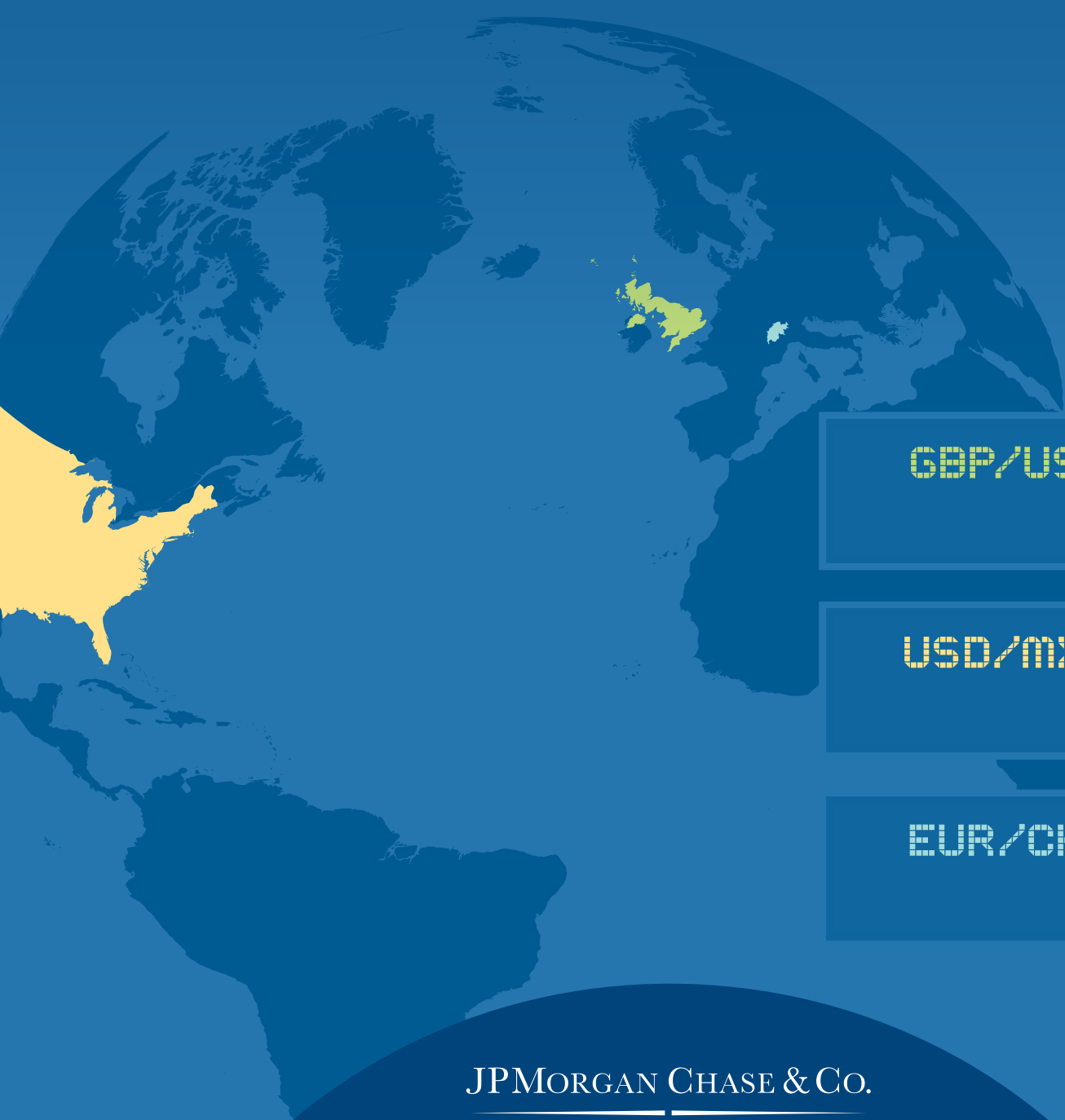


Executive Summary

FX Markets Move on Surprise News

Institutional Investor Trading Behavior around Brexit, the US Election, and the Swiss Franc Floor



GBP/USD

1.324

USD/MXN

19.620

EUR/CHF

1.053

About the Institute

The global economy has never been more complex, more interconnected, or faster moving. Yet economists, businesses, nonprofit leaders, and policymakers have lacked access to real-time data and the analytic tools to provide a comprehensive perspective. The results—made painfully clear by the Global Financial Crisis and its aftermath—have been unrealized potential, inequitable growth, and preventable market failures.

The JPMorgan Chase Institute is harnessing the scale and scope of one of the world's leading firms to explain the global economy as it truly exists. Its mission is to help decision-makers—policymakers, businesses, and nonprofit leaders—appreciate the scale, granularity, diversity, and interconnectedness of the global economic system and use better facts, timely data, and thoughtful analysis to make smarter decisions to advance global prosperity. Drawing on JPMorgan Chase's unique proprietary data, expertise, and market access, the Institute develops analyses and insights on the inner workings of the global economy, frames critical problems, and convenes stakeholders and leading thinkers.

