

**A Machine Learning Approach to Equity Bubble Detection and Financial  
Crash Prediction**

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**Abstract**

This is the abstract section.

## A Machine Learning Approach to Equity Bubble Detection and Financial Crash Prediction

### Introduction

Bubbles and financial crashes are important themes of financial markets. Asset bubbles describe the situation where asset prices significantly deviate from their fundamental values. Notable historical bubble includes the Dutch tulip mania in 1637, the dot-com bubble in 1990s, and the US housing bubble in 2000s. Investors who are unaware of the potential risks of bubbles paid huge prices when markets crashed.


According to people, this happened (**Chat2018**).

### Background

According to people, this happened again (**Chat2018**). According to people, this happened again (**Chat2018**). As shown in Figure ??

#### Figure 1

*CV-tuned decision threshold*



cv\_threshold.jpg

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As shown in Table ??

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**Table 1**

	<i>Dependent variable:</i>
	bubble
real_gdp_growth	−0.007 (0.035)
inflation	0.099*** (0.028)
tbill_yield	0.237*** (0.073)
shiller_pe	−0.658*** (0.058)
consumer_confidence	−1.182*** (0.147)
mktcap_gdp_ratio	216.592*** (18.361)
sp500_return	−0.105*** (0.033)
sp500_re3	0.018 (0.022)
sp500_re6	−0.021 (0.020)
sp500_re12	−0.143*** (0.016)
sp500_re60	0.075*** (0.006)
Constant	106.314*** (13.641)
Observations	1,112
Log Likelihood	−410.346
Akaike Inf. Crit.	844.693
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01