

**Ethan Ilzetzki**  
**(London School of Economics)**

**19 November 2020, 11:00-12:15**

**Government Purchases and Plant-Level Productivity: Evidence from World War II**

**Abstract:** How do firms respond to public purchases in a capacity-constrained economy? I investigate this question using extensive production-line level data from Second World War US aircraft production. It has long been posited that wartime demand boosted productivity via a learning curve, but this observation is based on correlations that don't have a causal interpretation. Further, earlier research failed to explain the mechanisms driving the learning curve. I use shifts in procurement strategy due to changing military demands as a natural experiment to estimate the causal effect of government purchases on private sector productivity. I find that TFP in quantity units increased by 1/3 a percent at the production line level for each percent increase in demand for a specific model from a plant. I show that the result is driven by productivity in plants that were facing hard capacity constraints and labor shortages early in the war: a "learning by necessity" mechanism. The effects on productivity are persistent: plants receiving more wartime orders during the war had higher patent rates well in to the 1950s, but only for plants facing capacity constraints.