

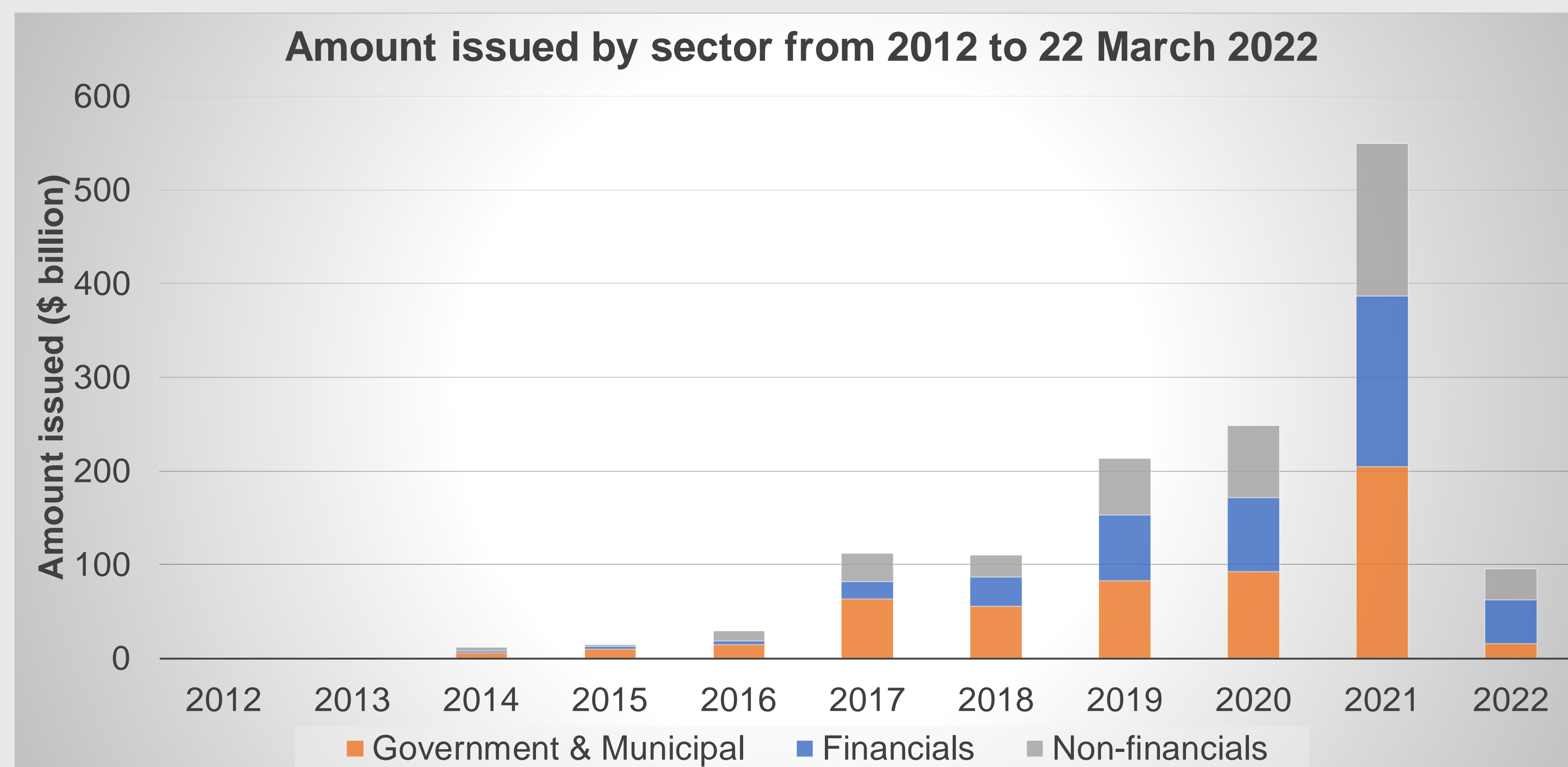
# Green Bond and Credit ratings

Dr. Chih-Yueh Huang (Research Associate at Heriot-Watt University)

Professor Dimitris Christopoulos (Professor at Heriot-Watt University)

## Overview of Green Bond markets

- More than 4,000 green bonds are issued worldwide and the cumulative amount issued is higher than \$1.3 trillion
- Government (including Municipal), Financial institutions and non-financial companies are three main types of green bond issuers



## Preliminary findings

1. About 20% of green bonds experience changes in credit ratings (11% downgraded, 9% upgraded)
2. Bonds sometimes receive inconsistent ranks from different rating agencies (5%)
3. The bond rating is not always the same with its issuer's rating as opposed to most literature suggesting

Change of ratings across rating agencies				The comparison between bond and issuer rating			
Agency	Fitch	Moody's	S&P	Agency	Fitch	Moody's	S&P
<b>Upgrade</b>	75 (8.8%)	73 (4.5%)	83 (6.9%)	<b>Bond rating is higher</b>	12 (11.5%)	57 (7.8%)	55 (6.4%)
<b>Downgrade</b>	133 (15.6%)	105 (6.5%)	95 (7.9%)	<b>Bond rating is lower</b>	6 (5.7%)	195 (26.7%)	130 (15.2%)
<b>Unchanged</b>	646 (75.6%)	1440 (89.0%)	1024 (85.2%)	<b>Bond rating is the same</b>	86 (82.8%)	476 (65.5%)	668 (78.4%)
<b>Total</b>	854	1618	1202	<b>Total</b>	104	728	853

## Further research

- Matching green and brown bonds
  1. Do the above findings apply to the brown bonds?
  2. Do green bonds receive different ratings?
- Before and after the issue of green bonds
  1. Does ESG score change?
  2. Does the issuer's credit rating change?
  3. Do the ratings of the existing brown bonds change?