Media Reinforcement in International Financial Markets

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Research Question

Media

- An avenue through which information is gathered, processed, and disseminated to a public of economic agents

- Large amount of data are generated by media daily

Academic research has found that media coverage can predict returns

- Mainly focused on individual stocks and US aggregate equity

- Predictability and reversal vary

We study the interaction of media and asset prices

- Individual stocks

- Aggregate equity markets

- Currencies

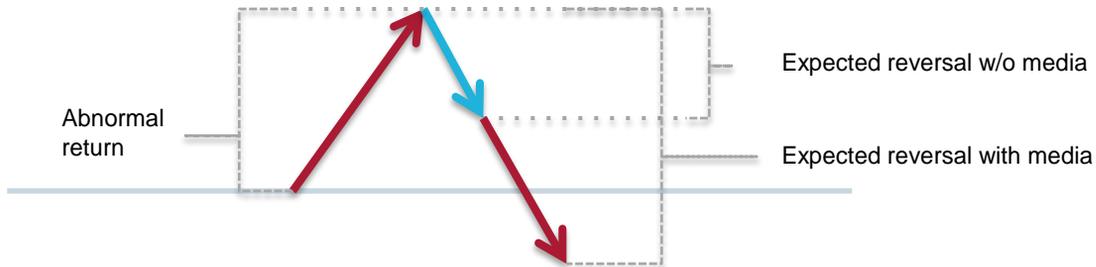# How Does the Media Interact with Asset Prices?

How to measure optimism / pessimism?

     – Asset prices is one indicator

     – Look at media sentiment!

We advance a simple concept:

    When return and sentiment reinforce one another

     – There is unusually high optimism, which results with overreaction

The Power of the Media

- Wealth of information

- A careful examination of the data and the correction for various effects

General Media	**Specialized Media**	**Corporate Communications**	**Social Media**
• What is the **world** saying?	• What is the **industry** saying?	• What are **companies** saying?	• What are **people** saying?

The Data

Countries

- FX and Equity indices

12 developed market currency:	AUD, CAD, CHF, DKK, EUR, GBP, ILS, JPY, NOK, NZD, SEK, SGD
+2 developed market equity:	HKD, USD
17 emerging markets:	ARS, BRL, CLP, CNY, COP, EGP, IDR, INR, MXN, MYR, NGN, PHP, PLN, RUB, THB, TRY, ZAR

Media Coverage
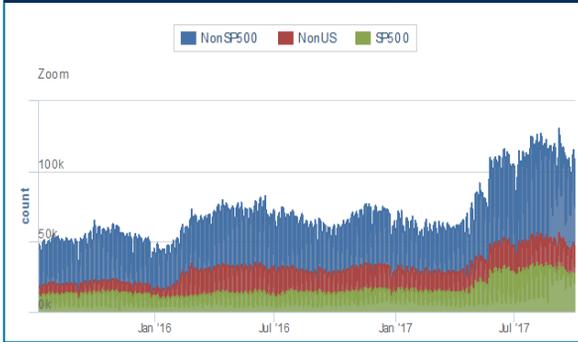
- Currencies
- Equity indices

