



Immigrant-Based Networks and the U.S. Bilateral Trade: Role of Immigrant Occupation

Kusum Mundra
Department of Economics
Rutgers University
Newark NJ 07102-1801
kmundra@andromeda.rutgers.edu

Immigrant-Based Networks and the U.S. Bilateral Trade

- Coethnic and social networks increase trade by reducing informational trade barriers
(Grief 1993; Rauch and Casella 1998)
 - missing trade links (Trefler 1995)
 - home bias in international trade (McCallum 1995 and Helliwell 1998)
- Immigrant population provides the coethnic networks facilitating trade with their home country
 - (Gould 1994 ; Rauch and Trindade 2002; Mundra 2005; Herander and Saavedra 2004)

Literature

- A positive effect on bilateral trade
 - for the U.S. (Gould 1994; Dunlevy and Hutchinson 1999; Dunlevy 2004; Rauch 1999; Herander and Saavedra 2005)
 - for Canada (Head and Reis 1998)
 - for Netherlands (White 2007)
- Rauch and Trindale (2002) show that the ethnic Chinese population increases bilateral trade between countries for differentiated goods
- Herander and Saavedra (2004) find that geographical proximity to the home country immigrant networks is an important determinant of immigrants' trade promoting channels for U.S. state level exports
- Size of the Immigrant Network

Immigrant Information Effect

- Immigrants
 - carry home-country information that helps in matching buyers and sellers
 - have information on the legal set up in their country of origin that helps to enforce trading contacts
 - are familiar with the home-country language and how business is conducted in their home country
- Depends on the Quality of the Immigrant Network
 - The literature has not yet examined the effect of the distribution of immigrants' occupation on the U.S. bilateral trade

Immigrant Occupation

- Not all immigrants are at an equal footing on the Immigrant Information Effect
 - The immigrants social capital and coethnic networks in the U.S. will vary with their occupation
 - The CEO's , professionals, and managers will have a bigger effect in trade creation than refugees, home-maker, and students
- Effect of Immigrant Entrepreneurship on Trade
 - Light et al.(2002) find that entrepreneurship rates significantly increase U.S. exports but not U.S. imports.
 - Head and Ries (1998) fail to find any positive effect of entrepreneur independent class of immigrants on trade for Canada.
- Explore the role of immigrants' occupation on the U.S. bilateral trade

Gravity Model

$$F_{ij} = \frac{Y_i Y_j}{D_{ij} X_{ij}}$$

$$F_{USj} = (GNP_{US} GNP_j)^\alpha (PGNP_{US} PGNP_j)^\beta (Distance)_j^{-\gamma} e^{-X_{USj}}$$

$$X_{USj} = (Adjacency_{USj}, \ln(IMMSTOCK)_{USj}, Proportion\ of\ Immigrants_{USjk})$$

Group the six occupation categories from Census 2000 into four occupation categories:

Management and Professional (PROPPROEXC)

Service and Sales (PROPSERSLS)

Construction, Laborers, Farming (PROPPCRLABFFF)

No occupation (reference category)

Econometric Model

$$\ln F_{USjt} =$$

$$\rho + \alpha \ln(GNP_{US} GNP_j)_t + \beta \ln(PGNP_{US} PGNP_j)_t + \gamma \ln(\text{Distance}) + \delta \text{Adjacency}_{USj} +$$

$$\sum \delta_k \text{Proportion of Immigrants}_{kUSjt} + \delta \ln(\text{IMMSTOCK})_{USjt} + \varepsilon_{USjt} \quad (3)$$

Size of Immigrant network (IMMSTOCK) and the Distribution of the Immigrant Network across Occupation is possibly endogenous

Data

- Sample consists of 62 countries over 1991 – 2000
- Trade data is obtained from the World Trade Database of Statistics Canada (NBER World Trade Database by Feenstra and Lipsey) .
Aggregate & SITC 4
- The GNP and Population is from the Penn World Tables
- Immigrants across occupation is from the Immigration Statistical Yearbook of the Immigration and Naturalization Services (INS) and 2000 Census
- Distance and English language is obtained from Frankel (1997)

