

• Theoretical results

- [[MSCI How Have Stocks Responded to Changes in Climate Policy?]] (Brief summary)
 - examined how **equity markets reacted to climate-related political or regulatory events**
 - selected **nine events** and separated them in **progress and setbacks**
 - clustered **company characteristics** in carbon efficient operations, revenues from green sources, sensitivity to carbon price
 - investigated **two types of risk drivers**: event risk (immediately priced in) and erosion risks (play out over long time periods)
 - results
 - **event risks**: equity markets did **not consistently** react immediately, often moved in opposite direction of what was expected
 - **erosion risks**: inclusion of emission risk factor in standard risk factor model shows the **outperformance of emission factor**, particularly in recent years
- [[Climate sin stocks: stock price reactions to global climate strikes]] (Brief summary)
 - look at first big Fridays for **futures climate strike and how this translates to financial markets**
 - find that firms with **higher carbon intensity** (Eurostat/Sustainalytics data) earn significantly **lower returns in the five proceeding days**
- [[Attention to global warming]] (Brief summary)
 - **attention to climate change**, proxied by **Google search**, **increases** when **temperatures are abnormally high**
 - financial markets: **stocks of carbon-intensive firms underperform** firms with low carbon emissions in abnormally warm weather
 - retail investors sell carbon-intensive firms in such weather hence return patterns are **unlikely to be driven by fundamentals**

• Brainstorming: How do stock prices react to past climate change events?

- **Events that could trigger stock price reactions**: climate conferences, climate policies, extreme weather events, social events (strikes), ..
- Possible **considerations**
 - **reaction time**: the same day, the following day, the subsequent days
 - **separation of stocks**: according to sector/carbon sensitivity/ESG rating etc.
 - **separation of investment class**: maybe reaction is stronger in options
 - **transmission channels**: according to [[MSCI]]: direct shocks, market-disturbance shocks (market becomes generally more volatile but not connected to a certain event)
- Any way to merge that with simulations later on ([[Explorer Stock Price Reaction to CC Events]])?