Other Asset Classes

- Large-cap stocks
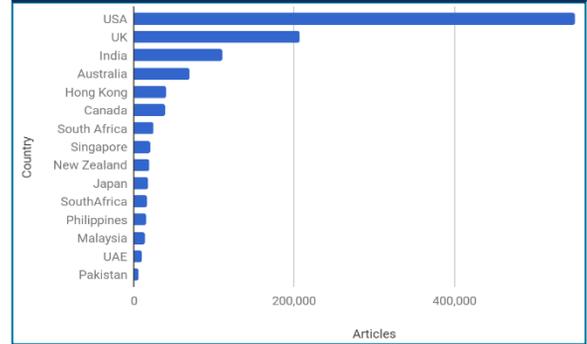- Commodities

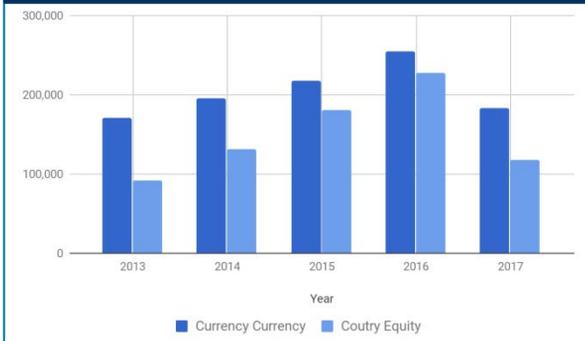**Sentiment Scoring**

- Textual analysis

The Data – Cont'd

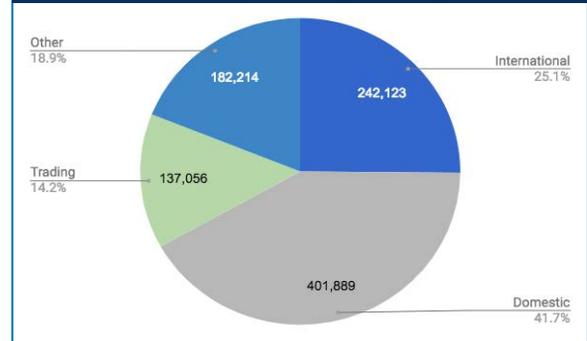### Number of articles covering firms

Number of articles by country of source (FX, Country)

FX / Country articles by year

### FX / Country articles by source type

Brexit Vote (June 23, 2016)
1-day abnormal country equity sentiment

- Prior to Brexit vote, sentiment seemed mostly positive

- Once 'Leave' was announced, global sentiment turned sharply negative, with UK, European countries, the Americas and Australia leading the way

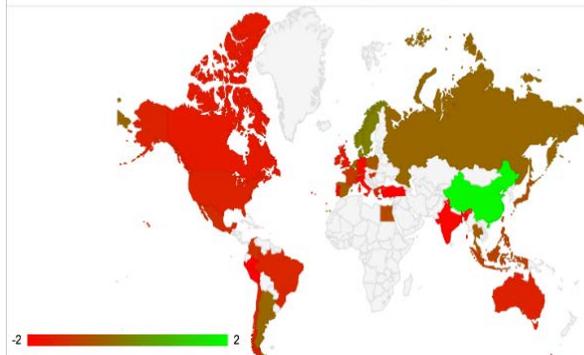- In contrast, Russia and China exhibit a positive sentiment shock

Country Equity Sentiment - Panel 1
Date Range [06/22/2016,06/23/2016] ✕
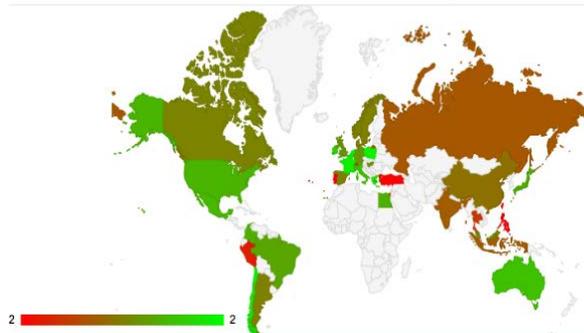
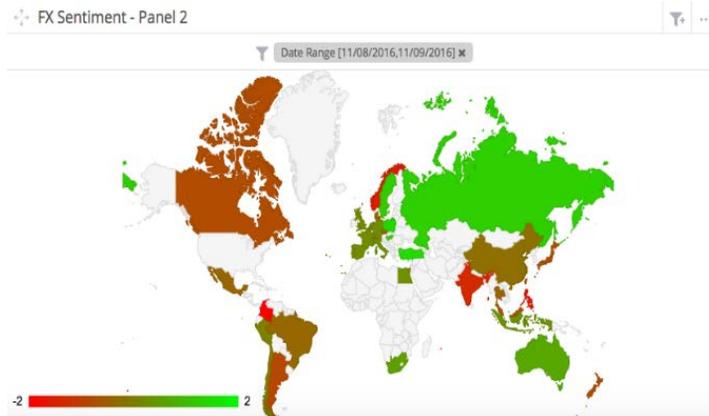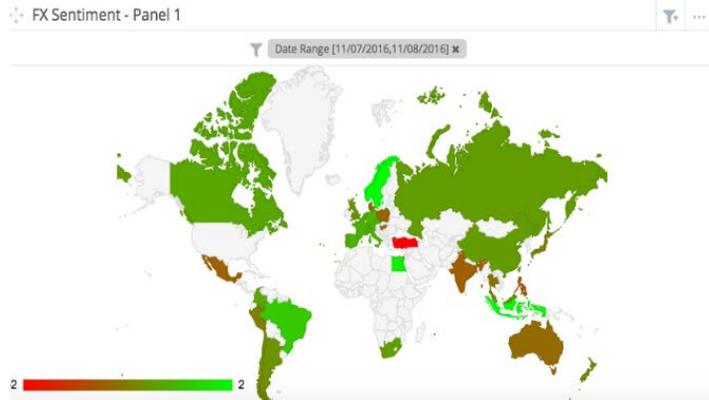Country Equity Sentiment - Panel 2
Date Range [06/23/2016,06/24/2016] ✕

