Swapping Print
The Impact of Immigration and the Internet on International Trade in Newspapers

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March, 2007

Abstract

Why is there international trade in newspapers? Why do even very small countries both import from and export to large nations? New trade models founded on transport costs and increasing returns fail to explain the high degree of bilateral trade in cultural goods like newspapers and periodicals. I argue that immigration is complementary to newspaper trade, with small cosmopolitan countries having the largest trade as a percentage of GDP. These predictions are empirically confirmed, with a 10% increase in bilateral immigration inducing a 4.4% increase in newspaper trade between nations. While increased immigration has lead to greater trade, this effect is decreasing in internet usage. The trade-immigration elasticity is 8.5% smaller for high-internet usage countries, reflecting the fact that immigrants increasingly get their foreign news fix online. These results suggest that cultural goods need not be protected from trade as a country's economic presence on the global stage creates a market for its products.

Keywords: Cultural Goods, Immigration and Trade, Internet and Trade
JEL: F12, Z1

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I. Introduction

Why is there international trade in newspapers? Nearly every country in the world has an industry devoted to reporting on current events, yet there exists a not insignificant amount of trade in newspapers, journals, and periodicals (over $12 billion in 2004).[1] While newspaper exports are dominated by three large nations – Germany, the UK, and the US – even small countries have some newspaper exports.

The newspaper industry is characterized by economies of scale, as documented in Dertouzos and Trautman (1990). Once the fixed costs of establishing operations have been paid, the marginal cost of producing each newspaper is relatively negligible. New trade literature as in Helpman and Krugman (1985) would predict that production would then be concentrated in only the largest countries, as a single large producer would be more efficient than multiple small producers.

The existing literature on international trade in cultural goods has focused on this very point, arguing that protection of cultural industries may be warranted to prevent homogenization of these industries. Francois and van Ypersele (2002) make the case that free trade in movies will eventually lead to only Hollywood style blockbusters being produced at the expense of French and American "auteur" cinema. Rauch and Trindade (2005) echo this sentiment, arguing that free trade of cultural goods with network externalities may lead to a reduction in both quality and in the number of varieties. Eaton, Pendakur, and Reed (2000) make a similar case for cultural hegemony by large countries in the face of network externalities – people want to consume the same good as their neighbors, so everyone adopts the style of the largest country. Janeba (2006) even finds theoretical evidence of cultural domination using a classical trade model (i.e. without increasing returns.) Politicians have been sensitive to this effect as well, with per capita public expenditures on the arts significantly higher for nations adjacent to potential cultural hegemons. In 1995, for example, The Canadian government spent $46 per head on the arts compared to only $6 per capita arts spending by the U.S.[2]

During the Uruguay Round of WTO negotiations, a "Cultural Exception" was granted for nations to protect their culturally sensitive industries, with local film and audiovisual industries in

[1] UN Comtrade Database – Total international trade in HS2002 commodity code 4902: newspapers, periodicals, and journals.
[2] NEA, Research Division, Note #74, January 2000.

particular benefiting from tariff and quota protection. Trade in newspapers has been nearly universally free of tariffs, however. What makes newspapers distinct from other cultural goods? Newspapers are traded internationally with fairly low transportation costs. They are, however, subject to a cultural discount in foreign markets that acts as a trade cost. If you live in New York, you are likely to have a preference for the *New York Times* over the *Le Monde*, even though both papers may be available at a local newsstand. Since New York is larger than Paris, it should have greater newspaper production, as publishers attempt to minimize cultural discounts.

However, there exists a fraction of people in New York who would prefer to read the French paper (native speakers of French for example). Stated differently, a fraction of people in each country apply the cultural discount to the domestic newspaper. Theoretically, this creates a wider range of potential trading scenarios, a result backed up by empirical evidence. Who would discount domestic cultural goods? The most obvious group would be immigrants for whom the local language is not their native tongue. Natives with interests abroad may also fit into this group. As both cross-border flows of labor and capital increase, we should expect to see an increase in international newspaper trade. The relation between immigration and trade is not new, as documented in Rauch (2001) or Combes, Lafourcade, and Mayer (2005) to name a few. While these studies focused on the reduction in transaction costs and information asymmetries by immigrant networks, mine examines the unique preferences of immigrants relative to natives.

