

WHITE PAPER

The Distinctive Character of Policy-Driven Stock Market Jumps

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Abstract

When the stock market moves in a big way, journalists try to explain why. This column uses next-day newspaper accounts to characterize the drivers of more than 6,000 big daily moves (“jumps”) across 16 national stock markets. Policy-driven jumps account for a greater share of upward than downward jumps in all countries. Jumps attributed to monetary policy foreshadow much lower levels of future stock market volatility than other jumps. In another striking pattern, U.S.-related news drives one-third of national stock market jumps in *other* countries.

Researchers and financial market participants have long debated the origins of large stock market moves. This goes back at least to Keynes (1936), who argued that stock prices reflect investor expectations about the views of other investors rather than fundamentals. Later works by Niederhoffer (1971) and Cutler, Poterba and Summers (1989) find that many large stock market moves seem untethered to news about fundamental developments. More recently, Von Beschwitz et al. (2015) show that journalistic sentiment matters for stock market behavior above and beyond the information about fundamentals contained in news stories. The many studies that focus on the role of government policy in driving stock market movements include Bloom (2008), Kelly, Pastor and Veronesi (2014), Breinlich et al. (2018), and Baker et al. (2019, 2020).

Coding the Causes of Stock Market Jumps

In Baker, Bloom, Davis and Sammon (2021), we examine the proximate drivers of large daily stock market moves, greatly expanding the scale and scope of earlier work. We consider all daily U.S. market moves of 2.5% or more, up or down, since 1900, yielding nearly 1,200 “jumps.” We then systematically review next-day articles about each jump in the Wall Street Journal, New York Times, Los Angeles Times and other major newspapers to characterize each jump. Taking a similar approach, we examine more than 5,000 jumps in national stock markets for 15 other countries and several hundred jumps in U.S. and U.K. bond markets.

We use human readers to identify the primary reason for each jump, according to the next-day newspaper article, and to classify that reason into one of 17 categories. Our readers also record the geographic origin of the market-moving news, which could be a country, multiple countries, or region of the world. The readers receive training and pass a test before coding

newspaper articles. We meet with them frequently and supply a 150-page coding guide to serve as a reference manual.

For journalists observing the market in real time, attribution to a clear causal trigger is easy for some jumps and hard for others. To illustrate this point, Figure 1 plots intraday market values at 1-minute increments on four days with large jumps in the U.S. market. The top two panels depict sharp intraday moves that immediately follow the arrival of important economic news: a surprise interest rate cut by the Fed in the top left panel, and a bad BLS employment situation report in the top right. The two lower panels show days that feature large jumps for no apparent reason, a lack of clarity that is reflected in next-day news accounts.

[Figure 1 about here]

Figure 2 reports the resulting distribution of U.S. stock market jumps over our 17 policy and non-policy categories. Policy categories pertain to factors controlled by the government – e.g., tax policy, monetary policy, regulation, and national security actions. Non-policy categories include corporate earnings and macroeconomic news and outlook, which is the most prevalent category of jumps for the United States and other countries.

[Figure 2 about here]

As the U.S. economy developed, the distribution of jumps over categories shifted. For example, the share of jumps attributed to news about commodities is much larger from 1900 to 1945 than from 1946 to 2020, which reflects a transition away from an agriculturally oriented economy. The share of jumps attributed to monetary policy and central banking is greater in the postwar period, probably because the Federal Reserve has taken a more active role in stabilizing economic fluctuations. The share of jumps attributed to macroeconomic news also rose over time. We think this pattern reflects improvements in the accuracy, depth, and timeliness of economic statistics. See Baker et al. (2021) for a discussion of these developments. There are also major differences in the jump-by-reason distribution across asset classes. Macroeconomic news and monetary policy account for a much larger share of jumps in bond markets than in equity markets.

It's natural to ask whether newspaper articles capture what "really" happened. Perhaps journalists simply pick a salient piece of news and rationalize its supposed impact (Danielsson, 2018). While there is no authoritative source on what truly caused each market jump, we perform several exercises that confirm the information value of our newspaper-based

classifications. In one set of exercises, we relate our jump classifications to information-release events with known timing and content. We find that jumps are more likely to be classified as macroeconomic news on release dates for employment and inflation reports, more likely to be classified as monetary policy on FOMC announcement dates, and more likely to be classified as elections on the day after national elections.

