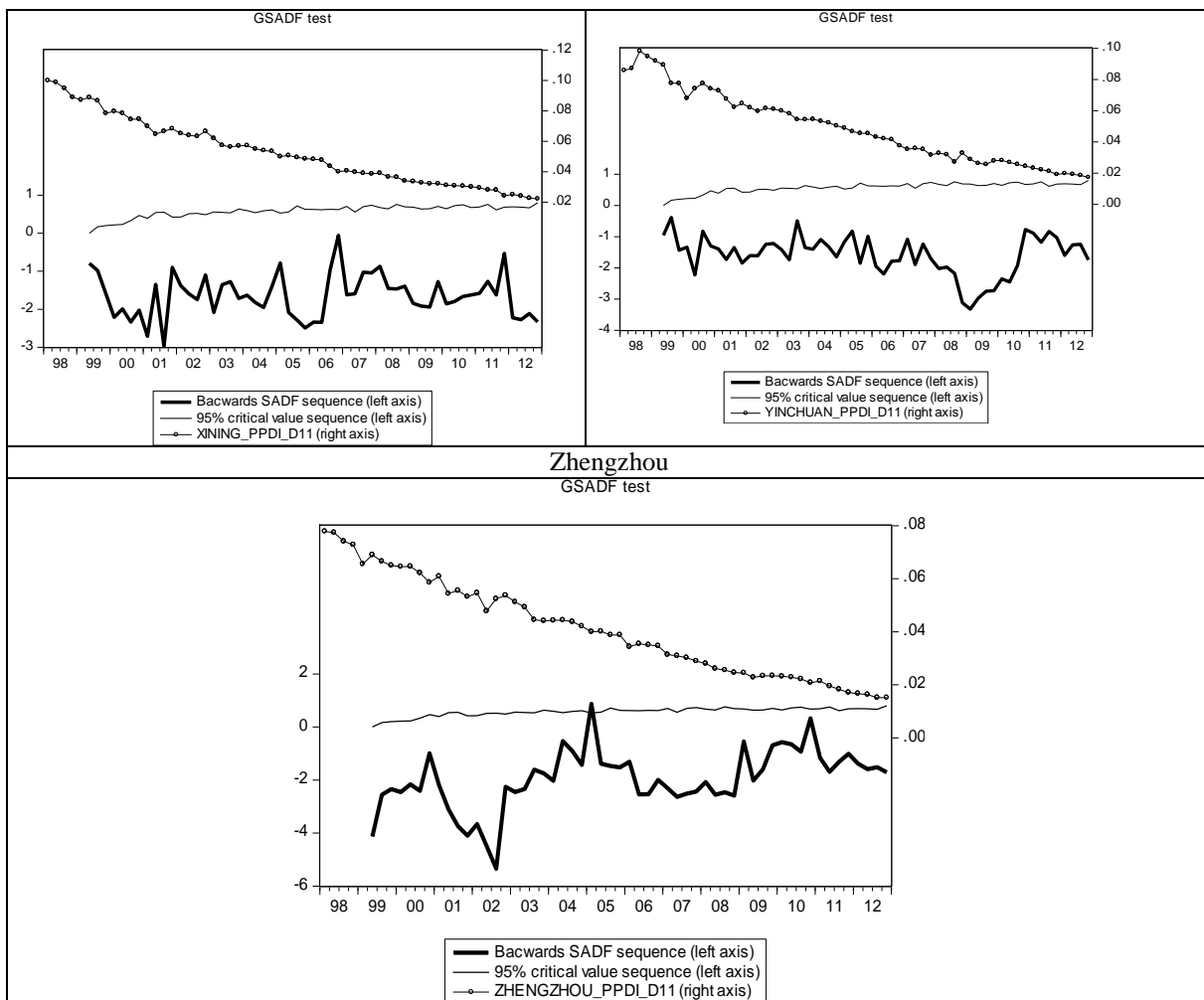


Table 2

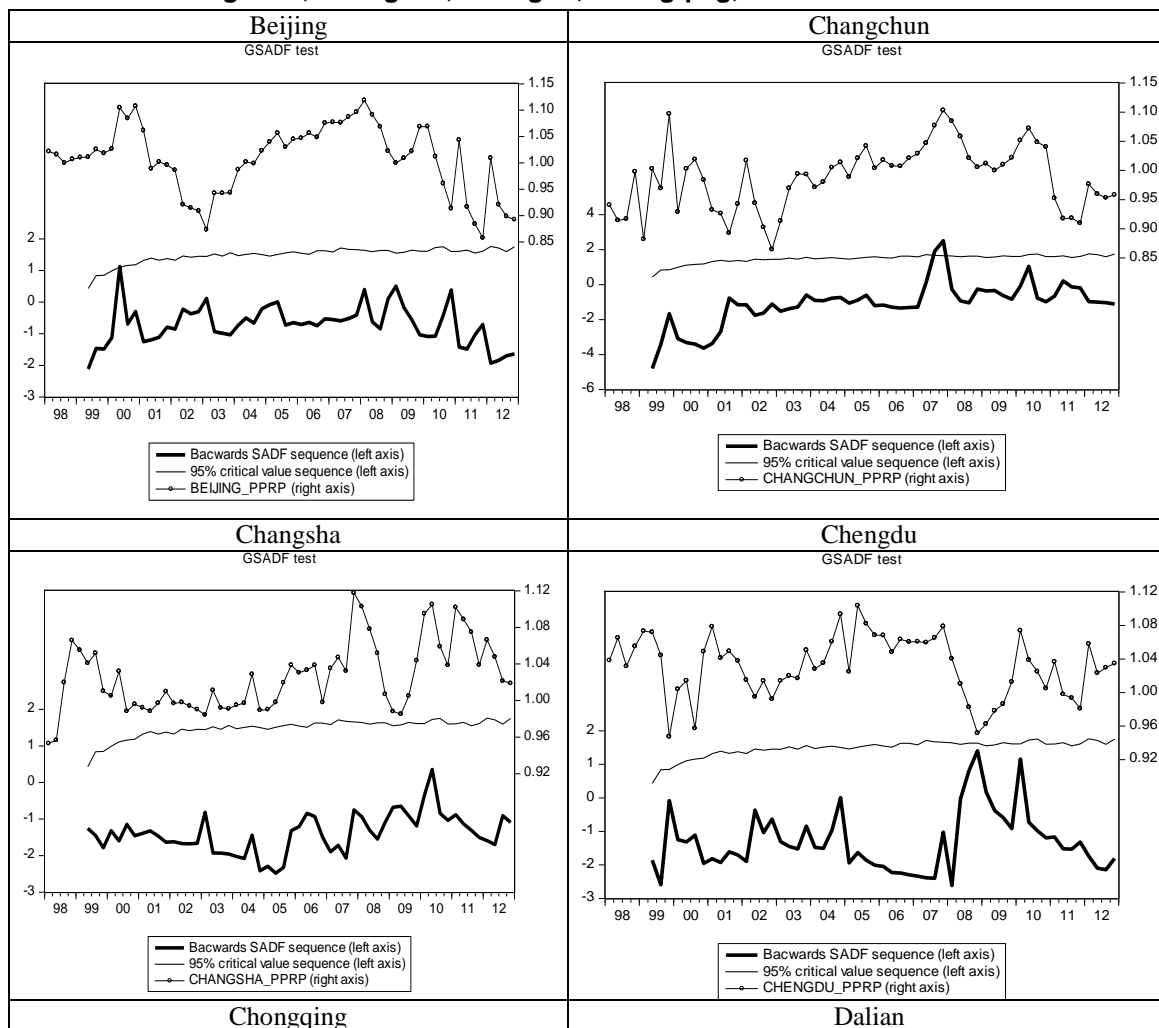
GSADF test of housing price-to-rent ratios of 35 cities

Cities	GSADF whole test	Bubble periods (backward SADF)
Beijing	1.124718	
Changchun	2.509932	2007Q3~2007Q4
Changsha	0.358162	
Chengdu	1.402003	
Chongqing	0.568628	
Dalian	1.561443	2000Q3
Fuzhou	0.441265	
Guangzhou	0.538680	
Guiyang	0.075526	
Haikou	1.235535	
Hangzhou	1.246051	
Harbin	1.339753	
Hefei	2.806120*	2007Q4~2008Q2
Hohhot	1.305129	
Jinan	0.697925	
Kunming	0.779609	
Lanzhou	3.530562**	
Nanchang	1.405131	
Nanjing	1.920265	2008Q4
Nanning	0.167879	
Ningbo	1.689745	
Qingdao	1.413664	
Shanghai	2.154740	2008Q1
Shenyang	3.452745**	2003Q4~2004Q2
Shenzhen	2.080429	2008Q3~2008Q4
Shijiazhuang	2.506744	2004Q2 2008Q4~2009Q1
Taiyuan	0.311462	
Tianjin	2.061157	2008Q4~2009Q2
Urumqi	2.158417	2007Q3~2008Q1
Wuhan	2.173683	2007Q4~2008Q1
Xiamen	2.264500	2008Q4
Xian	0.248277	
Xining	1.509838	2000Q3
Yinchuan	1.472561	
Zhengzhou	5.562340***	2010Q1~2010Q3

Note: The finite sample critical values for 90%, 95%, and 99% levels are 2.717858, 3.297673, and 4.886525, respectively. Critical values were obtained from Monte Carlo simulation with 5,000 replications.