One thing preventing this upward trend in trade flows is the widespread adoption of the internet. For our Frenchwoman in New York, she can now read *Le Monde* online rather than trudging down to the news kiosk. As internet usage increases, more and more people will drop out of the print market for newspapers and into the online market. As a result, the internet should actually reduce international trade in newspapers for the most digitally connected nations.

The above predictions can be readily tested. Using data on international trade in newspapers and bilateral immigration, I find that a 10% increase in bilateral immigration leads to a 4.4% increase in bilateral newspaper trade. This effect has been shrinking over time, with the elasticity of trade to immigration falling by 19.6% between 1997 and 2004. At least part of this can be attributed to increased adoption of the internet, with trade-immigration elasticity 8.5% lower for countries with high internet usage than for those with average internet usage. Trade in cultural goods is clearly affected by immigration, but increased adoption of the internet has reduced trade in the traditional forms of these cultural goods.

II. A Refinement to the Helpman-Krugman (1985) Model

Benchmark Model

Assume that there are two countries, two types of goods, and labor is the only factor of production. The first good is homogeneous and traded by both countries without cost.[3] The second type of good is differentiated and may be traded by only one country, or by both. Consumers have the following preferences for the homogenous and differentiated goods:

$$U(A,D) = A^{1-\alpha} D^{\alpha} \tag{1}$$

With these preferences, the share of total spending on the homogeneous good (A) will be 1- α, while the share of spending on differentiated goods (D) will be α. Consumer preferences for the differentiated good follow a CES sub-utility function indicating a love-of-variety:

$$u(D) = \left(\sum_{i=1}^{n_h + n_f} D_i^{\theta} \right)^{\frac{1}{\theta}} \qquad \theta = 1 - \frac{1}{\sigma} \qquad \sigma > 1 \tag{2}$$

Each variety is produced by only one firm, with n_h varieties in the home country and n_f varieties in the foreign country. The elasticity of substitution between varieties is σ and we assume that this parameter is identical across varieties.[4]

Shipping a good to a foreign market incurs a Samuelson iceberg costs such that for every unit shipped, only 1/τ arrives, with τ>1. These costs are called "iceberg costs" since we can think of a fraction of the good melting away in transit, requiring exporters to ship a greater amount of the good than will arrive. For trade in tangible goods, these costs correspond to transport costs. For cultural goods such as newspapers, transport costs are fairly low. Rather, this trade cost refers to the cultural discount consumers apply to foreign goods.

Suppose provisionally that the price charged by all firms (both foreign and domestic) is equal to p. The price to consumers of an imported variety will then be $p\tau$. Wages will equalize across countries because of perfect tradability of the homogeneous good. Solving the consumer's maximization problem yields the following aggregate demand function for a representative variety produced at home for the home market:

$$D_i^h = \frac{p^{-\sigma}}{n_h p^{1-\sigma} + n_f (p\tau)^{1-\sigma}} \alpha w L_h \tag{3}$$

[3] This assumption assures that wage rates equalize between nations, ensuring that the only factor influencing trade in the differentiated good is the relative size of the two markets.

[4] As will be seen later in this section, σ will also represent the price elasticity of demand for a particular variety. This parameter must therefore by greater than 1 to ensure the monopolistic competition market structure assumed by the model – otherwise, firms would maximize profit at negative marginal revenue.