The Distinctive Character of Policy-Driven Jumps

Our examination of stock market jumps uncovers several striking patterns. For instance, policy news – mainly associated with monetary policy and government spending – triggers a greater share of upward than downward jumps in all 16 countries that we cover. Figure 3 illustrates this result for the United States. From 1946 to 2020, the fraction of upward jumps triggered by policy-related news is twice the fraction of downward jumps triggered by policy news. The figure also highlights a related pattern: The larger the upward jump, the greater the likelihood that policy news drove it. This pattern is stronger in recent decades, as seen by comparing the left and right panels of Figure 3.

[Figure 3 here]

One potential explanation for these patterns is that expansionary monetary and fiscal policy actions are more likely in the wake of bad economic news or poor macroeconomic performance. Our evidence supports this hypothesis. In particular, the share of upward jumps attributed to policy news rises as stock market performance worsens over the preceding three months. And, the share of downward jumps attributed to policy falls as recent stock market performance worsens. This pattern of countercyclicity in jump-inducing policy surprises is much stronger after World War II than before.

Jumps triggered by monetary policy are also highly distinctive in another respect. Specifically, they foreshadow lower levels of future stock market volatility than other jumps. This effect is large: Volatility in the two weeks after a monetary policy jump is nearly one standard deviation lower than after other jumps, even conditional on a battery of controls for jump size, jump direction, and past volatility. One interpretation is that market-moving news about monetary policy tends to resolve uncertainty. For example, the outcome of an FOMC meeting may resolve uncertainty about whether the Fed will ease or tighten monetary policy. In

contrast, it appears that most other jump-inducing news developments accentuate uncertainty and near-term volatility.

The Extraordinary Role of U.S. News in Equity Markets around the World

The U.S. Dollar and Fed monetary policy play an exceptional role in the international monetary and financial system. See, for example, Frankel (2013), Obstfeld (2015), Boz et al. (2017), Maggiori et al. (2019), and Gopinath and Stein (2021). We show that news about U.S.-related economic and policy developments also plays an extraordinary role in stock market jumps around the world.

To make this point, Figure 4 considers stock market jumps for ten countries outside Europe and the United States. The figure plots the yearly share of jumps that next-day newspaper accounts attribute at least partly to developments that originate in or relate to the United States. Remarkably, leading newspapers in these third-party countries attribute one-third of the jumps in their own national stock markets to U.S.-related developments. The same result holds if we expand the sample to include European countries.

[Figure 4 here]

News relating to Europe (including the European Central Bank and other pan-European institutions) plays a far more modest role as a driver of stock market jumps in third-party countries, even though Europe accounts for a greater share of global output. Since 1980, newspaper accounts attributed only 5.5 percent of stock market jumps in our third-party countries to Europe-related developments. In this respect, our results reinforce and deepen the results in Ehrmann et al. (2011), who find that spillovers from U.S. bond, equity and money markets to European financial markets are much larger than the other way around.

