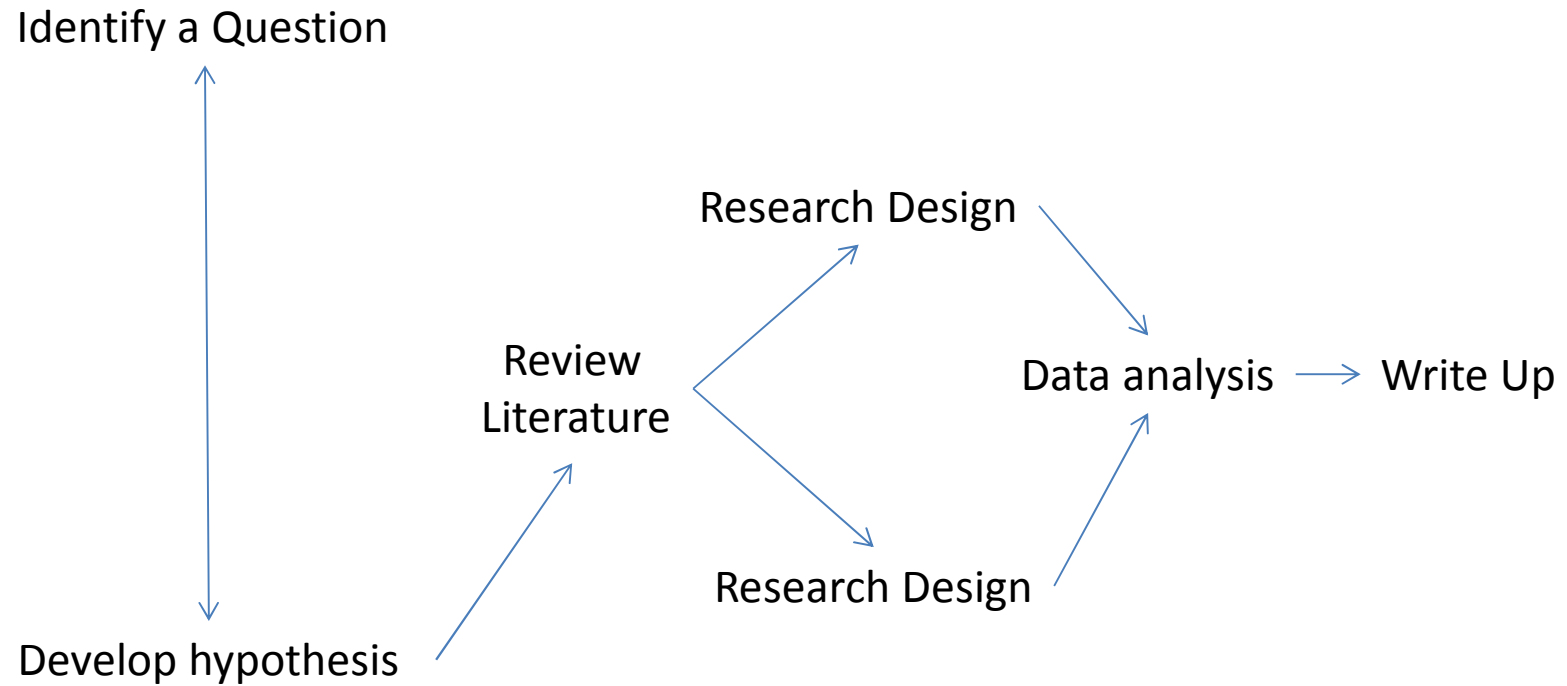


Research Method

The Question

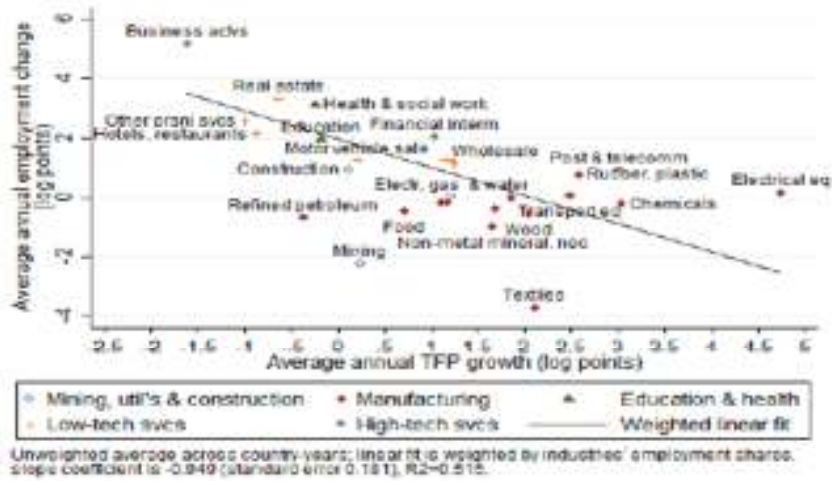
General Research Process



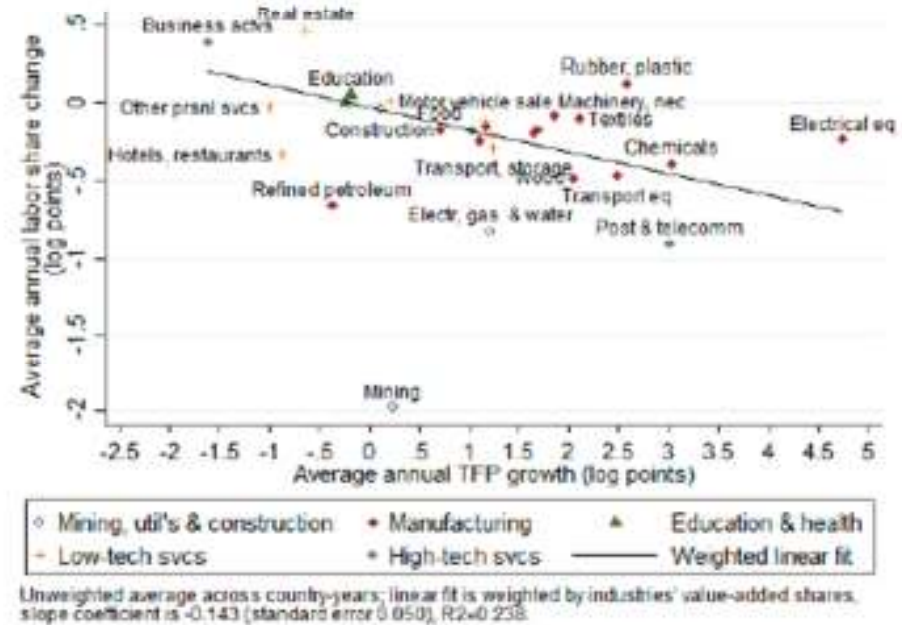
Examples from this week NBER
Working Paper series

IS AUTOMATION LABOR-DISPLACING? PRODUCTIVITY GROWTH, EMPLOYMENT, AND THE LABOR SHARE

David Autor Anna Salomons
Working Paper 24871



1A. Log TFP Growth versus Log Changes in Industry Employment



1B. Log TFP Growth versus Log Changes in Industry Labor Share