US Presidential Election (Nov 8, 2016)
1-day abnormal FX sentiment

- The extent of the results became clear only after midnight ET. Therefore, media on 11/8/2016 does not reflects the surprising results whereas media coverage on 11/9/2016 reflect the full extent of the results

- While world sentiment turned negative overall, a few countries displayed positive sentiment, notably, Russia and Turkey

FX Sentiment - Panel 1

Date Range [11/07/2016,11/08/2016] ✕

FX Sentiment - Panel 2

Date Range [11/08/2016,11/09/2016] ✕

French Presidential Election (April 23, 2017)
1-day abnormal country equity sentiment

- The results of the first round indicated strong performance of Emmanuel Macron, the center-leaning candidate, alleviating concerns of anti-European pressures

- Other than a few exceptions (e.g., Portugal, Poland), country equity sentiment reacted positively

Tests using Portfolio Returns

- First examine the relative autocorrelation in the different markets

- Form 10-day-ladder portfolios based on past weekly returns

- Then, add past weekly media sentiment

- Sample: March 2013 – April 2017

FX Developed / Country Equity

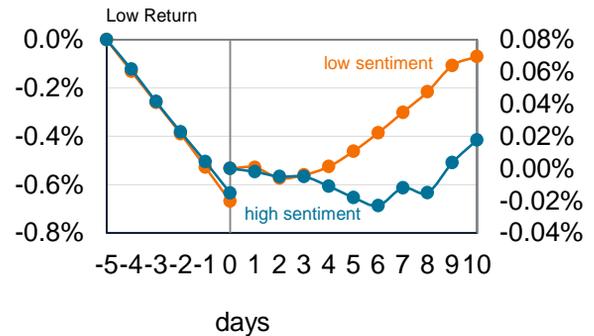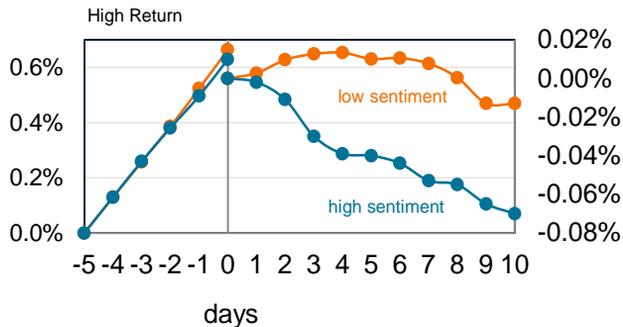10-day-ladder portfolios sorted by past weekly return and sentiment

	Returns	FX Developed[1]		Country Equity[2]	
		Low Return	High Return	Low Return	High Return
Media	Low Sentiment	**+2.09% [2.07]**	-1.38% [-1.56]	**+3.08% [2.33]**	-0.28% [-0.22]
	High Sentiment	+0.84% [0.94]	**-1.55% [-1.75]**	+0.16% [0.14]	**-2.95% [-2.56]**
	Reversal	-2.93% [-1.79]		-3.21% [-1.90]	
	Add Sentiment	**-3.64% [-2.06]**		**-6.03% [-2.71]**	