Concluding Remarks

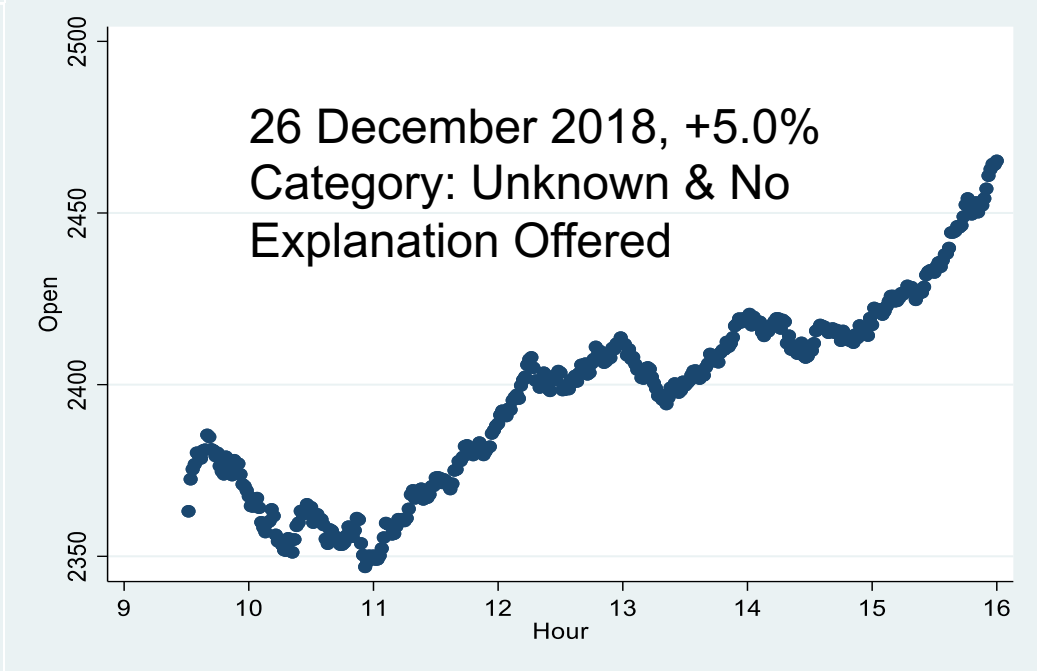
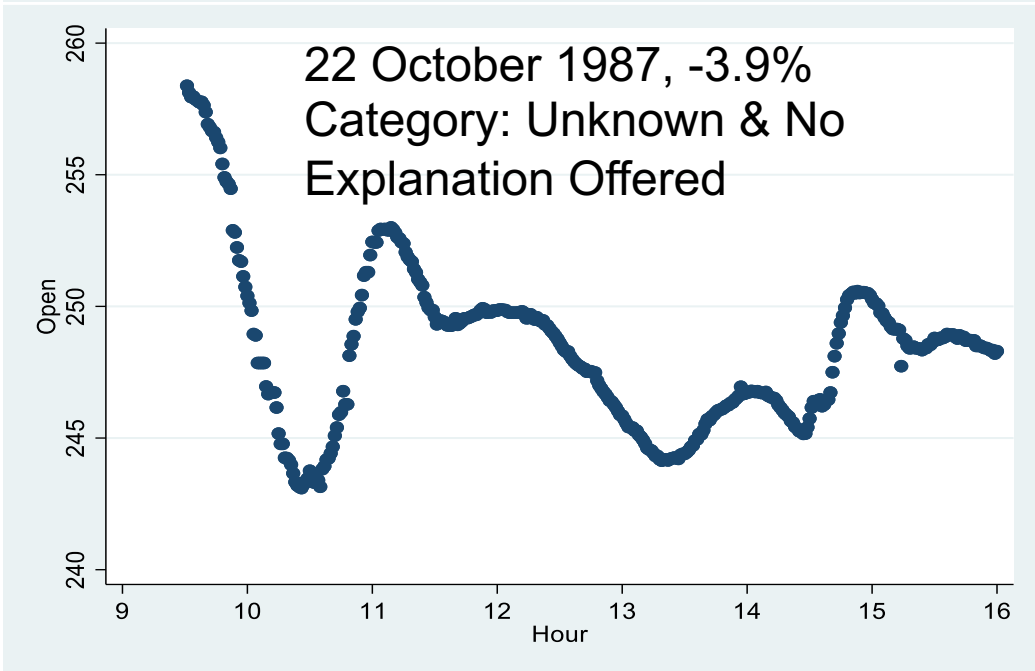
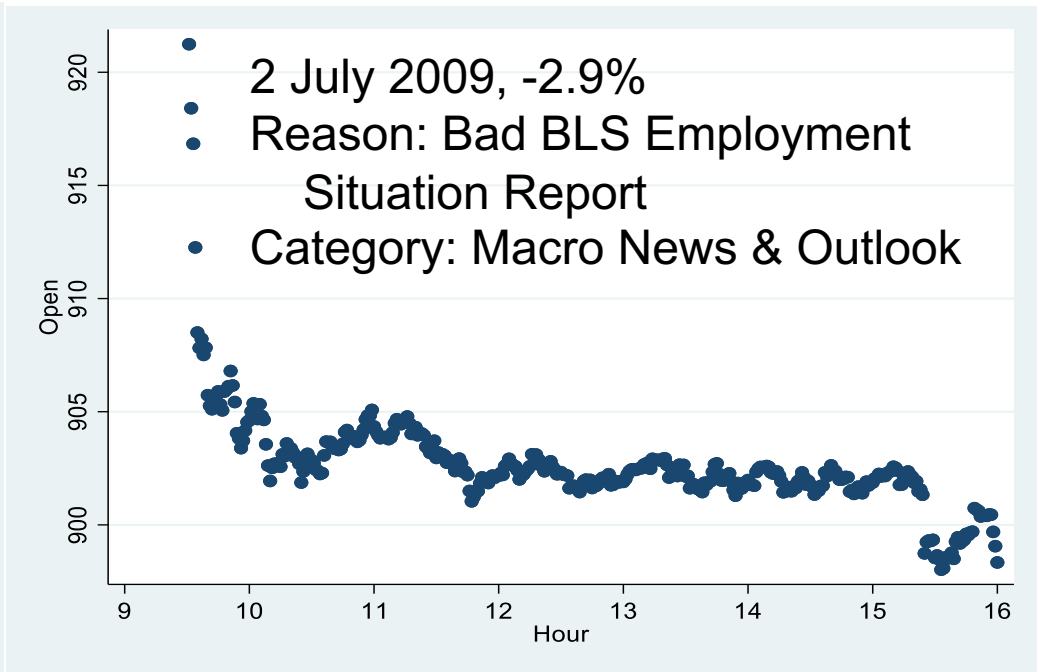
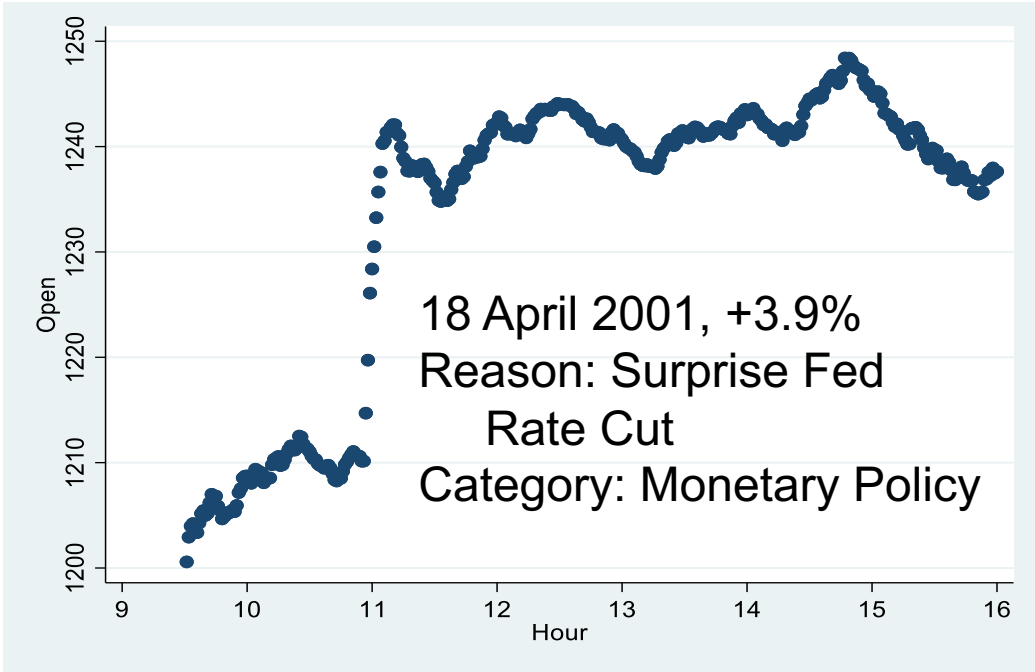
We extract information about the drivers of large daily jumps in national stock markets, as reported in next-day newspaper accounts. While our jump days make up only 3.5% of all trading days, they account for nearly half of squared daily return variation. We find that policy-driven jumps exhibit striking and distinctive patterns. For instance, policy news triggers a greater share of upward than downward jumps in all countries that we cover. Jumps attributed to monetary policy foreshadow much lower levels of future stock market volatility than other jumps. We also find that leading newspapers attribute one-third of jumps in their own national