WILDERNESS CONSERVATION AND THE REACH OF THE STATE: EVIDENCE FROM NATIONAL BORDERS IN THE AMAZON

Robin Burgess Francisco J.M. Costa Benjamin A. Olken
Working Paper 24861

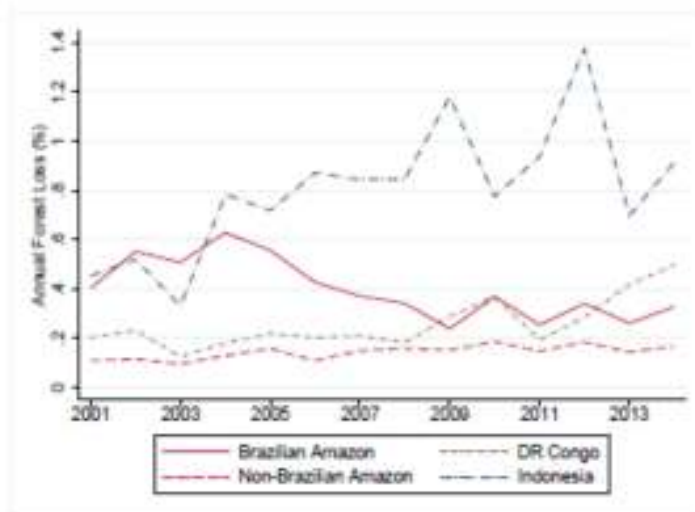


Figure 1: Forest Change in the Amazon, DR Congo and Indonesia, 2001-2014

This figure shows the annual forest loss in the Brazilian and non-Brazilian Amazon, in the Democratic Republic of the Congo and Indonesia, as calculated by the authors using data from (Hansen et al., 2013). Forest loss is measured as the share of forest cover in each country that was lost in each year.