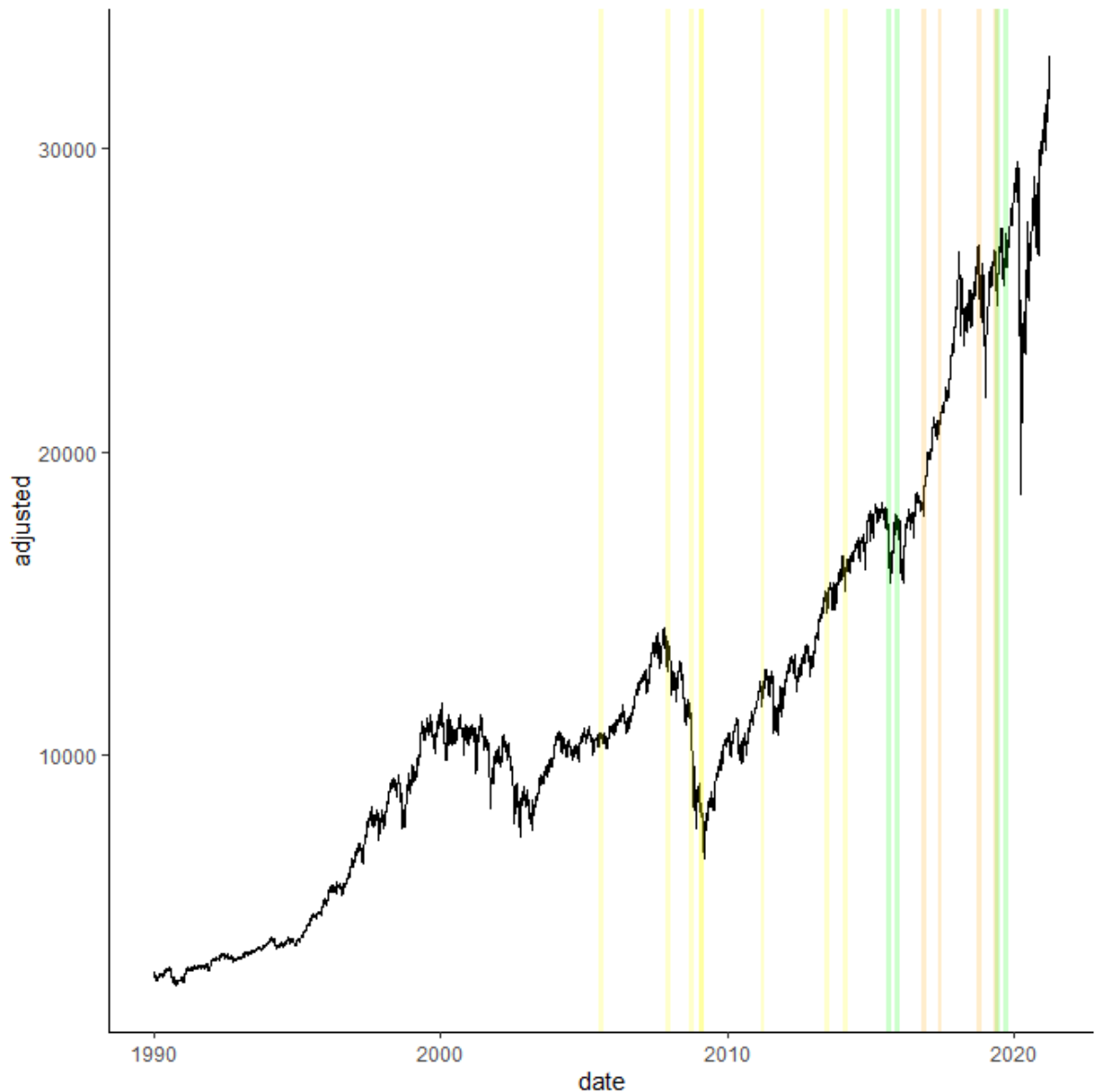
• Obtain data on past policies

- **US climate-related policies** obtained from [[NewClimate Institute - Climate Policy Database]]
 - filter: USA, impact: high
 - add dates of decision/signature to dataset

- **worldwide climate change related political events** obtained from [[MSCI How Have Stocks Responded to Changes in Climate Policy?]]
 - contain nine political events, clustered in "progress" and "setback"

• Visualization of policies

- yellow: US policies, orange: world politics with setback, green: world policies with progress



• Return characteristics

- US policies

during event	return_mean	return_variance
FALSE	0.0003798	0.0001236
TRUE	-0.0040335	0.0002578

date	daily.returns	Policy_Name
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date	daily.returns	Policy_Name
2005-08-08	-0.0019985	Energy Policy Act
2007-12-19	-0.0019044	Renewable Fuel Standard (RFS)
2008-10-03	-0.0150217	C02 Capture and Sequestration Tax Credit
2009-02-05	0.0133737	Federal Appliance Standards
2009-02-17	-0.0379356	American Recovery and Reinvestmant Act
2011-03-30	0.0058311	Blueprint for a secure energy future
2013-06-25	0.0068726	The President's Climate Action Plan Renewable Energy Target
2014-02-18	-0.0014850	National Program for Heavy-Duty Vehicle GHG emissions and Fuel Efficiency Standards

- worldwide policies

during event	return_mean	return_variance
FALSE	0.0003762	0.0001238
TRUE	-0.0005231	0.0000192

date	daily.returns	policy_name	impact
2015-08-18	-0.0019287	Energy transition law in France	progress
2015-11-30	-0.0052472	Paris agreement	progress
2016-11-08	0.0040056	Trump's election in the US	setback
2017-06-01	0.0064511	US drops out of Paris Agreeemnet	setback
2018-10-08	0.0015022	Bolsonaro's election in Barzil	setback
2019-05-20	-0.0032642	Morrison's election in Australia	setback
2019-06-03	0.0001910	Carbon tax in South Africa	progress
2019-09-20	-0.0058948	Carbon price in Germany	progress