The JPMorgan Chase Institute is a global think tank dedicated to delivering data-rich analyses and expert insights for the public good.

Acknowledgments

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Contact

For more information about the JPMorgan Chase Institute or this report, please see our website www.jpmorganchaseinstitute.com or e-mail institute@jpmchase.com.

Executive Summary

In this inaugural JPMorgan Chase Institute report on financial markets, we examined three recent events that had major impacts on foreign exchange (FX) markets:

1. **The decision by the Swiss National Bank (SNB) to remove their floor on the Swiss Franc vs. Euro exchange rate (EUR/CHF):** on January 15, 2015, at 9:30 a.m. GMT, the SNB abandoned its floor on the EUR/CHF exchange rate via a surprise press release. The announcement shocked the FX market—EUR/CHF dropped 12.3 percent over the next few hours.
2. **The Brexit referendum:** on June 23, 2016, the United Kingdom (UK) held a referendum on whether the UK should remain a member of the European Union (EU). The “Leave” win led to an 11 percent drop in GBP/USD overnight.
3. **The 2016 US Presidential Election:** On November 8, 2016, the United States (US) held its Presidential Election. The unexpected Trump victory led to an 8.3 percent rise in USD/MXN overnight.

All three events shared one important quality—they had unexpected outcomes that led to the largest one-day moves in these three exchange rates in the last 20 years—that made them ideal candidates for research aimed at building a better understanding of institutional investor trading behavior. With this research objective in mind, we examined institutional investor trades in FX markets in the days and hours leading up to, during, and after each event. We analyzed total **trading volumes** (a measure of trading activity) and **net flows** (a measure of risk transferred) across all institutional investors in our sample, and then examined net flows at the investor sector and region level. Finally, we looked at transactions within each investor type to observe within-sector variation in trading behavior.

Data

We constructed a unique, de-identified trade-level data asset that includes all available institutional investor transactions where the Markets Division of J.P. Morgan’s Corporate & Investment Bank acted as the market maker. This data asset allows for a highly detailed look at the behavior of institutional investors across all regions and in all asset classes, as our data are more granular, timely, and comprehensive than publicly available data. For this report we narrowed our focus to a sample of FX transactions that took place around three specific events.

TRANSACTION DATA



395 MILLION
TRADES



44,000
INSTITUTIONAL INVESTORS

The data asset covers:

- All types of institutional investors
- All regions globally
- All asset classes: foreign exchange, equities, fixed income, and commodities
- Electronic and voice trades
- The post-financial crisis period (historical coverage varies by asset class)

SAMPLING CRITERIA

- Spot or forward FX trades
- Relevant currency (SNB—CHF, Brexit—GBP, US Election—MXN) against any currency
- In a 24- (SNB) or 48- (Brexit & Election) hour period around each event
- Not cancelled
- Eliminated trades with: missing trade date/execution time, zero/missing buy or sell amount, missing investor sector, or outlier exchange rates

CHF

SNB 18,000 TRADES • 500 INSTITUTIONAL INVESTORS

GBP

Brexit 99,000 TRADES • 1,500 INSTITUTIONAL INVESTORS

MXN

US Election 4,000 TRADES • 500 INSTITUTIONAL INVESTORS

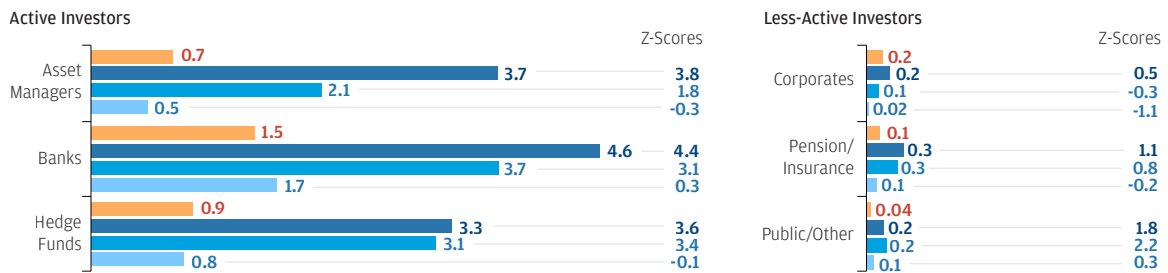
Finding One

FX trading volumes for hedge funds, asset managers, and banks spiked during the three events. In contrast, volumes for the corporate, pension/insurance, and public/other investor sectors barely increased.