[1] Sentiment measured from FX media; [2] Sentiment measured from FX and country equity media
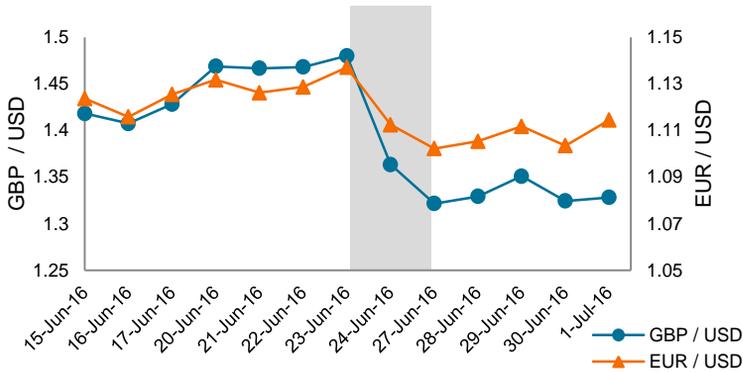
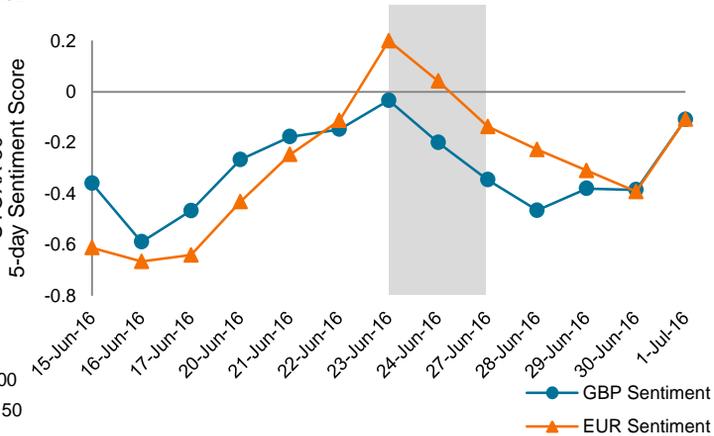# Portfolios in event time: FX - Developed
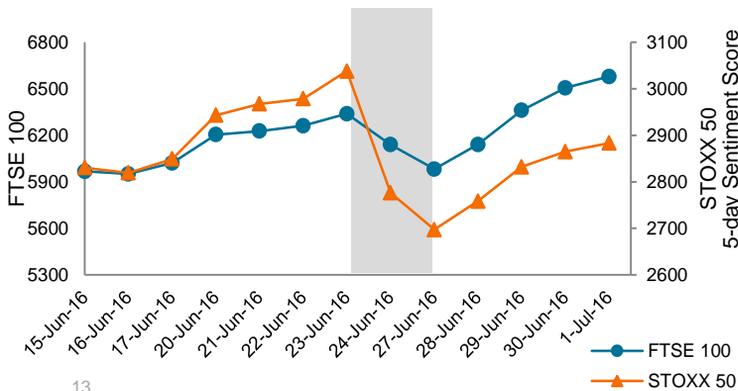
Reinforcement effect

- High return and high sentiment leads to low return

- Low return and low sentiment leads to high return

Let's look at Brexit again

- Look at past weekly sentiment
- Reinforcement effect apparent

Individual Stocks

10-day-ladder portfolios

	Individual Stocks	
Returns	Low Return	High Return
Low Sentiment	**2.43%** **[2.27]**	-1.32% [-1.40]
High Sentiment	1.43% [1.39]	**-2.55%** **[-2.38]**
Reversal	-2.51% [-1.38]	
Add Sentiment	**-5.00%** **[-2.38]**	

(Row label "Media" spans Low Sentiment, High Sentiment, Reversal, Add Sentiment.)

• Results are therefore robust to large-cap stocks

Additional Analysis

- Calculation of risk-adjusted returns (per asset class)

- Cross-sectional regressions using quartile dummies

- Different types of media

  ➢ Strong in local media

- Effect is stronger for large caps, highly covered by the media

- Delayed overreaction in emerging FX and commodities

Summary and Conclusion

- Media is a fruitful avenue for research

- Reinforcement effect in financial markets

- Robust results