stock markets to developments that originate in or relate to the United States. The U.S. role in this regard dwarfs that of Europe and China.

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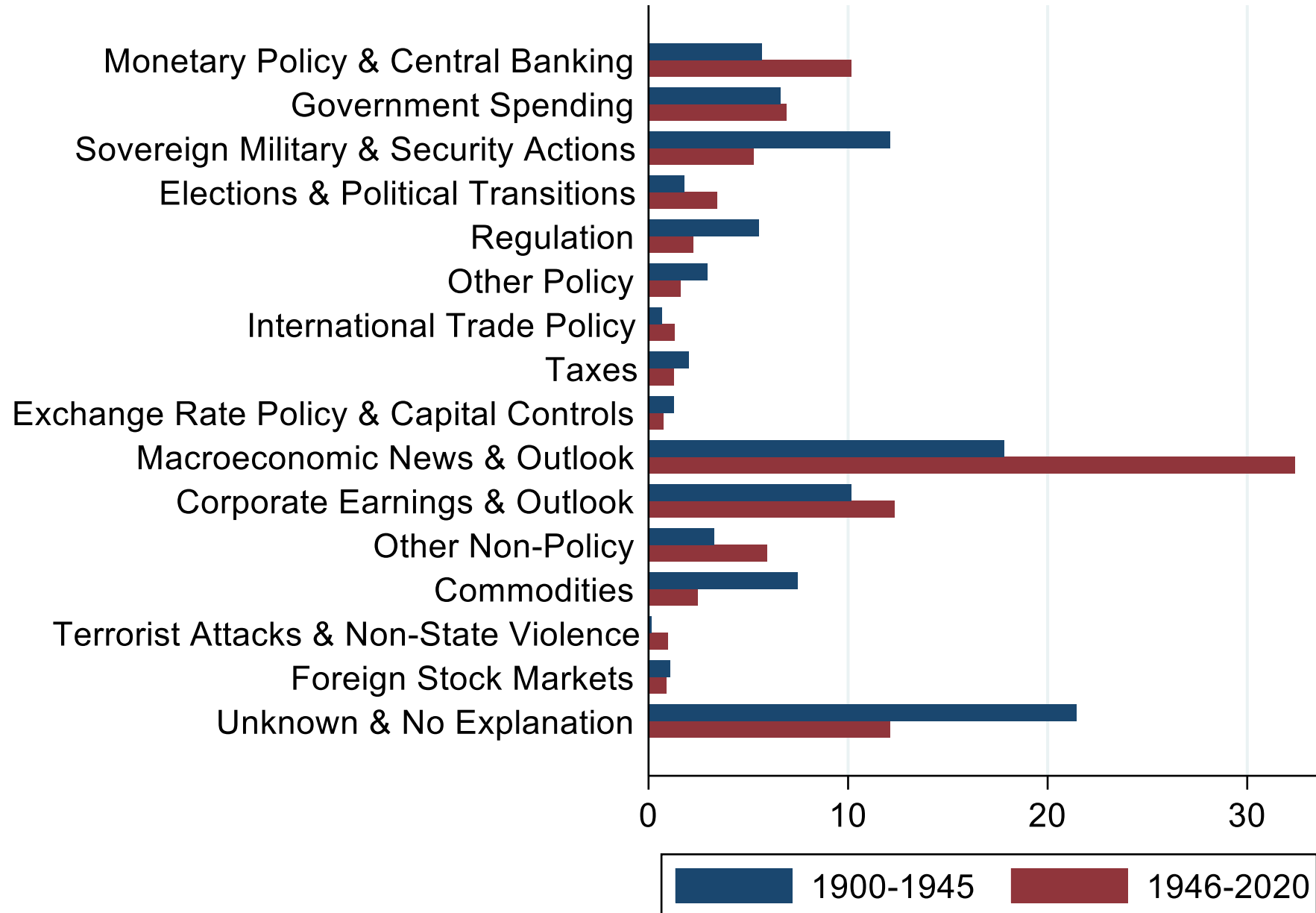
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Figure 1: Intra-Day Moves Often, But Not Always, Point to the Jump Reason