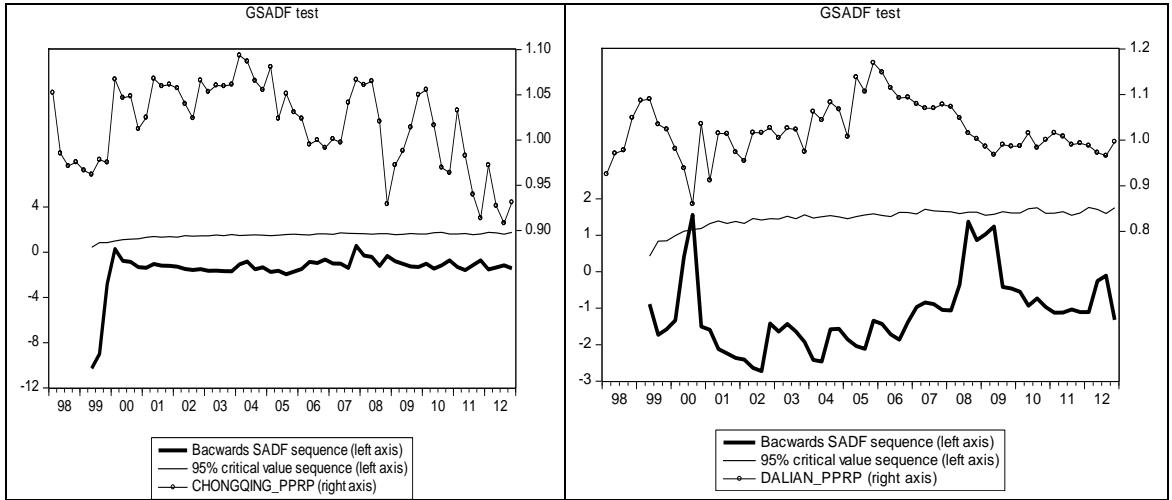
Appendix 7

Date-stamping bubble periods in housing price-to-rent ratios in Beijing, Changchun, Changsha, Chengdu, Chongqing, and Dalian