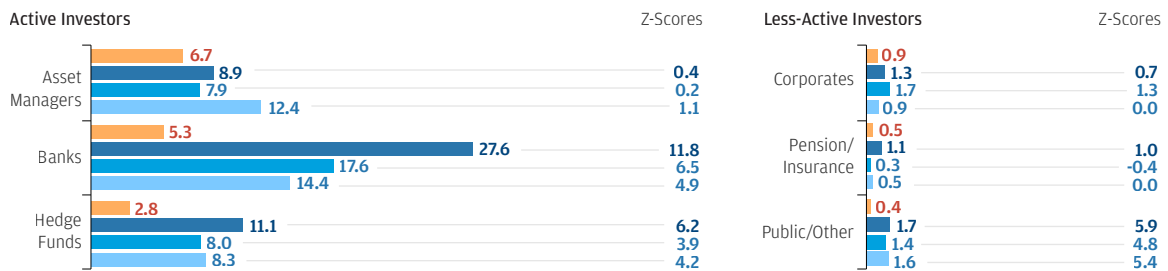
While overall FX trading volumes spiked, not all investor sectors increased their trading activity relative to their average daily volume. Trading volumes from hedge funds, asset managers, and banks (the active investor sectors) were particularly elevated on the event day itself. In contrast, corporate, pension/insurance, and public/other investors (the less-active investor sectors) showed little change in trading volumes on the three event days relative to their average daily volumes, despite the largest one-day moves in the relevant currencies in 20 years.

Trading Volume by Event and Investor Sector

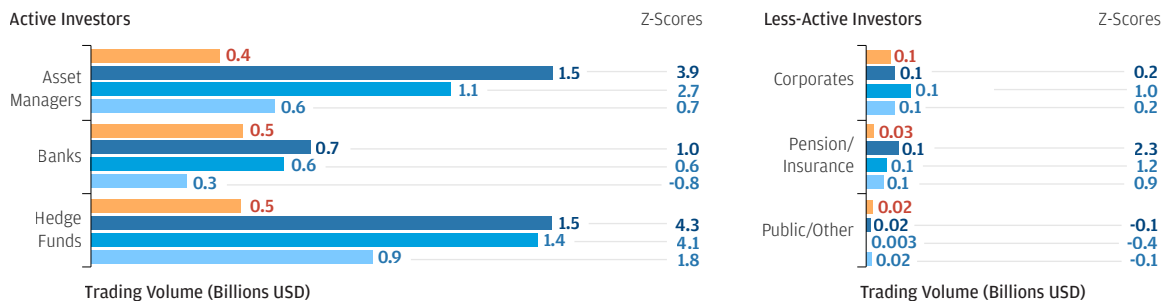
SNB



Brexit



US Election



● Average Daily Volume ● Event Day Volume ● Event Day +1 Volume ● Event Day +2 Volume

