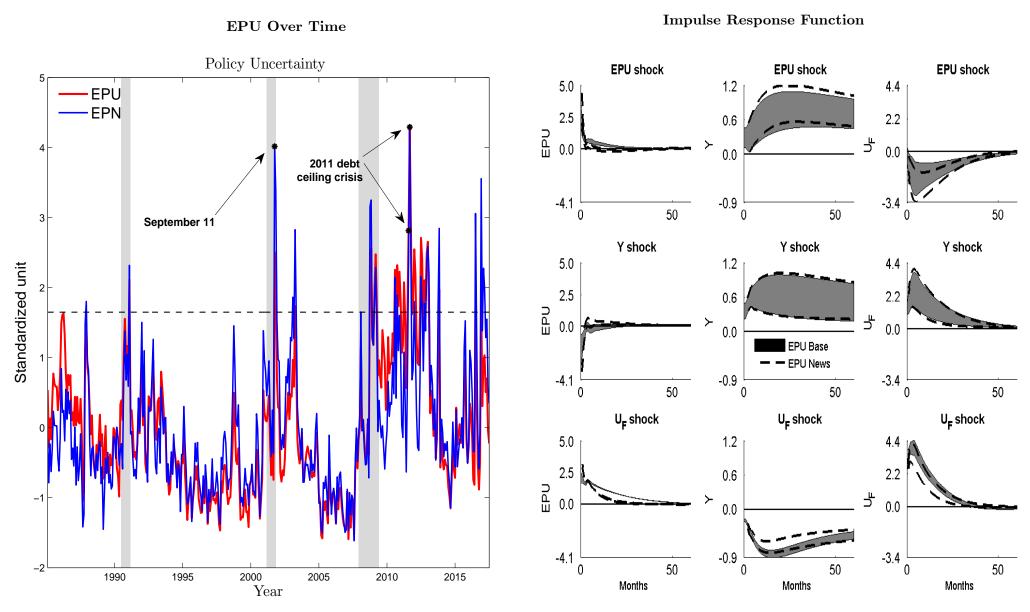
## **Figures from:**

"Uncertainty and Business Cycles: Exogenous Impulse or Endogenous Response?"

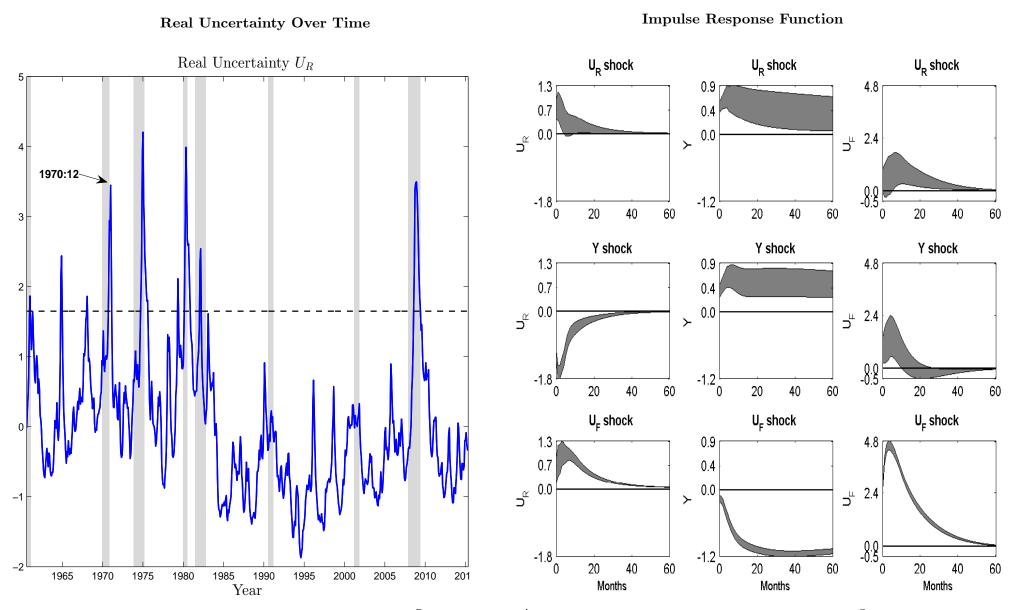
By Sydney C. Ludvigson, Sai Ma, and Serena Ng August 2019

Figure 7: Economic Policy Uncertainty



The left panel plots the time series of baseline policy uncertainty EPU and news-based EPN, expressed in standardized units. Shaded areas correspond to NBER recession dates. The horizontal line corresponds to 1.65 standard deviations above the unconditional mean. The right panel displays impulse responses to one standard deviation shocks. Response units are reported in percentage points. Each argument of  $\bar{\mathbf{k}}$  are set to their 75th-percentile values of the unconstrained set. Additional identifying restriction: for EPU,  $e_{EPU, t_3} \geq 2$  for for all  $t_3 \in \{2011:07, 2011:08\}$ . The sample spans the period 1987:01 to 2015:04.

Figure 8: Real Activity Uncertainty



The figure shows results from the identified set for system  $\mathbf{X}_t^R = (U_{Rt}, ip_t, U_{Ft})'$  using the full set of constraints with each argument of  $\bar{\mathbf{k}}$  set to their 75th-percentile values of the unconstrained set. The left panel plots the time series of real uncertainty, expressed in standardized units. Shaded areas correspond to NBER recession dates. The horizontal line corresponds to 1.65 standard deviations above the unconditional mean. The right panel displays impulse responses to one standard deviation shocks. Response units are reported in percentage points. The sample spans the period 1960:07 to 2015:04.