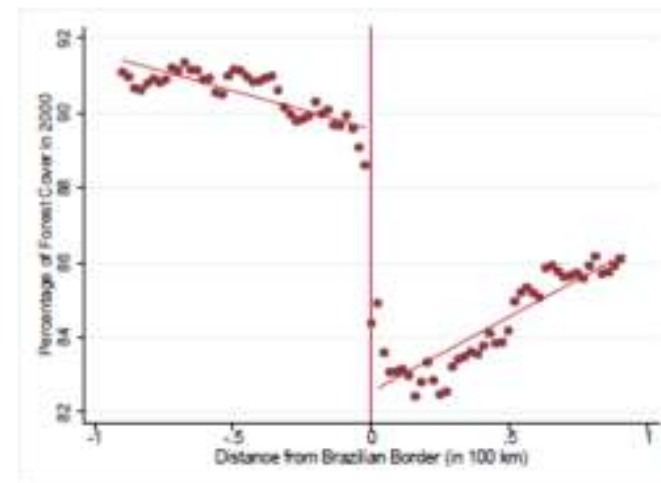


Figure 2: Average Forest Cover in 2000 by Distance from Brazilian Border

This figure shows the average forest cover in 2000 by 80 equal-sized bins of distances from the Brazilian border, up to 100 kilometers away from the border. Positive distance represents Brazilian land, while negative distance represents non-Brazilian land. The vertical bars (not always visible) depict 95% confidence intervals of the local average within each bin. The red line shows the linear function of distances weighted by the number of observations in each bin.

INFLATION EXPECTATIONS AS A POLICY TOOL?

Olivier Coibion Yuriy Gorodnichenko Saten Kumar Mathieu Pedemonte
Working Paper 24788

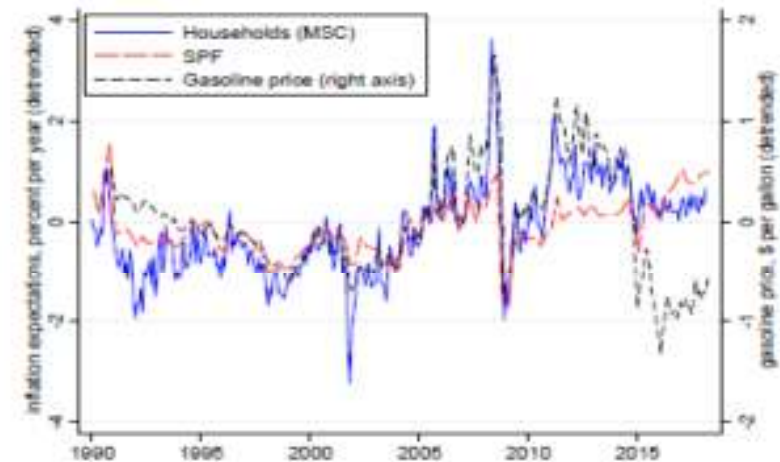
Figure 1. One-Year-Ahead Inflation Expectations for Different Agents
Panel A: United States



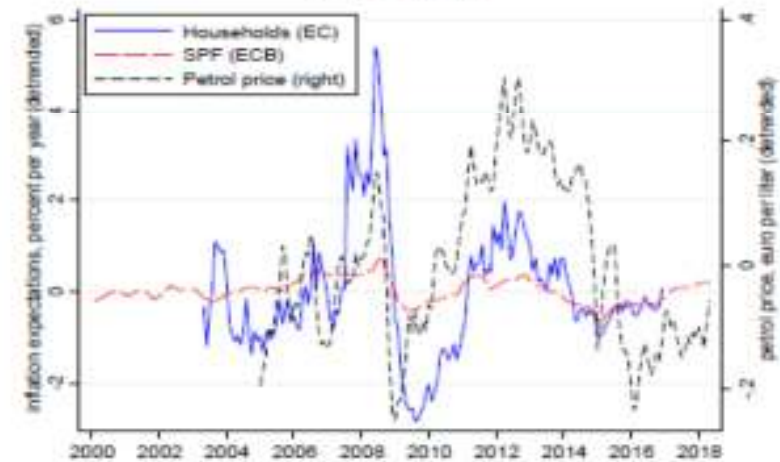
Panel B: Euro-Area



Figure 2. Household Inflation Expectations and Gasoline (Petrol) Prices
Panel A: U.S.



