Abstract

This paper examines the empirical linkage between immigrant driven ethnic networks on bilateral trade across different skill groups of immigrants and quality levels of commodities. Using a panel dataset of 19 high-income OECD countries and 99 low-income countries over the period of 1990-2005 and a newly available export quality index, we test for both direct and indirect effects of migrant networks on their host country trade. We establish a one-to-one casual linkage between migrants’ skill level and export product quality controlling for potential endogeneity and unobserved heterogeneity.

Introduction

Migration in OECD countries increased by more than 50% between 1990 to 2015. Exports increased from 19.6% to 29.5% as a percentage of world GDP.

Information Channel: Increase in the number of immigrants would increase the source country information in the destination country and hence in general should increase bilateral trade.

High-skilled migrants sync in better with the high quality product industry and low-skilled migrants should have an advantage in low quality product industry.

Shifts towards a complex pattern of immigration could mean that one ethnic group can act as a complement to another ethnic group.

Basic Contribution

Export-quality index to measure product quality (High, Medium or Low) instead of unit value series (volatile, may reflect production costs, or pricing strategies).

One-to-one linkage between migrants skill level and product quality.

Additional indirect network effect due to an increasing migration diversification in terms of both origin and destination as opposed to only destination countries.

Methodology

We depart from Ek assumption of homothetic preference to propose that there can be different types of goods which may differ in demand and technology.

Country j produce a continuum of goods \( k \in [0, 1] \) of quality k with goods specific productivity in country j, \( z_j(k) \). Cost of producing good \( k \) in country j is \( \frac{z_j(k)}{w_j} \). Individuals of any country i have the following type of CES utility:

\[
U_i = \sum_{k=1}^{K} \left( \frac{Q_i(k) - \theta_i}{\theta_i} \right)^{-\theta_i} \frac{1}{\theta_i}
\]

where \( \theta_i > 1 \) for k is the elasticity of substitution across same quality goods.

Productivity in country j follows a Frechet (\( T_j, \theta_j \)) distribution:

\[
F_j(z) = P(z_j(k) < z) = e^{-T^2_jz^{-\theta_j}}
\]

By calculating the probability that country j is the lowest cost producer of good \( k \) to country i, \( \pi_{ij} \), the gravity expression can be expressed as the imports’ of country i from country j relative to country i’s domestic consumption:

\[
X_{ij}^k = \frac{\pi_{ij} T_j(w_j)}{T_i(w_i)^{-\theta_i}} \quad \theta_i
\]

Taking log of the previous equation, and collecting indicators of cultural and geographical proximity along with a bilateral trade policy indicator, direct and indirect measure of ethnic network under the dyadic term, \( d_{ij} \), we get our equation for empirical estimation:

\[
\ln X_{ij} = \ln S_j + \sum \ln M_{ij} + \theta_1 M_{ij}^2 + \theta_2 \ln D_{ij} + \theta_3 Common\_language + \theta_4 Colony + \theta_5 RTA_{ij} + \theta_6 ij
\]

Here \( M_j \) denotes direct ethnic network (stock of immigrants from country i to country j). \( IM_{ij} \) denotes indirect network variable where \( IM_{ij} = D_{ij}D_{jk} \) with number of emigrants from country i in excess of country j is denoted by \( D_{jk} = \sum_{k=1}^{K} M_{jk} \) and number of immigrants residing in country j in excess of country i is denoted by \( D_{jk} = \sum_{k=1}^{K} M_{kj} \).

Conclusion

High-skilled ethnic networks have a stronger direct impact.

High-skilled ethnic networks trigger more high quality trade than low-skilled ethnic networks and vice versa.

On average one additional low-skilled immigrant can create $2068 of additional export earning that might help to offset much talked about welfare losses.

There is advantages of a diversified immigrant portfolio as this paper finds a positive indirect effect of secondary ethnic network.

Data

This paper uses Center for International Data (Robert Feenstra), UN Comtrade Data, IAB Brain Drain Database, CEPII Gravity Database and IMF Quality Index.

Results: Pooled OLS and Instrumental Variable Estimation

We only report High and Low-skilled migrants for now as the distribution of migrants are usually bi-modal in nature.

Results: First Difference Estimation

Allowing for Different Product Quality and introducing Indirect Network Effect.

Controlling for unobserved Heterogeneity and test for strict Exogeneity.

Effects of Information Channels across Skill and Product Quality Groups: Evidence from Trade-Migration Nexus

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References


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