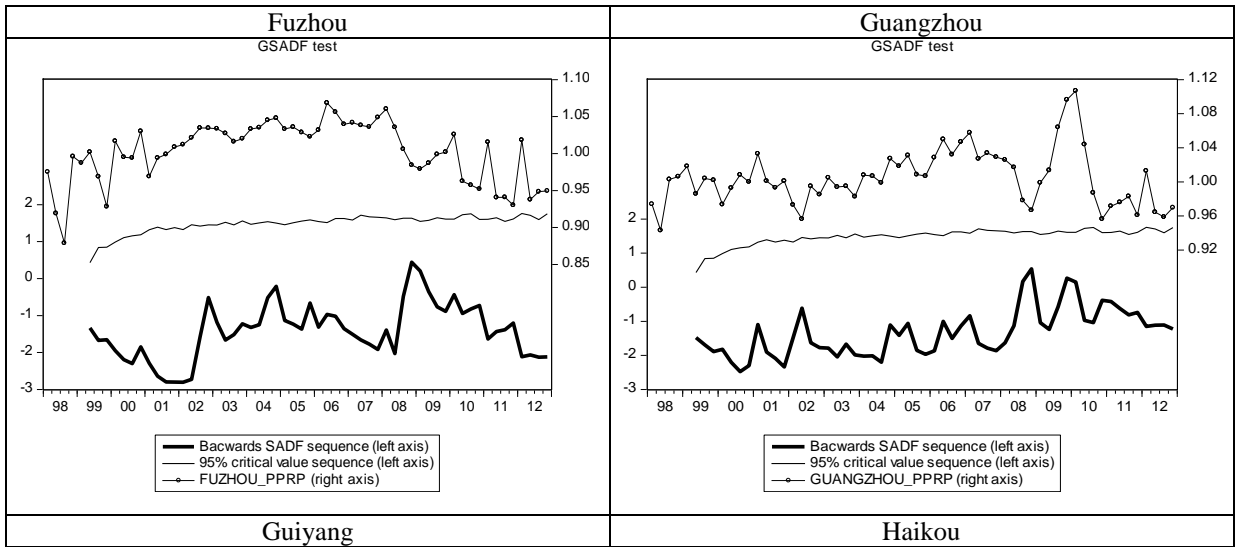


Chongqing

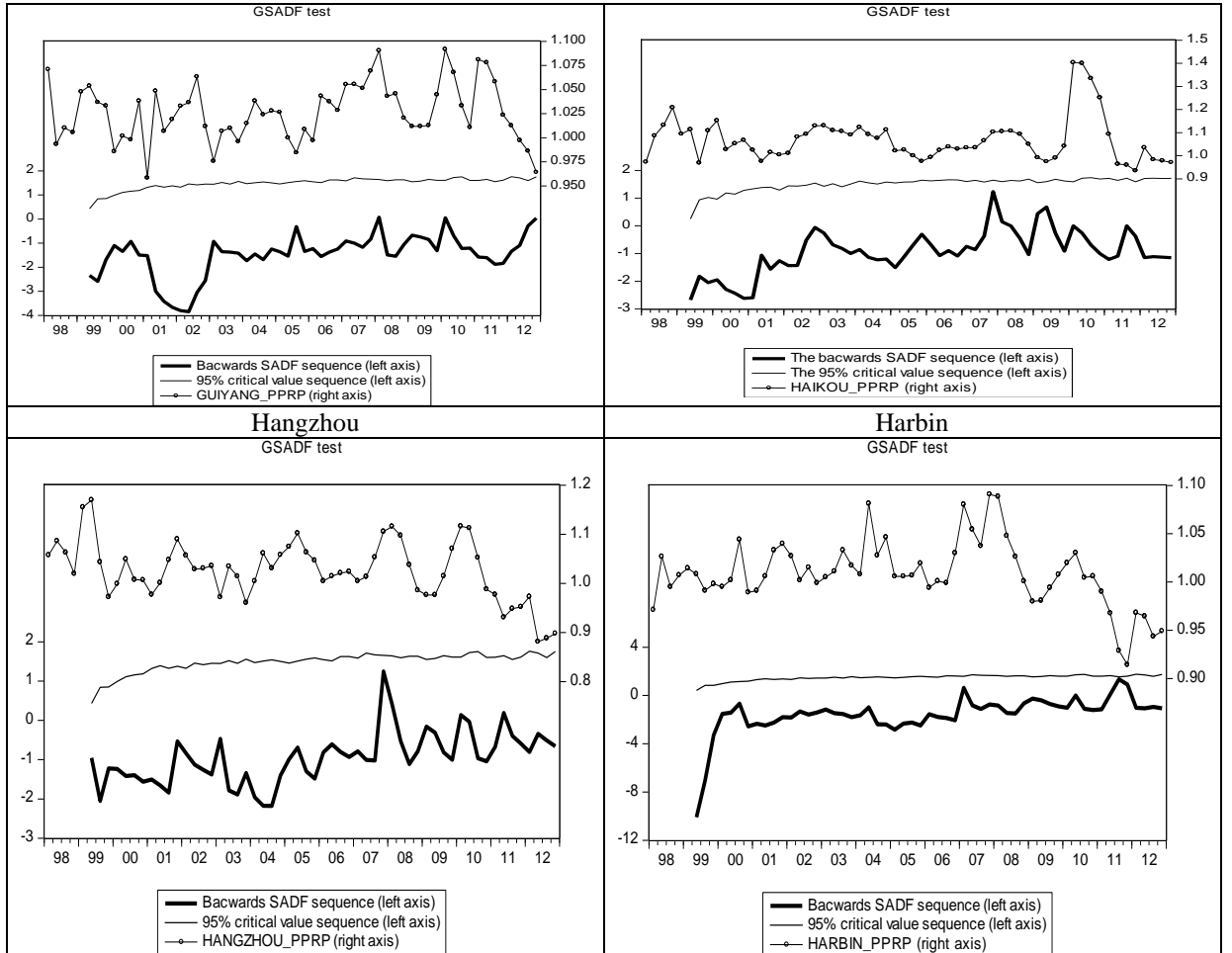
Dalian



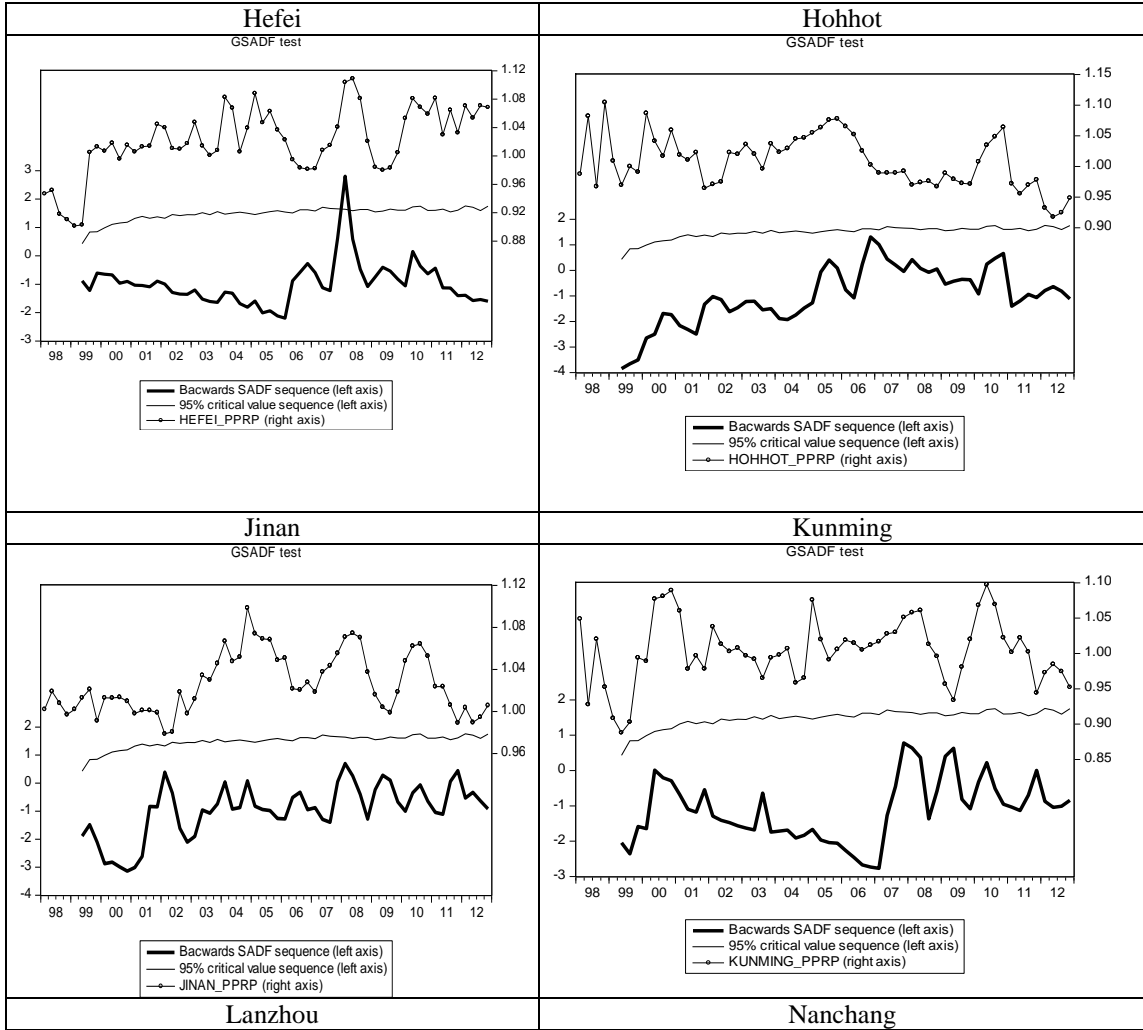
Appendix 8
