Pitcher's Name	Jake Sullivan	FoR category		**Date Completed**	
(A) Working Title	Volatility Informed Options Trading During U.S. Elections				
(B) Basic Research Question	What is the magnitude and market impact of volatility informed trading around key political events in the United States?				
(C) Key paper(s)	1. Ni, S. X., Pan, J., & Poteshman, A. M. (2008). Volatility Information Trading in the Option Market. *Journal of Finance*, 63(3), 1059-1091. 2. Kelly, B., Pástor, Ľ., & Veronesi, P. (2016). The Price of Political Uncertainty: Theory and Evidence from the Option Market. *Journal of Finance*, 71(5), 2417-2480. 3. Puhan, T. X. (2014). Volatility Information in Index Option Demand. University of Zurich (*Working Paper*).				
(D) Motivation/Puzzle	Financial markets and political processes are intertwined. Recent political shocks in the United States provide the impetus to examine the extent to which informed market participants trade in anticipation of politically generated volatility in the market. Although much research has examined informed trading in stock options based on directional information, few papers consider volatility informed options trading particularly during periods of key political events. An in-depth understanding of volatility informed options trading in close proximity to political events will increase the set of information from which forecasts of these events can be derived, and further elucidate the interrelationship between political events and market outcomes.				
THREE	**Three** core aspects of any empirical research project i.e. the "**ID**io**T**s" guide				
(E) Idea?	The central idea is that election cycles are comprised of many individual political events which, by increasing uncertainty, can generate increased volatility in stock returns (Pástor & Veronesi, 2012). As a result, these volatility-generating events provide an opportunity for volatility informed options trading. Therefore, by examining a measure of volatility informed options demand around political events, we can identify (i) to what extent market participants trade in anticipation of the volatility-generating event; (ii) the information content of this trading for future political shocks; and (iii) the pricing effects of this trading. Formally, I hypothesise the following: H1: Increased volatility informed demand precedes political events that are associated with increases in uncertainty H2: The magnitude of volatility informed demand preceding a political event will be positively related to the surprise component of the event H3: Political events increase volatility informed demand, increasing the bid-ask spread and reducing option market liquidity				
(F) Data?	The research setting is SPX options written on the S&P500. Data for realised volatility and S&P500 trading volume is obtained from Bloomberg, SPX trading volume is obtained from the CBOE and SPX prices are obtained from OptionMetrics. For each election cycle, I define political events to be national convention dates, Vice-Presidential nomination dates and Presidential election dates. Limited by data availability pertaining to stock options, the sample covers U.S. elections from 1996 to 2012. Dates of political events are obtained from the American Presidency Project (www.presidency.ucsb.edu) and the magnitude of election surprises is estimated along the lines of Snowberg (2007).				
(G) Tools?	Data analysis will be performed using standard multiple OLS with Newey-West robust standard errors. I regress the daily realized volatility of the S&P500 on a measure of volatility informed demand, this term interacted with an indicator variable for the date of the political event, and a vector of control variables: $$RV_t = \beta_0 + \beta_1 OMS^{\sigma}_{t-j} + \beta_2 OMS^{\sigma}_{t-j}.I_t + \beta'_{i,t-j}X_{t-j} + \eta_t$$ Where: Realised Volatility → $RV = 10{,}000.\frac{SNP_{High,t} - SNP_{Low,t}}{SNP_{Close,t}}$				

	Option Market Sidedness → $OMS_t^{\sigma} = \frac{\frac{1}{\tau}\sum_{s=t-\tau}^{t}(\Delta OI_{s,ATM}^{C} - \overline{\Delta OI}_{t-\tau:t,ATM}^{C})(\Delta OI_{s,ATM}^{P} - \overline{\Delta OI}_{t-\tau:t,ATM}^{P})}{\sqrt{\sigma^2_{OI^{C}_{t-\tau:t,ATM}}}\sqrt{\sigma^2_{OI^{P}_{t-\tau:t,ATM}}}}$ I_t → indicator variable for date of political event X → vector of control variables To ensure that β_2 captures the incremental effect of the political event, I bootstrap (with sample replacement) 1,000 event dates that are not associated with the identified/true events and compute OMS^{σ} for the 20-day window around each resampled date. Results from this process indicate that the identified effect is not driven by other economic announcements/events coinciding with political event dates.
	Two key questions
(H) What's New?	This research will be the first to examine volatility informed trading around key political events. Whilst previous research has examined volatility informed trading at the firm level (Ni et al., 2008) and around macroeconomic news releases (Puhan, 2014), this research extends the literature to consider trading around a number of key events within election cycles.
(I) So What?	By increasing our understanding of market uncertainty about upcoming political events, we expand the set of information from which forecasts of these events can be derived. Additionally, in determining the liquidity effects of the political process in the options market, this research extends the literature on the interaction between political uncertainty and market prices.
ONE	**One** bottom line
(J) Contribution?	The primary contribution of this work is to extend the literature on volatility informed trading in a political context. In so doing, this research provides additional empirical tests for recently developed theoretical frameworks by Pástor & Veronesi (2013;2012) on the market impact of political uncertainty.
(K) Other Considerations	Collaboration: This research is conducted under the supervision of Associate Professor Barry Oliver and Dr Kam Fong Chan. Target Journal: *Journal of Banking & Finance* given it has previously published work on volatility around national elections. Risks: This is the first examination of volatility informed trading around political events therefore there exists a non-negligible risk of obtaining insignificant results. There is also a risk that the results may be dependent on the measures employed. In mitigating the latter risk, robustness tests will be conducted employing alternative measures of RV and volatility demand as per Ni et al. (2008). Scope: The focus on SPX options is deliberate and leverages prior academic contributions which have identified volatility informed trading in these instruments. To the extent that the results are generalizable to other markets depends on the characteristics of those markets and the instruments traded thereon (Easley et al., 1998).