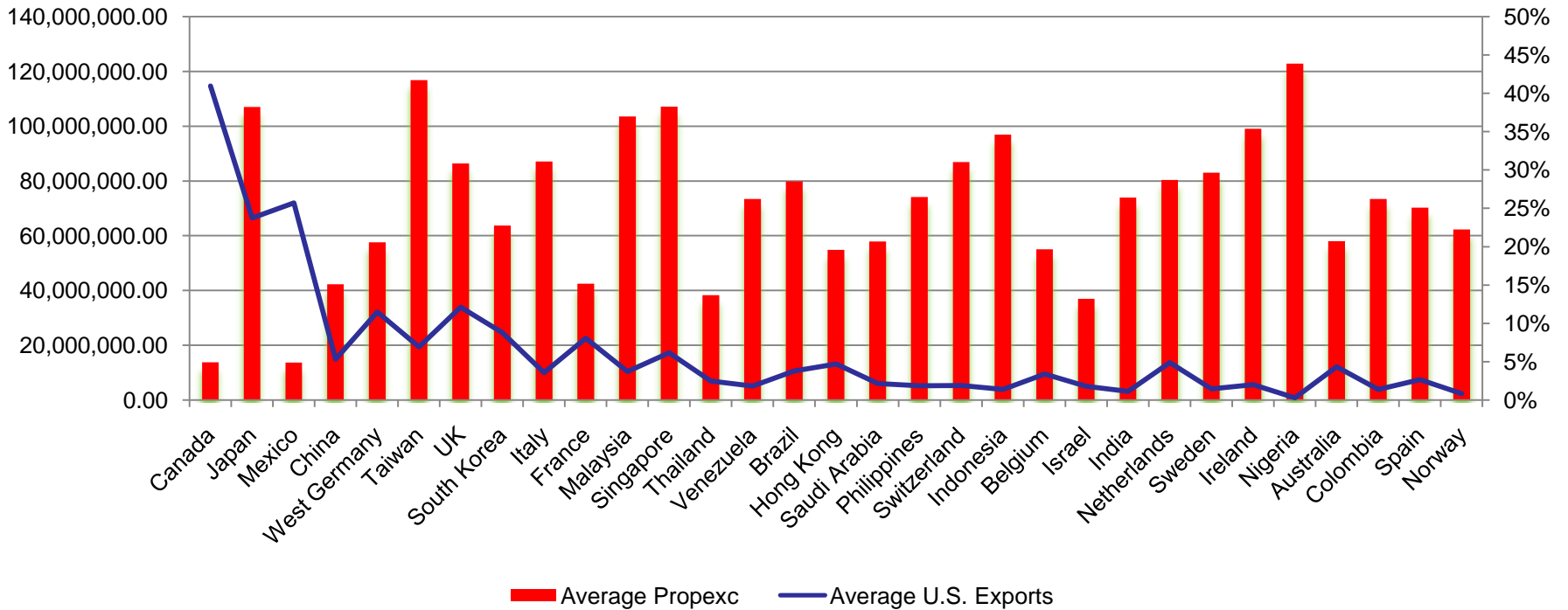
Immigrant Stock Variable

- The stock of the immigrants across occupation is calculated using the INS flow data and the 2000 US Census
 - (Dunlevy 2004; Herander and Saavedra 2005).
- INS collects annual information on legal permanent residents from different countries when the individual obtains an immigration status
- For ease of data availability we use the 2000 Census data and use the annual INS data for the years 1991- 2000 to calculate the immigrant stock variables for the years 1991 – 2000 as follows:

$$SImm_{jkt-1} = SImm_{jkt} - Imm_{jkt}$$

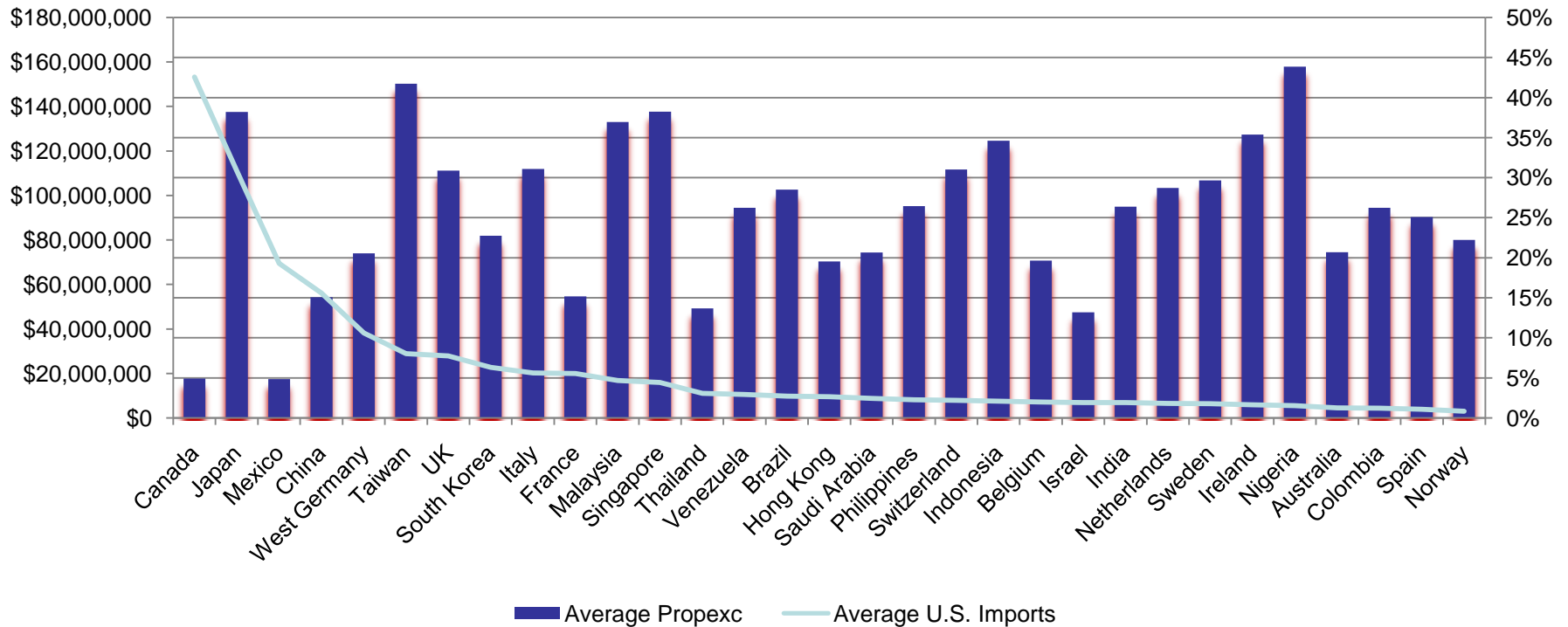
- where $SImm$ is the stock of immigrants from country j in occupation k and Imm is the annual flow of immigrants in occupation k in the year t

Top 32 Trading partner: Average U.S. Exports and the Proportion of Management and Professional Immigrants (1991 – 2000)



59% of the countries have more than 25% of their immigrants in the Management and Professional occupation.

Top 32 Trading partner: Average U.S. Imports and the Proportion of Management and Professional Immigrants (1991 – 2000)



56% of the countries have more than 25% of their immigrants in the Management and Professional occupation.

Classification of Commodities

- Three groups : Organized Exchange, Referenced Price, and Differentiated
 - Rauch (1999)
 - Organized Exchange (Goods traded on organized exchange – homogenous goods)
 - Referenced Price (Prices of these traded goods is published in the trade bulletins)
 - Differentiated (Non-homogenous good)
- Immigrant Network effect is most effective for Differentiated goods

Main Findings

- Size of Immigrant network has a significant effect on trade flows (elasticity of 0.4%)
- PRPPROEXC have a highly significant and positive impact on the bilateral trade for aggregate, organized, referenced price, and differentiated group
 - A 1% points increase in the executives and professional immigrants increase U.S. exports by 3% & U.S. imports by 4%
 - Highest magnitude is for differentiated imports at 1% level of significance
- PROPSERSLS have significant effect on referenced price goods
- PROPPCRLABFFF have a significant effect on organized and differentiated imports

Robustness of the Main Findings

- Re-estimate the model after dropping the obvious extreme cases with migrant selection such as Mexico, Canada, Nigeria, South Africa, and Taiwan
- Estimate a system consisting of occupation categories together with trade flows using 3SLS
 - Popular instruments or the exogenous factors for migration
 - home-country income inequality measure (gini coefficient)
 - whether the home country allows a dual citizenship
 - personal computers and telephone lines (per 100 people)
 - home country education measures such as level of secondary and higher education attainment rates