Discussion of "Breaking the Language Barriers?"

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Lost in Translation!

- "I ate an avocado"

- "J'ai mange un avocat"

- "I ate a lawyer"

- We study the **impact of machine translation technology** on analysts' forecasts for multinational firms.

- U.S. **analysts improve their forecast accuracy** for firms with substantial business exposure in the corresponding foreign countries.
  - The improvement is **greater for analysts with limited language skills or brokerage resources to process foreign information**.

- Analysts raise **more questions about firms' foreign exposure during conference calls and incorporate more foreign economic information into their forecasts** after the rollout of Google Translate.

Overview

- **Overall, I enjoyed reading it.**

- **Interesting and current topic (even if the roll-out is a few year back)**

- **Already well-developed**
  - **Several interesting comparative statics**

- **What have we learned?**

- **Some empirical suggestions**
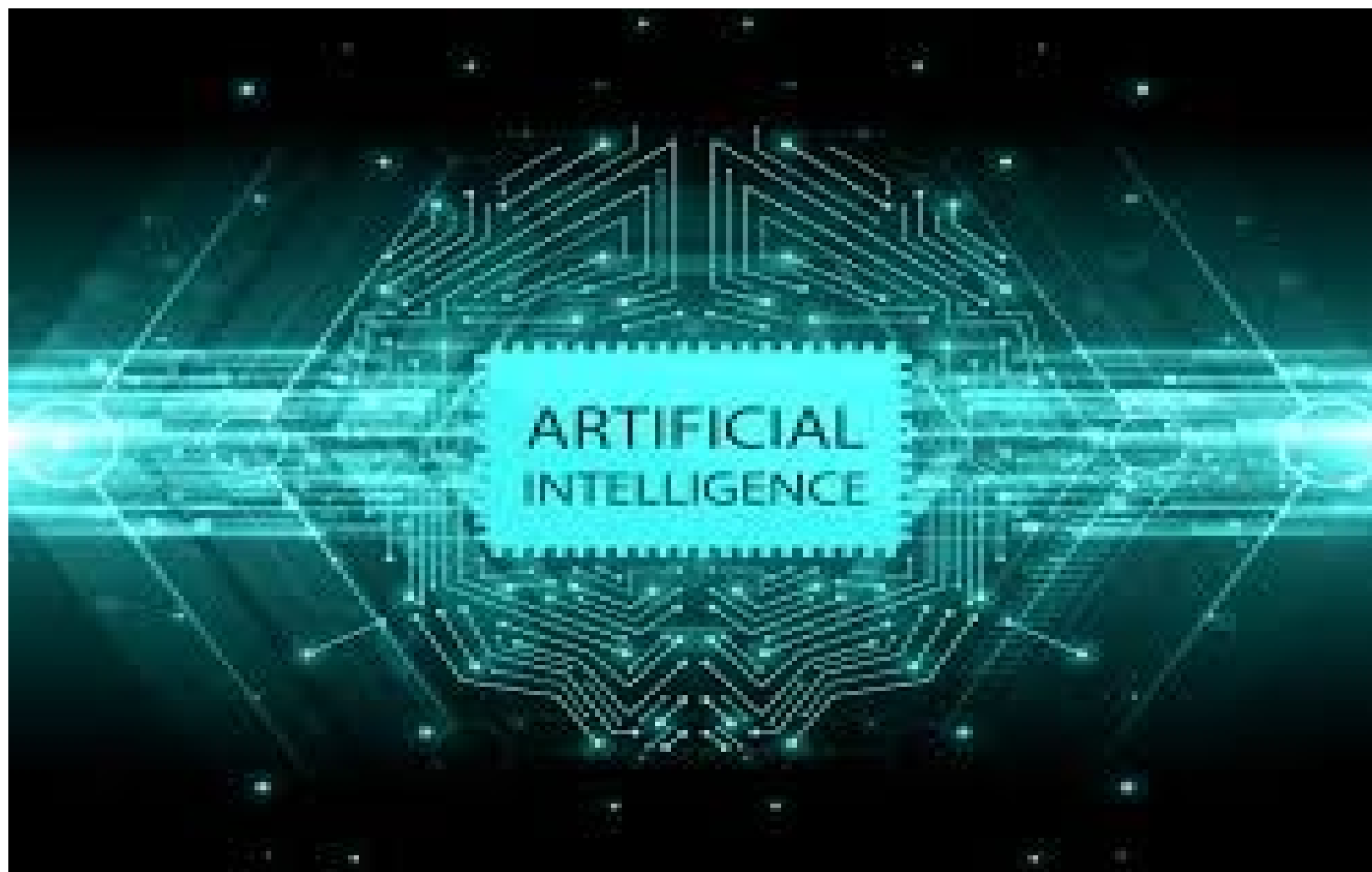
What Have Learned - My Priors

- Languages matter:
  - I buy this!