To derive this function, recall that prices are equal across firms, α is the share of spending on differentiated products, w is the common wage rate, and L_h is the supply of labor in the home country. Similarly, the aggregate demand for a variety produced at home, but shipped to the foreign market is:

$$D_i^f = \frac{(p\tau)^{-\sigma}}{n(p\tau)^{1-\sigma} + n_f p^{1-\sigma}} \alpha w L_f \tag{4}$$

Global demand for variety i is given by $D_i^h + D_i^f$. We can drop the i subscript since we assume equal preferences and production technologies across varieties. If each firm sees itself as being too small to influence the denominators of (3) and (4), then the firms face a combined domestic and export demand curve with constant elasticity σ. As a result, firms will follow a markup pricing rule and we will in fact get a situation where prices are equal across varieties. In the home country, total production of the differentiated product is given by:

$$X_h = n_h x = \frac{n_h p^{-\sigma}}{n_h p^{1-\sigma} + n_f (p\tau)^{1-\sigma}} \alpha w L_h + \frac{n_h (p\tau)^{-\sigma}}{n_h (p\tau)^{1-\sigma} + n_f p^{1-\sigma}} \alpha w L_f \tau \tag{5}$$

where x is the production of a representative variety. Note that domestic production of exports must be multiplied by the trade cost parameter τ to take into account goods lost in transit (or rather lost in cultural translation). Total foreign production is given by:

$$X_f = n_f x = \frac{n_f (p\tau)^{-\sigma}}{n_h p^{1-\sigma} + n_f (p\tau)^{1-\sigma}} \alpha w L_h \tau + \frac{n_f p^{-\sigma}}{n_h (p\tau)^{1-\sigma} + n_f p^{1-\sigma}} \alpha w L_f \tag{6}$$

At this point, notation can be simplified by assuming that $p = w = 1$ and $\delta = \tau^{1-\sigma}$. Plugging these expressions into (5) and (6) and simplifying yields:

$$\frac{x}{\alpha} = \frac{L_h}{n_h + n_f \delta} + \frac{\delta L_f}{n_h \delta + n_f} \tag{7}$$

$$\frac{x}{\alpha} = \frac{\delta L_h}{n_h + n_f \delta} + \frac{L_f}{n_h \delta + n_f} \tag{8}$$

There are two equations and two unknowns: n_h and n_f. Solving these equations for the unknowns yields the following expressions:

$$n_h = \frac{\alpha (L_h - \delta L_f)}{(1-\delta)x} \tag{9}$$

$$n_f = \frac{\alpha(L_f - \delta L_h)}{(1-\delta)x} \tag{10}$$

Production may take place in the home country only ($n_h \neq 0, n_f = 0$), in the foreign country only ($n_h = 0, n_f \neq 0$), or in both countries ($n_h \neq 0, n_f \neq 0$). Looking at (9) and (10), we can see that a key determinant of the number of varieties is country size, as represented by the labor force in each country. To make meaningful comparisons, define the production and labor share of the home country as:

$$s_n = \frac{n_h}{n_h + n_f} \quad \text{and} \qquad s_L = \frac{L_h}{L_h + L_f}$$

How does the home country's relative size (given by s_L) affect its share of differentiated good world production? To see this, consider two extreme cases: $s_n = 0$ ($n_h = 0$) and $s_n = 1$ ($n_f = 0$). Clearly if $n_h = 0$, then $L_h = \delta L_f$ and we can show $s_L = \frac{\delta}{1+\delta}$. In fact, any value of s_L below this cutoff will cause n_h to become negative, clearly indicating no production by the home country. Similarly, n_f will be equal to zero whenever s_L is greater than $\frac{1}{1+\delta}$ (note that δ is less than 1 by construction). Finally, the range of values for s_L that enable dual production can be found by setting (7) equal to (8) and solving for s_L. Doing so yields the following relationship between production share and relative country size:

$$s_n = \begin{cases} 0 & \text{for } s_L \leq \frac{\delta}{1+\delta} \\ \frac{(1+\delta)s_L - \delta}{1-\delta} & \text{for } \frac{\delta}{1+\delta} \leq s_L \leq \frac{1}{1+\delta} \\ 1 & \text{for } s_L \geq \frac{1}{1+\delta} \end{cases} \tag{11}$$

Further insights can be gained by plotting the relationship between production share and relative country size, depicted in Figure 1:

Figure 1: ***T = 1.2, σ = 3***

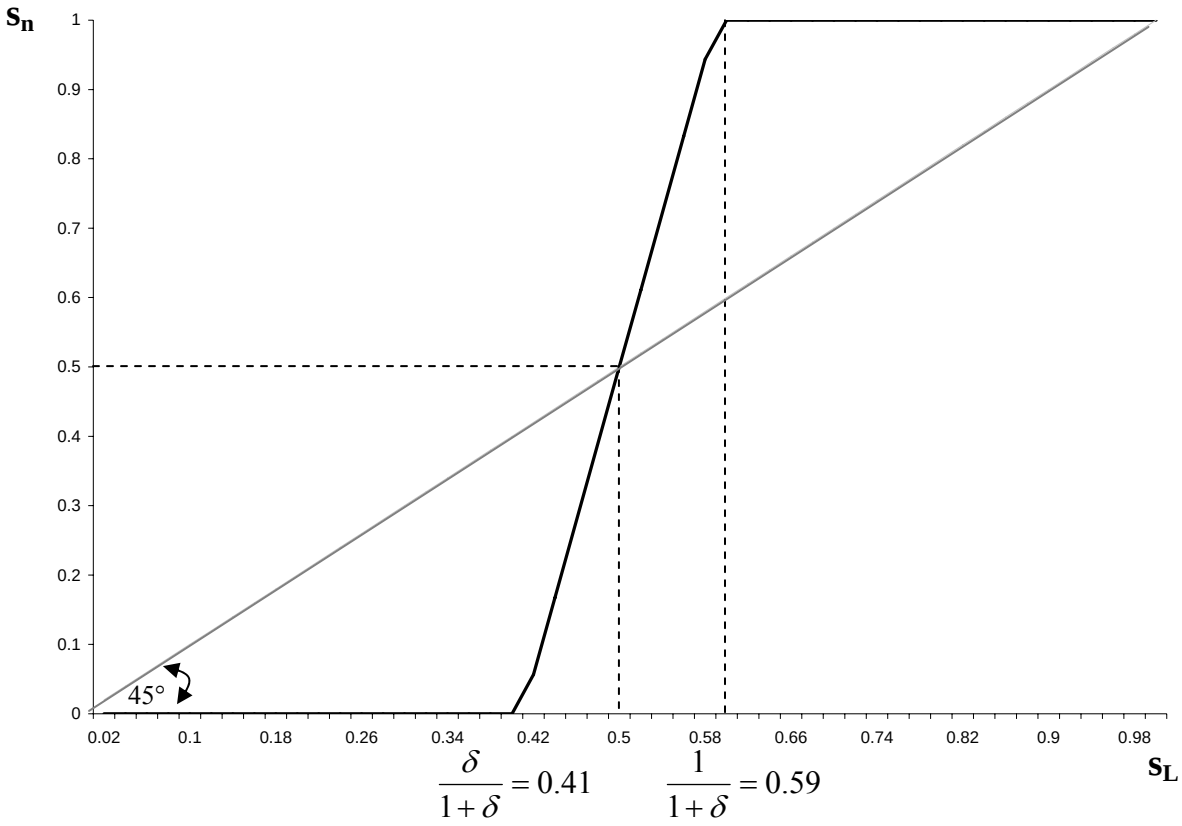


Figure 1 depicts an economy in which trade costs are equal to 1.2 and the elasticity of substitution is equal to 3. Thus, 20% of exported goods are lost in transit and there is a fairly high degree of substitution between varieties. These parameters create a lower and upper bound (in terms of relative market size) for dual production of 0.41 and 0.59. Both countries will produce if the home country makes up at least 41% of the global labor force, but no more than 59%. If the home country is smaller than this, then only the foreign country produces and vice versa.

A 45 degree line represents all points in which the number of varieties produced by the home country is proportional to its market size. If the home country produces a disproportionately large number of varieties (i.e. s_n is above the 45 degree line) then they are a net exporter and vice versa. Not surprisingly, the larger of the two countries will always be the net exporter when both countries produce.