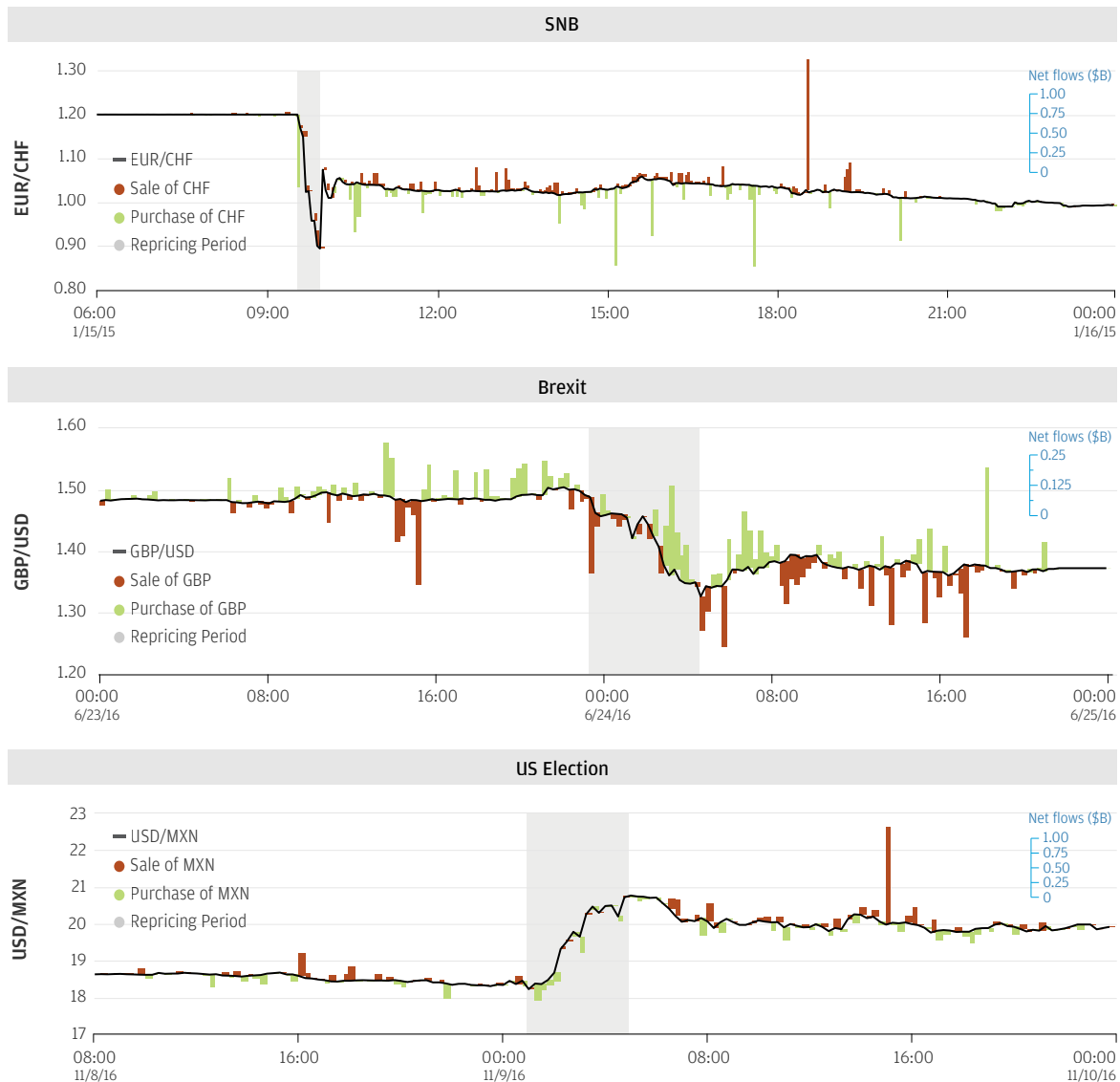
Source: JPMorgan Chase Institute

**Finding
Two**

Institutional investors traded significant amounts of FX risk during the events, but their net flows alone cannot explain the sharp exchange rate movements during the repricing periods.

Our data show that net flows, or risk transferred, by institutional investors during each event was large. However, net flows coincident with the sharp moves in exchange rates were no larger than net flows that took place after exchange