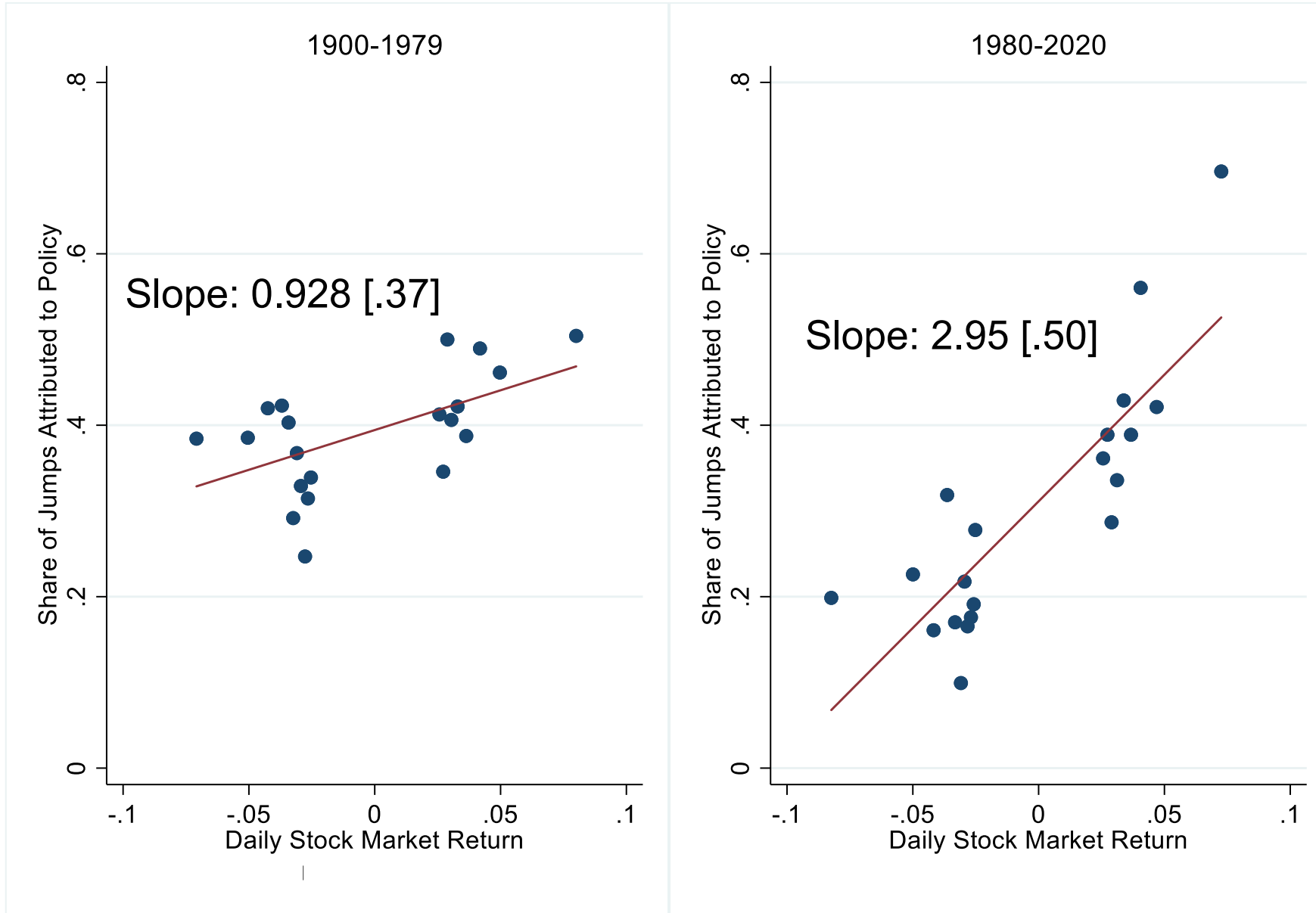
Notes: Each panel plots the S&P 500 index at 1-minute intervals from market open to close on the indicated date. The top two panels also report the specific event that, according to newspaper accounts, triggered the jump.

Figure 2: Distribution of Jump Reasons by Era and Category



Notes: x-axis units are the percent of jumps attributed to that category in the indicated period. We order categories as follows: Policy categories by descending values of 1946-2020 share; non-policy categories, ordered the same way; and, lastly, Unknown & No Explanation Offered. This figure uses next-day articles in the Wall Street Journal.