As τ increases (δ decreases), the range of country sizes in which bilateral trade can occur widens. A larger value for τ implies greater cultural discounting of foreign newspapers. As this parameter increases, domestic producers gain an increasing advantage over their foreign competitors that can offset the scale-cost advantage of foreign producers located in larger

markets. If there is no cultural discounting, then production will be entirely concentrated in the largest market. The implication here is that the US is much more likely to dominate trade with a culturally similar yet smaller nation like Canada than it would with a relatively culturally dissimilar nation like Mexico, a prediction supported by empirical evidence.

My Refinement

The model presented above does a nice job in explaining why large countries tend to be net exporters of information goods like newspapers, but only under extreme parameter assumptions can it account for some of the observed bilateral trade patterns. For example, the US imports newspapers from many nations that, according to the preceding model, should never even have a newspaper industry. In this section, I offer a refinement to the Helpman and Krugman model that better captures the dynamics of international trade in newspapers.

The key difference in my model is that within each country, there is a fraction of consumers who apply the cultural discount to the domestically produced good. Consider newspaper consumers in the US. The majority of consumers would prefer to get their news from domestic sources like the *New York Times*, *Wall Street Journal*, etc., but there are some consumers who have a preference for foreign news sources. The most obvious group would be immigrants, who due to linguistic or cultural preferences would actually prefer to read *Bild* or *Le Monde* or some other foreign news source. As a result, they apply the cultural penalty represented by τ to local, rather than foreign news sources.

Foreign goods have a built in market in the home country. This effect tempers the impact of market size in the Helpman and Krugman model, though it does not completely eliminate it. Allowing for heterogeneity in consumers, we can get both a wider range of market sizes in which both countries produce and situations in which trade patterns can differ across equally sized countries.

Start with the same basic setup as the Helpman and Krugman model. To that, let a fraction of consumers λ_h in the home country apply the cultural penalty to foreign goods and a fraction $1-\lambda_h$ apply the penalty to home goods. In the foreign country, the corresponding parameters are λ_f and $1-\lambda_f$. The parameter $1-\lambda_h$ can be thought of as the fraction of foreign immigrants living in the home country, while $1-\lambda_f$ is the fraction of home immigrants living in the foreign country.

Applying these "affinity" fractions to the demand functions in (3) and (4) yields both domestic and foreign demand for a domestic variety:

$$D_h = \lambda_h \frac{p^{-\sigma}}{n_h p^{1-\sigma} + n_f (p\tau)^{1-\sigma}} \alpha w L_h + (1-\lambda_h) \frac{(p\tau)^{-\sigma}}{n_h (p\tau)^{1-\sigma} + n_f p^{1-\sigma}} \alpha w L_h \tag{12}$$

$$D_f = \lambda_f \frac{(p\tau)^{-\sigma}}{n_h (p\tau)^{1-\sigma} + n_f p\tau^{1-\sigma}} \alpha w L_f + (1-\lambda_f) \frac{p^{-\sigma}}{n_h p^{1-\sigma} + n_f (p\tau)^{1-\sigma}} \alpha w L_f \tag{13}$$

Total world demand for domestic production is $X_h = n_h x = n_h(D_h + Df)$. To simplify, assume $w = p = 1$, and let $\delta = \tau^{1-\sigma}$ as before. (12) and (13) can simplify to:

$$\frac{x}{\alpha} = \frac{\lambda_h L_h + (1-\lambda_f) L_f}{n_h + n_f \delta} + \frac{\delta[(1-\lambda_h) L_h + \lambda_f L_f]}{n_h \delta + n_f} \tag{14}$$

$$\frac{x}{\alpha} = \frac{\delta[\lambda_h L_h + (1-\lambda_f) L_f]}{n_h + n_f \delta} + \frac{(1-\lambda_h) L_h + \lambda_f L_f}{n_h \delta + n_f} \tag{15}$$

This gives us two equations and two unknowns (n_h and n_f). Solving for the unknowns yields:

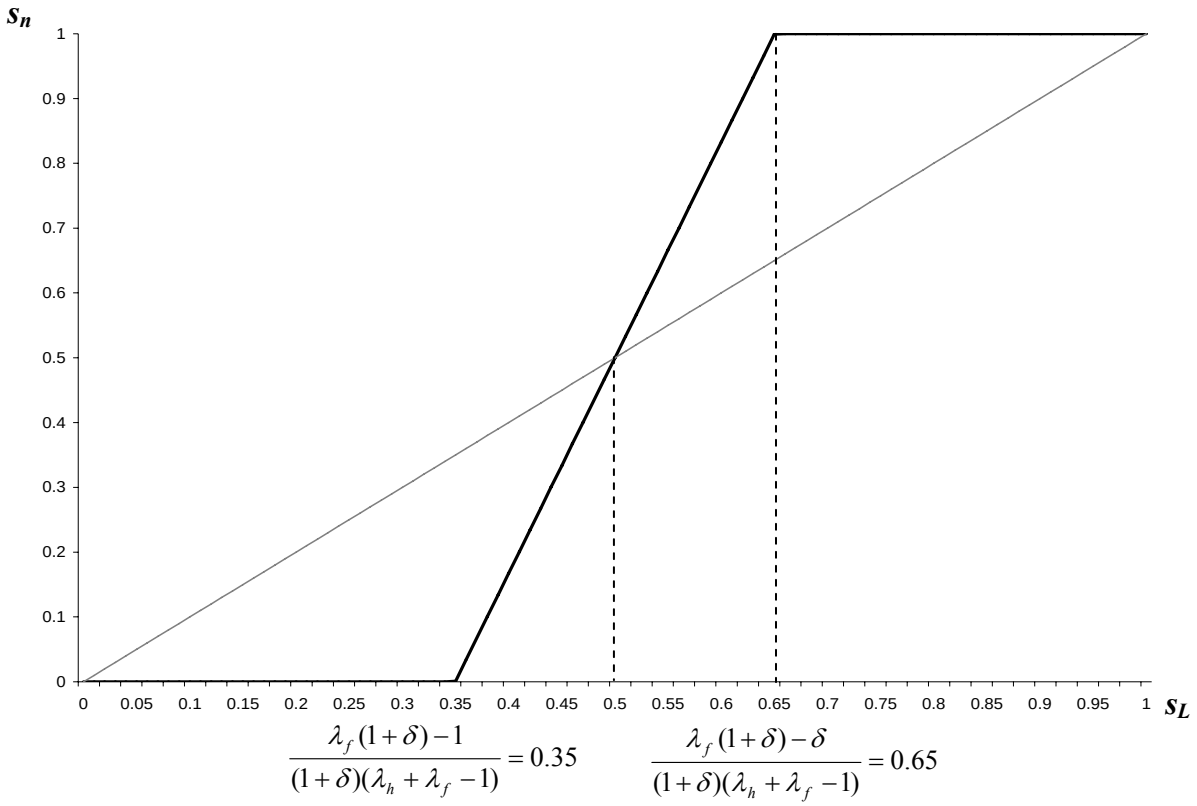
$$n_h = \frac{\alpha}{(1-\delta)x} \left\{ L_h[\lambda_h(1+\delta) - \delta] + L_f[1 - \lambda_f(1+\delta)] \right\} \tag{16}$$

$$n_f = \frac{\alpha}{(1-\delta)x} \left\{ L_f[\lambda_f(1+\delta) - \delta] + L_h[1 - \lambda_h(1+\delta)] \right\} \tag{17}$$

We want to see how the share of the home country's production changes across country sizes. To do this, define $s_n = \frac{n_h}{n_h + n_f}$ and $s_L = \frac{L_h}{L_h + L_f}$. With some manipulation:

$$s_n = \begin{cases} 0 & \text{if } s_L \le \dfrac{\lambda_f(1+\delta) - 1}{(1+\delta)(\lambda_h + \lambda_f - 1)} \\ \dfrac{(1+\delta)(\lambda_h + \lambda_f - 1) s_L + [1 - \lambda_f(1+\delta)]}{(1-\delta)} & \text{if } \dfrac{\lambda_f(1+\delta) - 1}{(1+\delta)(\lambda_h + \lambda_f - 1)} < s_L < \dfrac{\lambda_f(1+\delta) - \delta}{(1+\delta)(\lambda_h + \lambda_f - 1)} \\ 1 & \text{if } s_L \ge \dfrac{\lambda_f(1+\delta) - \delta}{(1+\delta)(\lambda_h + \lambda_f - 1)} \end{cases} \tag{18}$$