Panel B: Euro area



Globalization and the Returns to Speaking English in South Africa

James Levinsohn

NBER Working Paper No. 10985

| year | FDI |
|-------|-------|
| 1993 | 33 |
| 1994 | 1348 |
| 1995 | 4502 |
| 1996 | 3515 |
| 1997 | 17587 |
| 1998 | 3104 |
| 1999 | 9184 |
| 2000 | 6083 |
| 2001* | 53000 |

| year | |
|------|------|
| 1991 | .440 |
| 1992 | .423 |
| 1993 | .424 |
| 1994 | .452 |
| 1995 | .48 |
| 1996 | .514 |
| 1997 | .520 |
| 1998 | .550 |
| 1999 | .541 |
| 2000 | .611 |
| 2001 | .656 |
| 2002 | .704 |

| 1993 | | | | | |
|-----------|--------|----------|--------|-------|--------|
| Language | Black | Coloured | Indian | White | Total |
| English | 6 | 160 | 232 | 202 | 600 |
| Afrikaans | 11 | 411 | 0 | 522 | 944 |
| Xhosa | 421 | 0 | 0 | 0 | 421 |
| Zulu | 624 | 0 | 0 | 0 | 624 |
| Tswana | 493 | 0 | 0 | 0 | 493 |
| N. Sotho | 285 | 0 | 0 | 0 | 285 |
| S. Sotho | 91 | 0 | 0 | 0 | 91 |
| Venda | 79 | 0 | 0 | 0 | 79 |
| Tsonga | 209 | 0 | 0 | 0 | 209 |
| Swazi | 173 | 0 | 0 | 0 | 173 |
| Ndebele | 69 | 0 | 0 | 0 | 69 |
| Other | 7 | 0 | 3 | 6 | 16 |
| Total | 2,468 | 571 | 235 | 730 | 4,004 |
| 2000 | | | | | |
| English | 118 | 534 | 626 | 783 | 2,075 |
| Afrikaans | 230 | 3,032 | 6 | 1,540 | 4,838 |
| Ndebele | 435 | 0 | 0 | 0 | 435 |
| Xhosa | 3,789 | 17 | 0 | 0 | 3,806 |
| Zulu | 5,487 | 3 | 0 | 0 | 5,490 |
| N. Sotho | 2,238 | 1 | 0 | 0 | 2,239 |
| S. Sotho | 2,681 | 6 | 0 | 1 | 2,688 |
| Tswana | 2,601 | 17 | 0 | 0 | 2,618 |
| Swazi | 871 | 4 | 0 | 0 | 876 |
| Venda | 577 | 0 | 0 | 0 | 577 |
| Tsonga | 1,109 | 0 | 0 | 0 | 1,109 |
| Other | 72 | 2 | 22 | 19 | 120 |
| Missing | 14 | 0 | 0 | 0 | 14 |
| Total | 20,222 | 3,616 | 654 | 2,343 | 26,885 |

Considerations in selecting Question

- Interest – should be the most important consideration in selecting a question.
- Magnitude – Focus
- Feasibility - having adequate level of expertise for the task which is proposed
- Measurement of process- can elements of the question be quantified?
- Availability of data – available? If not, can you collect the data necessary?

Hypothesis

- The second most important consideration in the formulation of a research problem is the construction of hypothesis.
- Hypotheses bring clarity, specificity and focus to research problem.
- Hypotheses are based on guesses and must be based on theories –Theories tell us what might be going on – it does not tell us what actually is occurring.
- Hypotheses must be verifiable. The verification process should be done based on the information and the verification process will provide one of three outcomes below:
 - Right
 - Partially right
 - Wrong
- Without this process of verification, the researcher cannot conclude anything about the validity of the assumption.
- Hence Hypotheses are a hunch, assumption, suspicion, assertion or an idea about a phenomenon, relationship or situation , the reality or truth of which the student intends to explore.

Hypothesis

- A hypothesis should be simple , specific and conceptually clear.
- A Hypotheses should be capable of verifications – Methods and techniques must be available for data collection and analysis.
- A hypotheses should be related to the existing body of knowledge – need for literature review.
- A Hypotheses should be ‘Operationalizable’ – it can be expressed in terms that can be measured.