rates stabilized, indicating that the exchange rate moves just after the news broke were much larger than net flows alone would dictate. Market liquidity for the three currencies we examined was likely lower immediately after the news broke, and this may partially account for the disproportionate impact of net flows during the repricing periods.

Exchange Rates and Scaled Net Flows (Billions USD) During Each Event Day



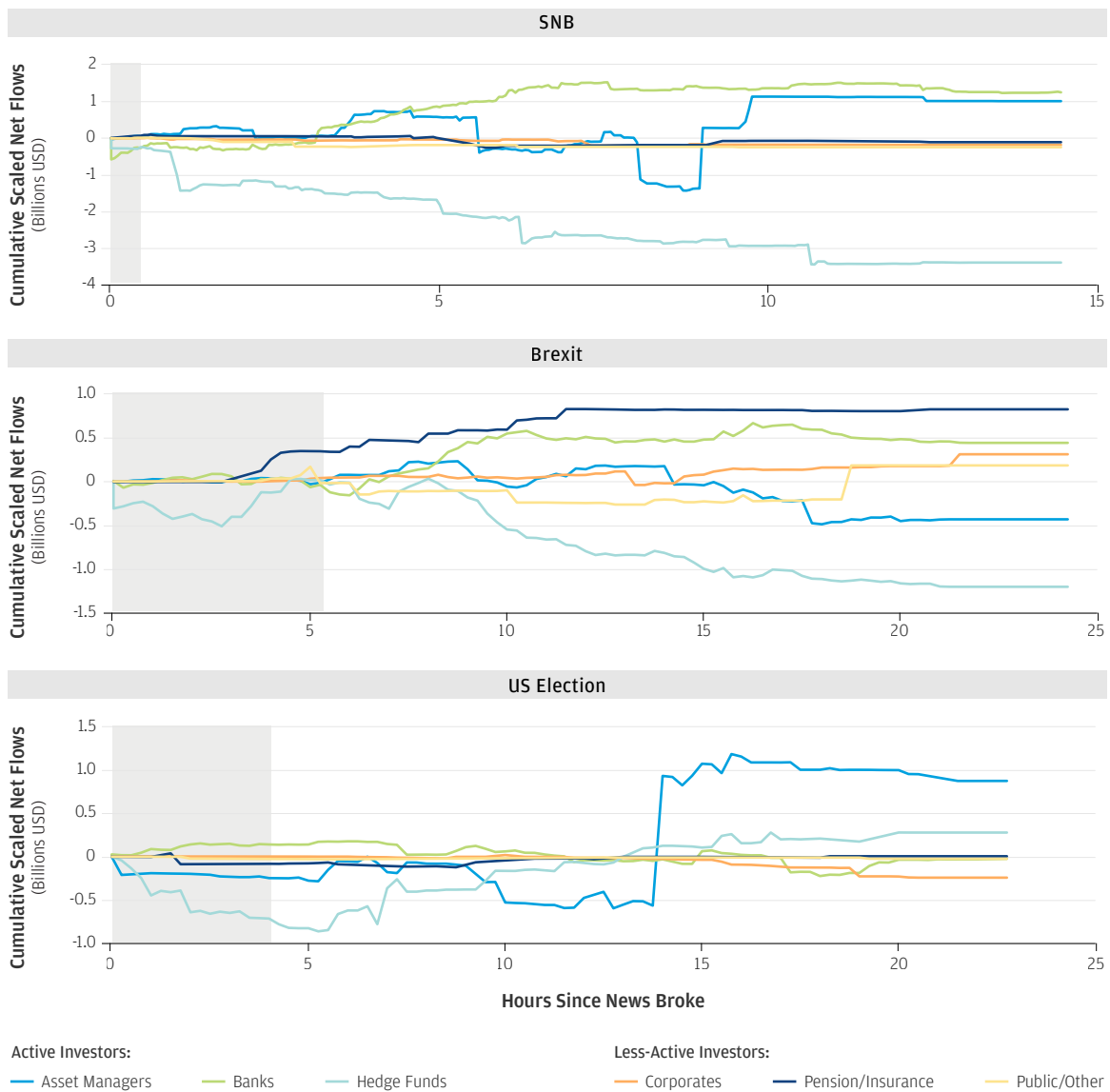
Source: JPMorgan Chase Institute; Thomson Reuters