Date-stamping bubble periods in housing price-to-rent ratios in Fuzhou, Guangzhou, Guiyang, Haikou, Hangzhou, and Harbin



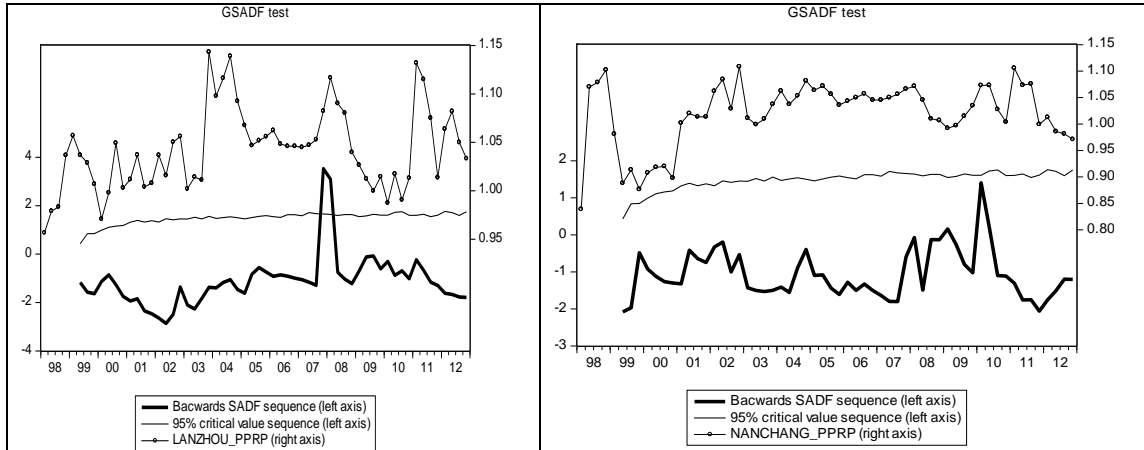
Do Multiple Housing Bubbles Exist in China?