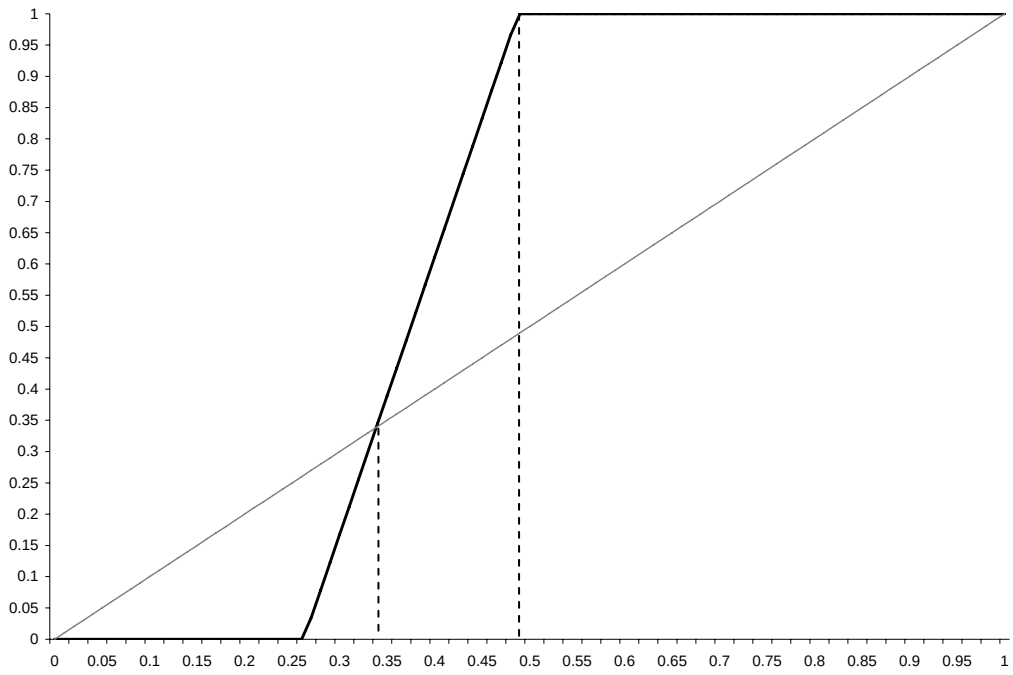
Figure 2: $T = 1.2$, $\sigma = 3$, $\lambda_h = 0.8$, $\lambda_f = 0.8$



Thus, whether or not both countries produce will depend on relative country size and trade costs, as in the Krugman and Helpman model. Production will also be determined by the foreign affinity parameters λ_h and λ_f. To get an idea of the predicted pattern of production, Figure 2 plots the home country's production share (s_n) against home country relative market size (s_L) for a given set of parameters.

Under the current parameterization, the key difference between this model and the benchmark Helpman Krugman model is that there are a wider range of country sizes for which bilateral trade may occur. This makes intuitive sense, as the affinity parameter in each country *(1-λ)* effectively increases the other country's market size. Note that with symmetry, the pattern of trade will still be determined solely by market size. Furthermore, even the presence of a large immigrant group is not enough to completely rule out the possibility of a sole producer.

Figure 3: $T = 1.2, \sigma = 3, \lambda_h = 1.0, \lambda_f = 0.8$



As in the benchmark model, the range of country sizes in which bilateral trade can occur is increasing in the cultural discount parameter τ.[5] Thus, cultural dissimilarity provides implicit protection to domestic publishers. Cultural tastes can now affect trade patterns. As λ_h increases or λ_f decreases, both the lower and upper bounds in Figure 2 shift to the left, representing a wider range of production for the home country. As λ_h decreases or λ_f increases, the lower and upper bounds shift to the right, widening the range of production for the foreign country. Thus, an increase in immigration from the home country to the foreign country (decrease in λ_f) should increase production by the home country.[6]