**Finding
Three**

Only hedge funds consistently transferred risk immediately after news broke and as currencies repriced sharply. Other investors transferred risk but only after exchange rates stabilized.

Hedge funds traded immediately after news broke and exchange rates began to reprice, transferring large amounts of risk during periods of high exchange rate volatility during all three events. In doing so, hedge funds participated in the establishment of the post-news equilibrium market price. Other investor sectors transferred risk only after market prices had stabilized. These results imply that market makers established a new equilibrium exchange rate without the benefit of net flow information from all the investor sectors and regions.

Cumulative Net Flows During the Repricing and Stabilization Periods, by Event and Investor Sector



Note: Shading denotes the repricing period.

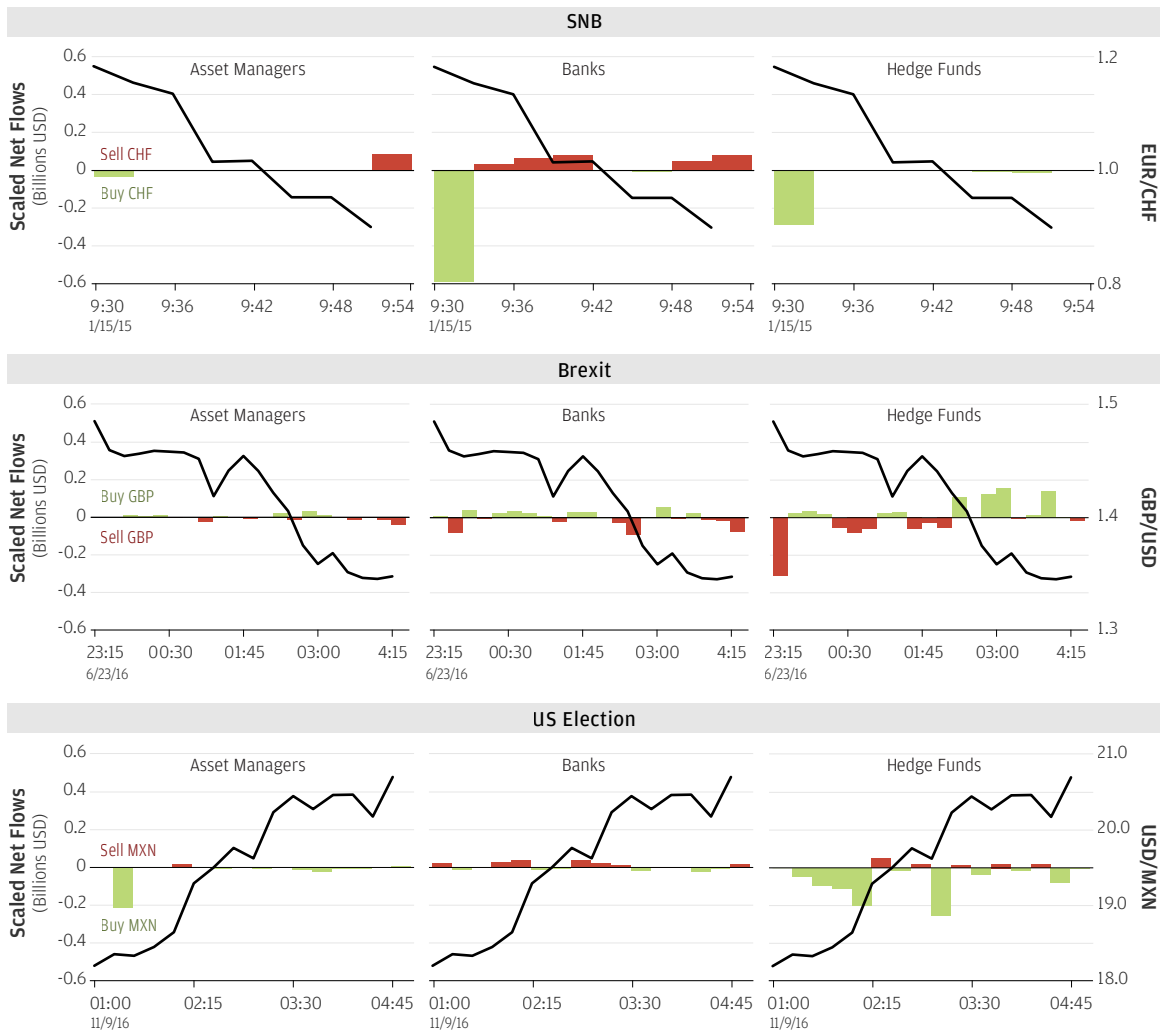
Source: JPMorgan Chase Institute

**Finding
Four**

The active investor sectors played different roles in each event: During the SNB event, they all bought CHF, trading in the direction of the prevailing move in exchange rates; during the Brexit event their net flows were mixed; and during the US Election event they bought MXN, trading against the prevailing move in exchange rates.