Appendix 9
Date-stamping bubble periods in housing price-to-rent ratios in Hefei, Hohhot, Jinan, Kunming, Lanzhou, and Nanchang

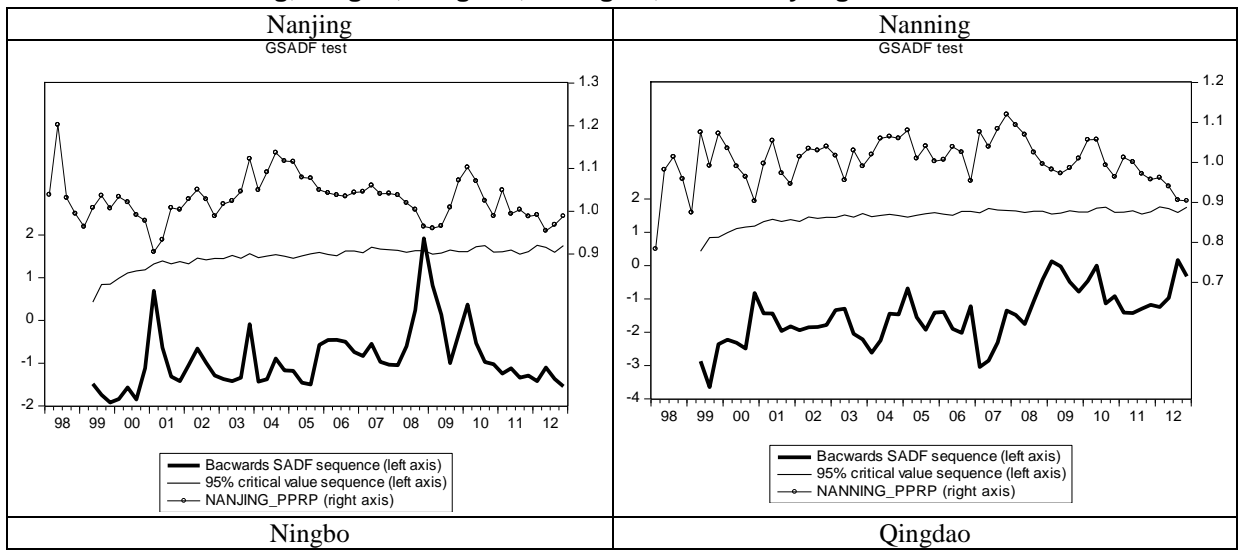


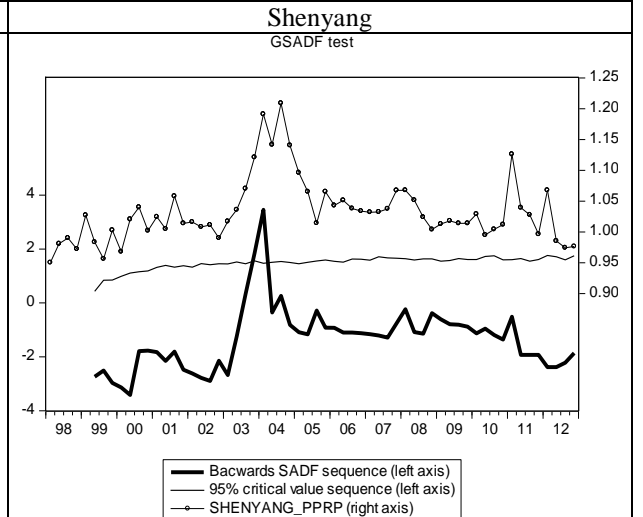
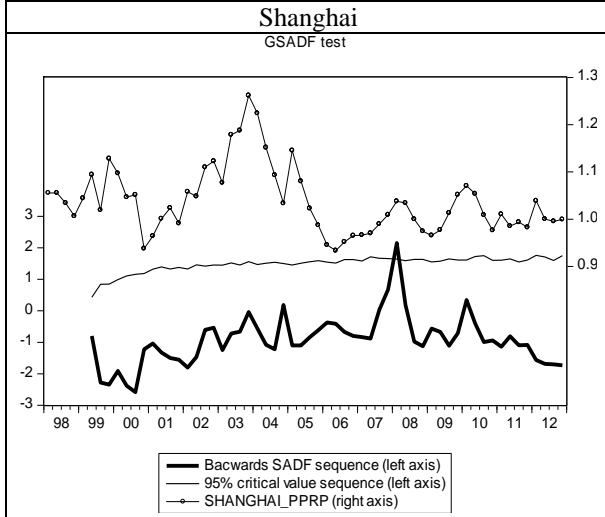
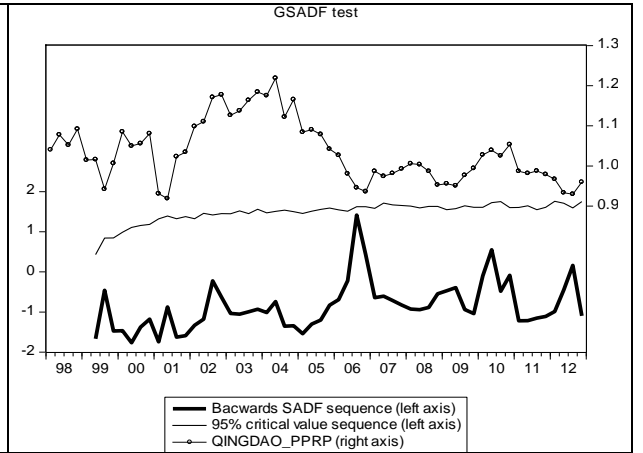
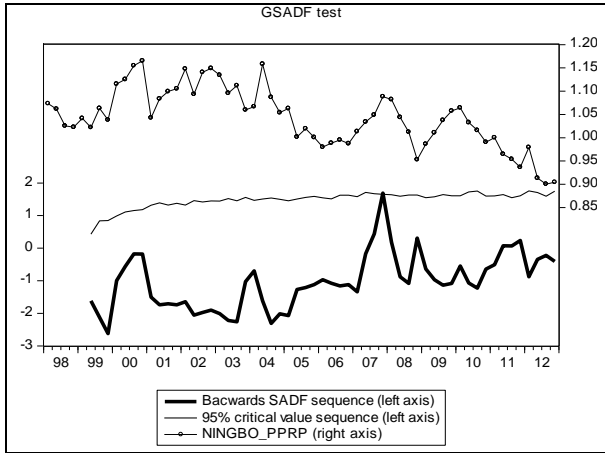
Do Multiple Housing Bubbles Exist in China?