- Google Translate matters:
  - Less clear to me ex ante but plausible given the first point.

- By how much?
  - Very diffuse prior

Large Effect

- T3 (Main Table): point estimate 0.56/0.48 versus
    - 6.5% of the standard deviation
    - Median value of 0.30 (absolute value).
    - Multiply *ForeignSub* by one standard deviation:
        - 0.32 * 1.56 = 0.5
    - Google Translate probably does not remove all frictions
        - Courtis and Hassan (2002)

- T7: CAR: revision 0.74; revision* translate: 0.24

Large Effect – An Issue?

- T3: column 1
  - No control, no fixed effects
  - Coefficient a bit larger
  - But R2 = 0.00

- T4: drop when add controls which may be a sign of omitted variable
  - Cinelli and Hazzlett (2020)
  - Chernozhukov et al. (2018)

Specification

- No anticipation.
  - Plausible
  - Pre tests can be under powered
    - Roth (2022), Dette and Schumann (2024)

- Arellano and Bond (1991)
  - Column 1, Table 3

- Generalized DID may be problematic.
  - Robustness tests as main
  - Focus on the original shock

Languages

Year	Languages	Count
2006	Arabic, Chinese (Simplified), French, German, Italian, Japanese, Korean, Portuguese, Russian, Spanish	10
2007	Chinese (Traditional), Dutch, Greek	3
2008	Bulgarian, Catalan, Croatian, Czech, Danish, Finnish, Hebrew, Hindi, Indonesian, Latvian, Lithuanian, Norwegian, Polish, Romanian, Serbian, Slovak, Slovene, Swedish, Tagalog (Filipino), Ukrainian, Vietnamese	21
2009	Afrikaans, Albanian, Belarusian, Estonian, Galician, Hungarian, Icelandic, Irish, Macedonian, Malay, Maltese, Persian, Swahili, Thai, Turkish, Welsh, Yiddish	17
2010	Armenian, Azerbaijani, Basque, Georgian, Haitian Creole, Latin, Urdu	7
2011	Bengali, Gujarati, Kannada, Tamil, Telugu	5
2012	Esperanto, Lao	2
2013	Bosnian, Cebuano, Hausa, Hmong, Igbo, Javanese, Khmer, Maori, Marathi, Mongolian, Nepali, Punjabi, Somali, Yoruba, Zulu	15
2014	Burmese, Chichewa, Kazakh, Malagasy, Malayalam, Sesotho, Sinhala, Sundanese, Tajik, Uzbek	10
2016	Amharic, Corsican, Frisian, Hawaiian, Kurdish, Kyrgyz, Luxembourgish, Pashto, Samoan, Scots Gaelic, Shona, Sindhi, Xhosa	13
2020	Kinyarwanda, Odia, Tatar, Turkmen, Uyghur	5
	Total	108

- Most of the effect should come from the first wave.
  - I am not entirely sure how this mechanically works.
    - 30% in Mainland China, 5% in Taiwan, 5% in Singapore
    - 2006: Simplified Chinese; 2007: Traditional
  - Present the result for the first wave separately.

- Problem: macro-shock
  - Uncorrelated with nbr of sub and gdp growhth
  - Correlated with pop size and wealth
  - Correlated with language distance (governance, legal framework?)

The Authors Do Several Tests

- Naturally, the authors are well aware of this and do different tests to address this issue.
  - The improvement is greater for analysts with limited language skills or brokerage resources to process foreign information.

  - Analysts raise more questions about firms' foreign exposure during conference calls and incorporate more foreign economic information into their forecasts after the rollout of Google Translate.
    - I like the out of sample tests.

- Maybe linking them more?
  - Are the analysts asking more questions the ones who improve more?

Supply Side?

- What about the supply side?
    - Why do you speak English (in your annual report)?
        - Jeanjean et al. (2010)

    - Potentially important because if this was also a shock to supply, the coefficients are mispecified.

Long Term Effect

- Present the long term effect.
    - Pent-up versus steady demand

- We should see a material talent reallocation.
    - Pre: correlation between companies and names
        - Perhaps compensation
    - Post: decorrelation.

- Does that affect analyst coverage?
    - No general effect but may focus on smaller firms?
    - Does that affect the way companies do business?

Name-Language Mapping

- Relatively minor point but I think still relevant given the importance
- Of comparative statics

- Immigration weighted + first name:
    - Jason Petrelli vs Bingxu Fang

- Opportunity to refine the measure

That's All, Folks !