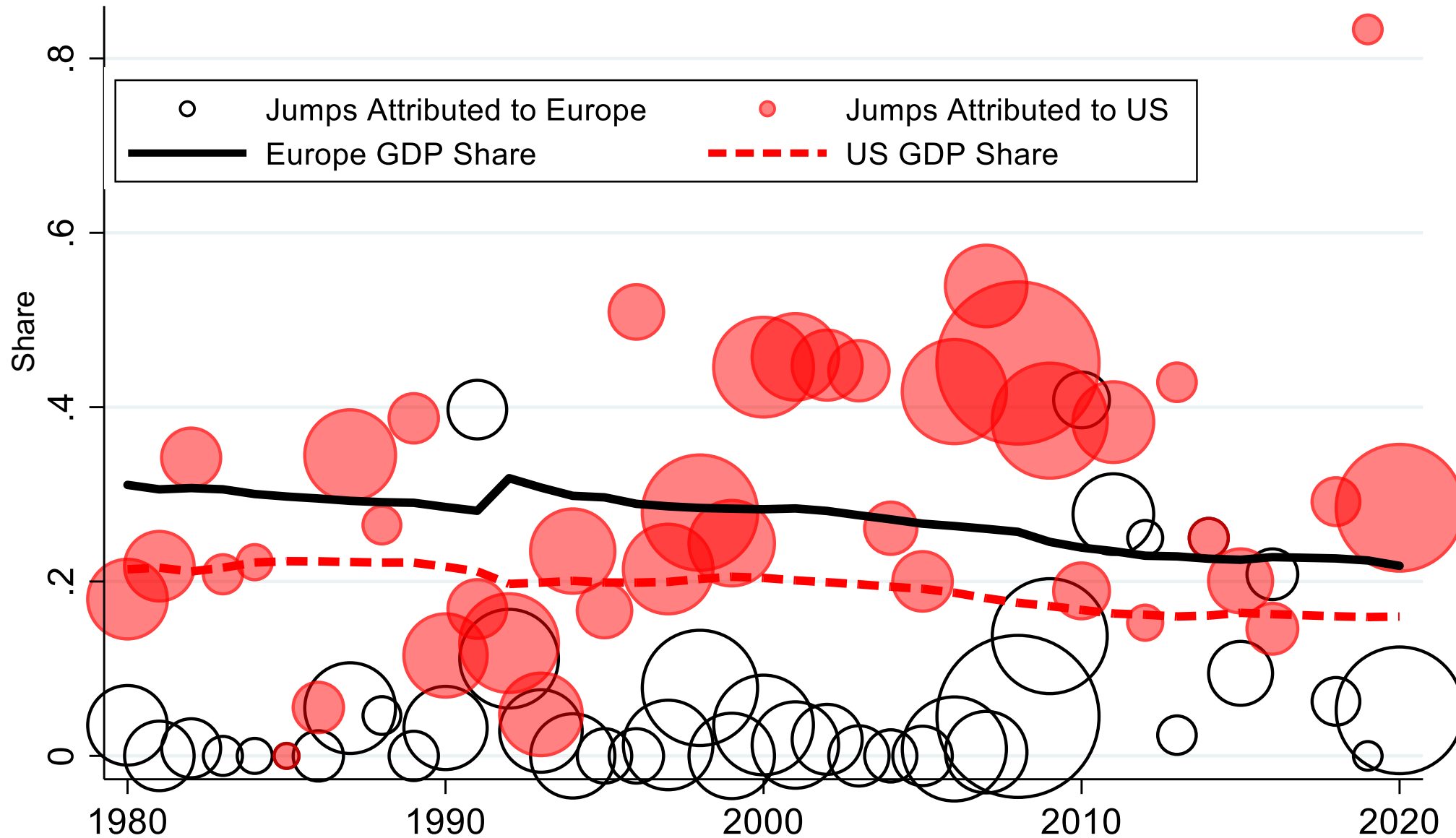
Figure 3: Policy News Triggers A Larger Share of Upward Jumps, Especially Since 1980



Notes: Each plot is a binscatter (n=20) of jump-level policy scores against jump-day stock returns, where the policy score is the fraction of the codings for that jump attributed to policy-related news.

Difference in slopes: 2.03, t-Stat: 3.13.

Figure 4: US News Triggers a Strikingly Large Share of Stock Market Jumps in Other Countries



Notes: This figure shows the yearly share of daily stock market jumps in Australia, Canada, China (HK), China (Shanghai), Japan, New Zealand, Saudi Arabia, Singapore, South Africa, and South Korea that leading own-country newspapers attribute to news about the United States and Europe. Dot size is proportional to the average number of jumps per country in that year.