Appendix 10

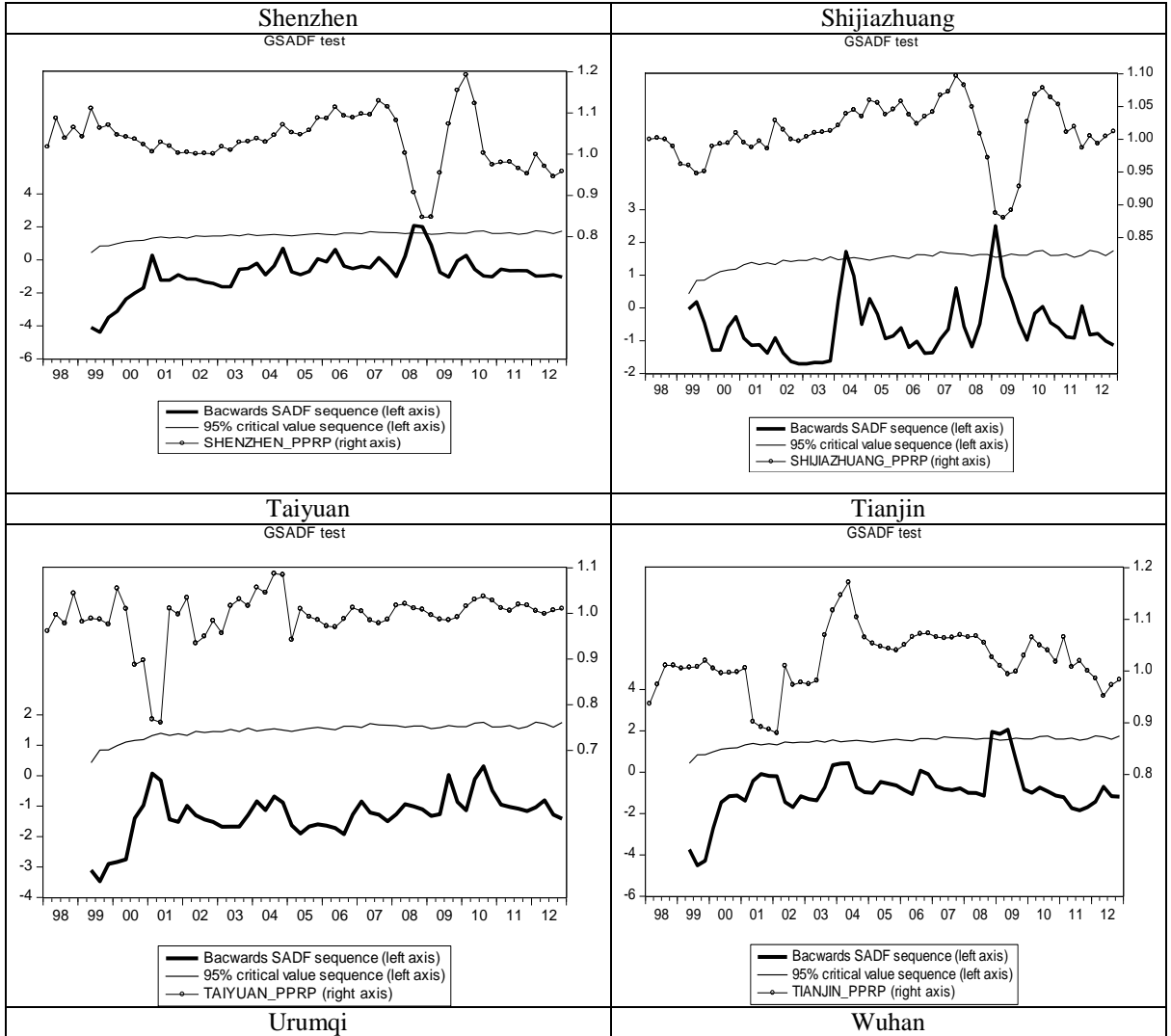
Date-stamping bubble periods in housing price-to-rent ratios in Nanjing, Nanning, Ningbo, Qingdao, Shanghai, and Shenyang