Hedge funds, asset managers, and banks bought CHF as it appreciated sharply in the minutes after the minimum exchange rate policy was removed, leaving market makers as the only market participants selling CHF during this critical period. In contrast, the active investor sectors had a mixed reaction after Brexit, as their net flows reflected both buying and selling of GBP. During the US Election event, these three investor sectors were buying MXN as it depreciated, trading against the prevailing direction of the exchange rate. It is likely that the active investor sectors were all buying CHF after the SNB event because the surprise announcement did not allow them to prepare. While the outcomes were unexpected, the timing of the Brexit referendum and the US Election were well known, giving investors the opportunity to transact ahead of the events and prepare for all possible outcomes.

Net Flows Every 3 or 15 Minutes During the Repricing Period by Event and Investor Sector



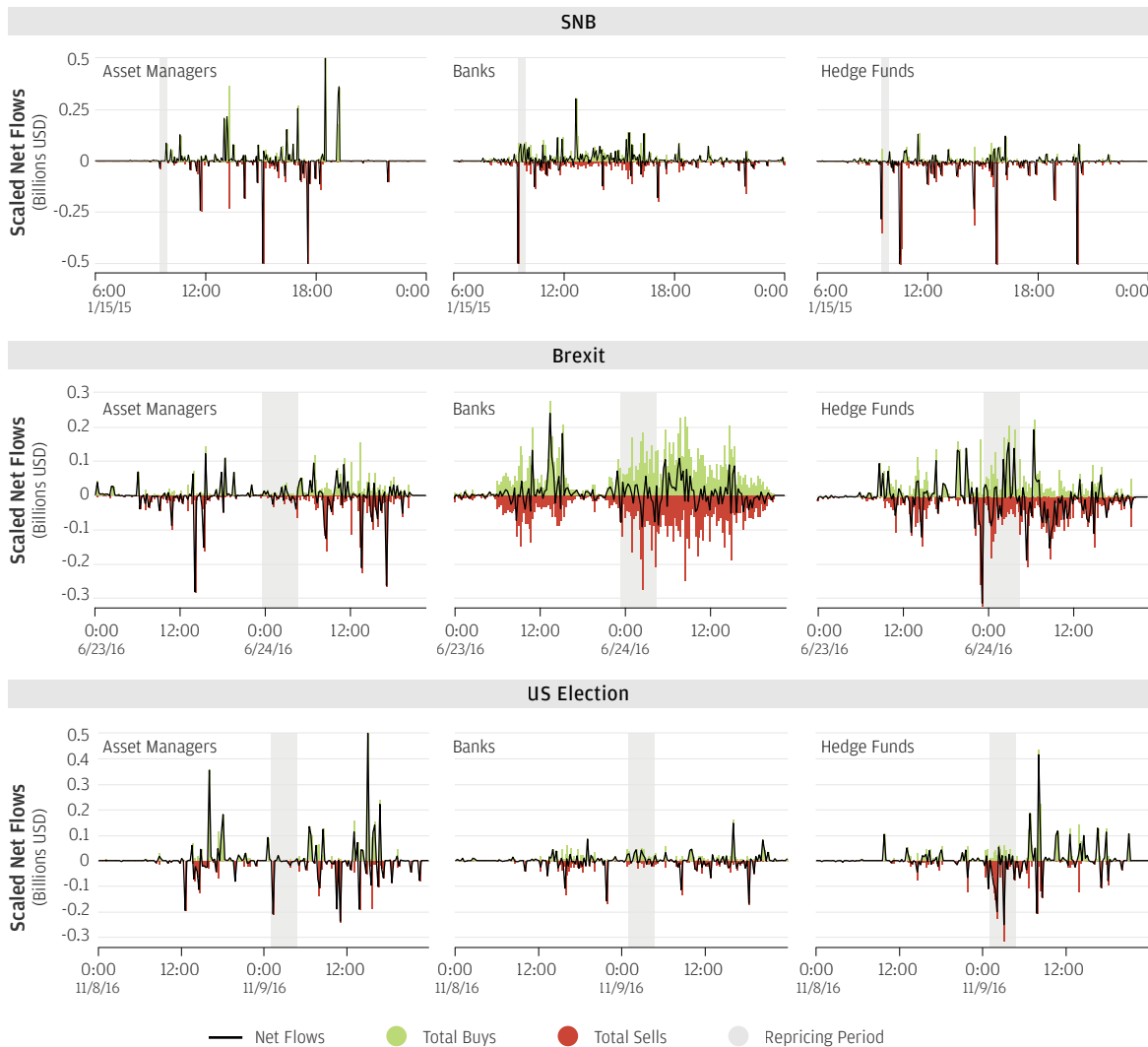
Source: JPMorgan Chase Institute; Thomson Reuters

