

THE ROOTS OF GLOBAL WAGE GAPS: EVIDENCE FROM RANDOMIZED PROCESSING OF U.S. VISAS

**BY MICHAEL A. CLEMENS
[CENTER FOR GLOBAL DEVELOPMENT]**

Discussant: Chad Sparber [Colgate University]

SUMMARY

- Where do cross-country differences in wages paid to college-educated workers come from?
- Question will appeal to:
 - Growth
 - Immigration
 - Policy



SUMMARY

- Case study: A large Indian-based, multinational, software firm
 - Workers randomly selected for US/Indian placement
 - Important industry
 - Important bilateral migration channel
- Result:
 - Location accounts for $\frac{3}{4}$ of US/India wage gap.
 - The effect occurs through productivity.
 - Location amenities complement productivity. Given Expls:
 - Better Institutions / Infrastructure
 - Geography
 - Matching of workers with complementary skills?



IDENTIFICATION

- In the aggregate, Cobb-Douglas production implies that wages paid in a country equal:

$$w = \alpha \cdot (1 - \alpha)^{1-1/\alpha} \cdot (1 - \tau)^{1/\alpha} \cdot r^{1-1/\alpha} \cdot \theta \cdot h$$

- α = labor's share of income, a production parameter
- τ = transport cost
- r = cost of capital
- θ = local production amenity
- h = human capital



IDENTIFICATION

- In this natural experiment case study, many parameters drop out when comparing US/India
 - Since one firm, US/India have same...
 - α : production technology (though could we test if labor's share of income is equal)
 - r : cost of capital (shouldn't vary across a firm's locations)
 - Since software industry...
 - τ : transport cost = 0
 - Since US randomly selects workers...
 - h : human capital is expected to be identical
 - Leaving only one source for wage differences...
 - θ : local production amenity



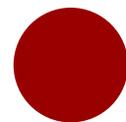
IDENTIFICATION

- Estimation: Does being awarded with a random H-1B visa lead to a wage gap?
- Yes. “Evidence is very difficult to reconcile with a model in which worker productivity does not depend heavily on location.”



CHALLENGES TO IDENTIFICATION AND INTERPRETATION; CLARITY ISSUES

- It would be nice if the firm behaved properly...
 - The US awards H-1B visas randomly, but is there a selection bias in who the firm actually chooses to send?
 - “The typical project lasts between six and fifteen months, after which the large majority of Anaamika employees return to India.”
 - “Many workers granted a visa do not immediately begin [US] work.”
 - Delays in departure caused by lack of a suitable project, project delays, or cancelation.
 - Is there a problem in that the control group includes people selected (non-randomly) for work in a third country?
 - Does “Contamination” section test this?



CHALLENGES TO IDENTIFICATION AND INTERPRETATION; CLARITY ISSUES

- Interpretation requires tradability. “Large differences in tradability of the output are implausible; all of these workers are producing software.” But...
 - Pages 10-12 imply that some work must be done on-site: “Winners on the team were sent to do on-site portions of the project (such as high-level design) while losers were assigned to off-site portions of the project (such as writing computer code).”



CHALLENGES TO IDENTIFICATION AND INTERPRETATION; CLARITY ISSUES

- Interpretation requires tradability. “Large differences in tradability of the output are implausible; all of these workers are producing software.” But...
 - Suggests non-tradability of tasks performed / output produced.
 - Functions in one place may be entirely different than in another. Different parts of value-added chain with different productivities. Tasks are different even if inherent location characteristics are not. Is this the source of wage gaps?
 - May be consistent with claim “findings suggest large differences in worker productivity caused exclusively by local, non-traded inputs.” But for different reasons.



CHALLENGES TO IDENTIFICATION AND INTERPRETATION; CLARITY ISSUES

- Why do workers stay in US for just 6-15 months?
 - Idea 1: Cyclical demand with trade barriers implies short and unpredictable stays (another objection to tradability assumption).
 - Idea 2: Firm deters workers from seeking alternative employment.
 - Could the generous stipend from the firm be a further deterrent to job search? Why are results inconsistent with an efficiency wage / compensating differential story?



CHALLENGES TO IDENTIFICATION AND INTERPRETATION; CLARITY ISSUES

- Is there anything we can learn from comparing different groups of workers?
 - Lottery winners vs. Indispensable losers on L-visa?
 - Lottery losers vs. Indispensable losers on L-visa?
 - Losers in India vs. Losers in 3rd country?
 - Winners vs. Losers within job category?



MINOR ISSUES

- Page 3 may be overstating it when it says, “it was not clear to anyone in advance that the 2007 lottery would occur.” Lotteries had occurred the two previous years, and the US government had been meeting its limit increasingly quickly over time. The innovation in 2007 is that none of the visas were awarded first-come / first-serve. But it seems like people should have known that policy was moving in that direction.
- Can you provide a date for the press release cited on page 9?
- I read the first half of the paper wondering why this firm isn't just using the L visa. Footnote 7 clarified, but I might discuss that earlier.
- The discussion in Section 5.2 is a little unclear. Could you be more explicit about where the 19.4% (for example) is coming from in Table 3? Also, what happens if this probability is correlated with ability?
- Is it possible to test whether alpha (sigma in the paper) is equal across locations?



MINOR ISSUES

- Footnote 2's use of "admissions" statistics is misleading. Use issuance data instead.
 - Admissions figures count all border crossings into the US, not just first-time entries or the stock of visa holders. That is, they count people who travel back and forth between the US and their home country multiple times.
 - For example, the US recorded 23,312 H-1B admissions from Canada in 2008 (the 2nd highest country), but only 39 H-1B *issuances* (the 95th highest).
 - [As a side note, the Canadian issuance figures are also low because they have alternative routes of entry and they usually don't need a formal visa to have permission to work in the US].
 - Issuance figures for 2008: 129,464 issuances with H-1B, 84,078 with L-1. O-1, O-2, E-1, and E-3 (and H-1B1) continue to be comparably small. Indian nationals account for 56% of H-1B issuances.
 - Sources: http://www.travel.state.gov/visa/statistics/nivstats/nivstats_4582.html; <http://www.travel.state.gov/xls/FY08NIVDetailTable.xls>