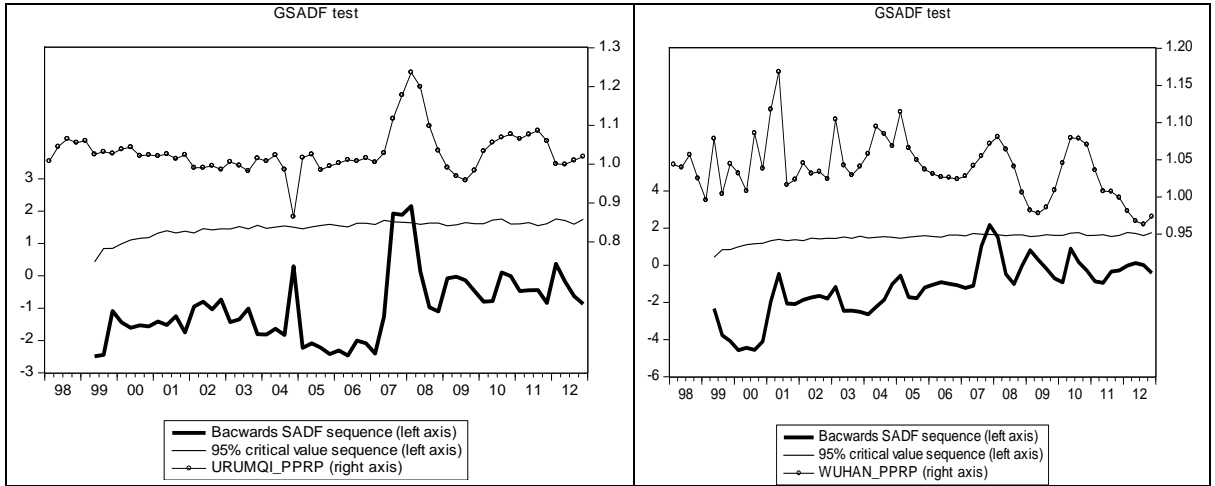




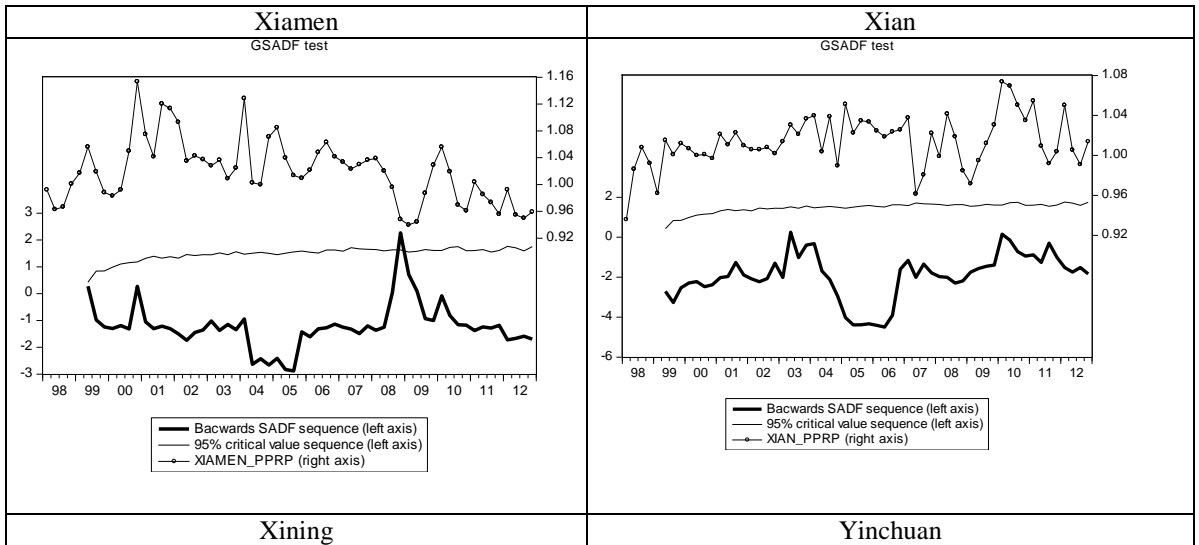
Appendix 11

Date-stamping bubble periods in housing price-to-rent ratios in Shenzhen, Shijiazhuang, Taiyuan, Tianjin, Urumqi, and Wuhan





Appendix 12
Date-stamping bubble periods in housing price-to-rent ratios in Xiamen, Xian,
Xining, Yinchuan, and Zhengzhou



Do Multiple Housing Bubbles Exist in China?