Finding Five

Within each investor sector, there was considerable variation in trading behavior during each event.

Regardless of the magnitude of the net flows at the sector level in a given time interval, there was actually a significant amount of risk being transferred in both directions by investors within that sector. This within-sector variation refutes the commonly held perception that all investors in a particular sector transacted in the same direction at the same time during these three events.

Total Buys and Total Sells at the Investor Level During the Pre-Event, Repricing, and Stabilization Periods by Event and Investor Sector



Note: Net flows, total buys, and total sells have been censored at 0.5 billion USD to better illustrate within-sector variation. The direction of the bars in these graphs are consistent with the other graphs in this report and the exchange rates that we show. This means that for Brexit, "Buys" refers to buys of GBP and "Sells" refers to sells of GBP, but for SNB and the US Election, "Buys" refers to buys of any other currency against CHF and MXN, respectively, and "Sells" refers to sells of any other currency (or buys of CHF and MXN, respectively).

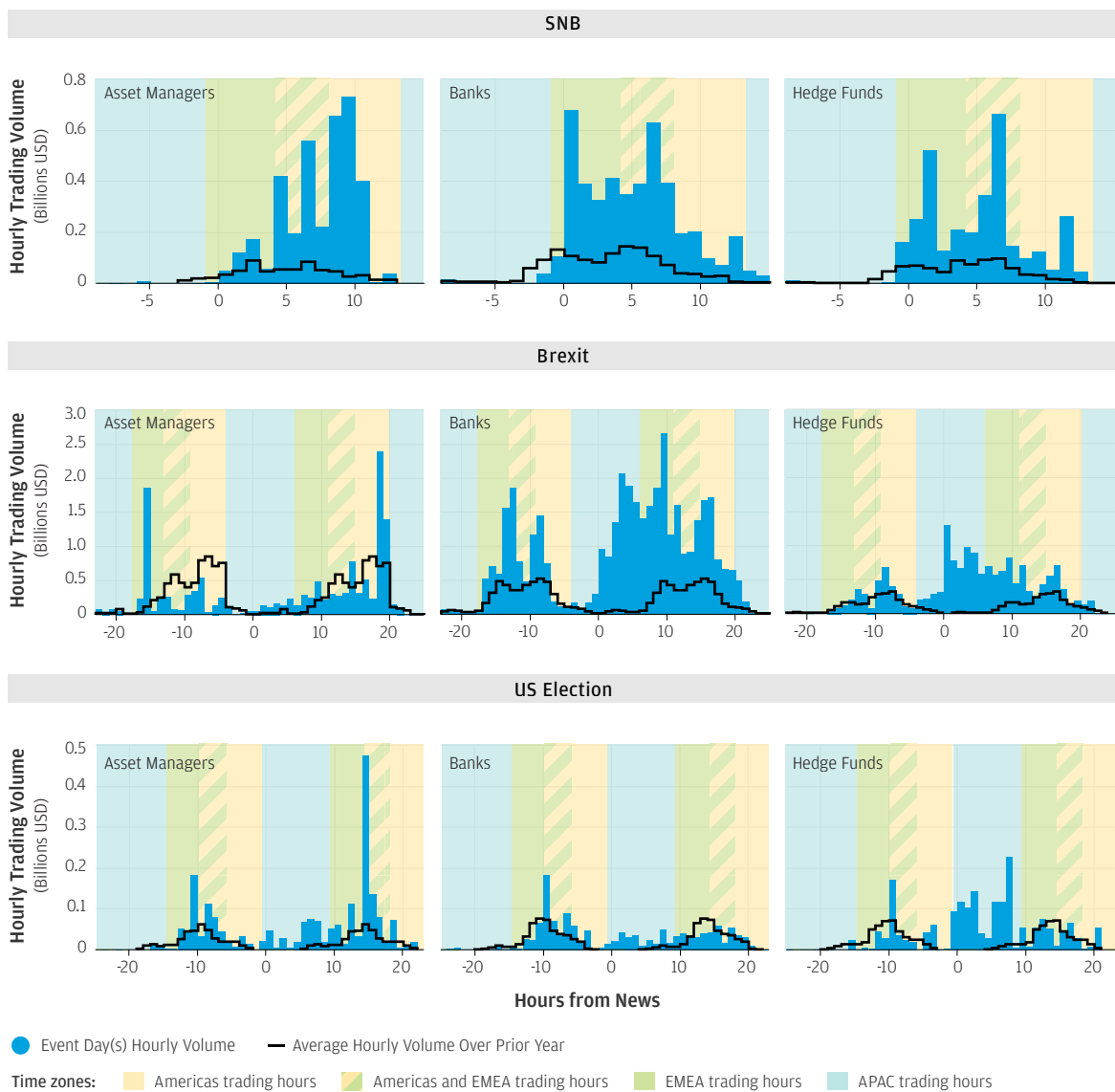
Source: JPMorgan Chase Institute

Finding Six

Banks and hedge funds traded higher volumes outside of their normal business hours and outside of a currency’s local market; other investor sectors did not.

Bank and hedge fund trading volumes spiked compared to average volumes during the overnight hours for both GBP and MXN, a marked change in trading behavior. These two investor sectors were also the most willing to trade outside of their normal business hours. Asset manager trading volumes only spiked during US trading hours, 10 to 20 hours after the news broke for both the Brexit referendum and the US Election.

Hourly Volume During Each Event vs. Average Hourly Volume for the Year Prior, by Event and Investor Sector



Source: JPMorgan Chase Institute

Conclusion

In this report, we examined the trading behavior of institutional investors in the hours and days leading up to, during, and after three events that had major impacts on foreign exchange markets. Our results are informative along two dimensions: financial market stability and central bank communications.

Our analysis shows that the institutional investor reactions to major market events, as reflected in trading volumes and risk transferred, varied in pace and size across sectors. The slower risk transfer response of asset managers, corporates, pension/insurance companies, and public sector investors to the three news events that changed perceptions of the fundamental value of each currency suggests these four investor sectors did not participate in the price discovery process. Furthermore, these same four investor sectors did not transact against the prevailing move in exchange rates during the volatile repricing periods of these three events, contradicting the popularly held narrative that long-only investors with long-term investment horizons act as a stabilizing force during market dislocations.

Hedge funds and market makers played an especially significant role in the market ecosystem during these three events. Hedge funds transacted actively in FX markets just after each news event broke and during volatile conditions, participating in the establishment of a post-event market equilibrium. For all three events, market makers reconciled news about the fundamental value of the relevant currency with net flows, adjusted market liquidity, and established a post-event equilibrium exchange rate. When deliberating policies that limit the trading activity of market makers or hedge funds, policymakers can use our results regarding the differential roles institutional investors played in establishing a post-event market equilibrium exchange rate to weigh this factor against any other relevant considerations.

Company policies or regulations that limit the trading activity of institutional investors to their normal business hours or the local market of a currency may prevent these investors from accessing liquidity and mitigating their risk during market-moving events. Limitations to after-hours trading may also reduce market efficiency as markets might take longer to reach a new equilibrium price. With the appropriate safeguards, controls, and security in place, after-hours trading capabilities could be a useful addition for some institutional investors.

While a role for capital controls as a tool for enhancing financial stability in certain instances has gained popularity over the last 10 years, our results imply that strict controls on FX flows may act as a hindrance to market efficiency during times of instability and prevent domestic investors from accessing liquidity abroad.

Our results could be helpful to central banks as they pursue the appropriate balance between their increasing tendency toward transparency in communicating policy actions and other critical factors, such as maintaining their credibility. Enacting unexpected policy changes via a surprise announcement (like the SNB event) may not allow investors to adjust their risk in advance which in turn leads to directional net flows that could amplify price movements. When choosing the most appropriate method to communicate policy changes, policymakers can use these results to help weigh market expectations with respect to both the timing of announcements and the outcome in the context of other pertinent factors and their desired market impacts.

When deliberating unconventional policy measures that directly change the price of financial instruments, policymakers should carefully consider how they will unwind the policy. For example, policies such as the SNB's minimum exchange rate take pricing power away from the market and therefore can distort the incentives and, in turn, the behavior of market participants. To the extent that policymakers want to unwind such a policy and return pricing power to the market with minimal unintended market impacts, the behavior induced by the distorted incentives can become a complicating factor.

Suggested Citation

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