To determine the pattern of trade, find the point of intersection between s_n and a 45 degree line from the origin. At all points along the 45 degree line, $s_n = s_L$, implying production proportional to country size. The home country has balanced trade at the intersection between s_n and the 45 degree line. In the symmetric case depicted in Figure 2, trade balances when both

[5] Technically, this is only true if $\lambda_h + \lambda_f > 1$. It seems reasonable to assume that more than half of the consumers in each country apply the cultural discount to foreign news sources. An interesting exception is a country like Dubai, in which a minority of the population is native-born

[6] A key assumption here is that the labor force in each country is fixed. Immigration simply replaces existing labor and emigration is replaced by new entrants into the labor force. Perhaps not the most realistic assumption, but the key focus of this paper is on the impacts of market size and preferences, not production costs.

countries are equal in size. If the home country is larger ($s_n > 0.5$) it will be a net exporter and vice versa.

An advantage of my refinement to the Helpman-Krugman model is that trade patterns need not be determined solely by country size, a useful result since there are instance where small countries are net exporters of cultural goods. Figure 3 depicts the relationship between production share and country size when 20% of the foreign population prefers home goods, but 0% of the home population prefers foreign goods. Relative to the symmetric case, the upper and lower bounds of dual production have been shifted in favor of the home country. The foreign country will only be the sole producer when it makes up at least 74% of global demand and will not produce at all once it is smaller than the home country. Furthermore, the home country becomes a net exporter when it reaches only 35% of world demand. Thus, the smaller country can be a net exporter, provided that there is at least some preference for its products abroad.

How will this result be affected by the widespread adoption of the internet? With the spread of internet technology, more and more newspapers now offer content online (either for free or with a subscription). With the introduction of this substitute, demand for print newspapers (what is being traded) should fall. If demand by domestic preference consumers (λ) and foreign preference consumers ($1-\lambda$) falls proportionately, the basic results discussed above will not change. If a larger share of foreign preference consumers switch to online news coverage, then λ increases, pushing the model back to the benchmark case. Why might foreign-preference consumers be more likely to switch to online coverage? One explanation is that there are higher search costs for foreign print newspapers. A local paper can be found in significantly more locations than a foreign one. The decrease in print newspaper demand may further reduce foreign newspaper availability, as fewer retail outlets will sell enough foreign papers to cover the fixed costs of stocking them. Increased internet usage should produce two results. First, the impact of immigration or foreign trade on international newspaper trade should fall, as the foreign affinity parameter $1-\lambda$ decreases. Second, newspaper production should become more concentrated in the largest nations, reflecting the theoretical predictions of the benchmark model.

III. Empirical Methodology

The Dataset

The empirical section of this paper draws on two main data sources. I gather trade statistics on newspapers from the *UN Comtrade* database. The trade data refers to HS2002 code 4902, defined as newspapers, journals, and periodicals. Bilateral trade data covers 28 reporting

countries trading with 75 partner countries, yielding 1,694 unique trading scenarios per year.[7] Trade statistics cover 1997, 1999, 2001, and 2004 yielding a sample that covers both the pre and post-internet boom periods. Total trade in newspapers across the sample topped out at $10.7 billion, representing over 80% of total world trade. Both the largest exporters (Germany, the UK, and the US) and the largest importers (Belgium, Canada, and Switzerland) of newspapers are included as reporters, with the rest of the sample covering a fairly wide geographic and socioeconomic range.

Table 1 presents summary trade statistics across the sample for 1999 and 2004. There are wide ranges for both total trade (defined as exports plus imports) as well as the trade balance (exports minus imports). While large countries tend to be net exporters of newspapers – as the theoretical model predicts – this is not universally true. Japan, despite representing the second largest economy amongst reporters, has a negative trade balance perhaps due to linguistic isolation. Italy has fairly balanced trade, while significantly smaller Finland is a net exporter. Looking at each country's top trading partners, we can see that trade moves along fairly predictable geographic and cultural lines. English speaking countries tend to trade with other English speaking countries, German speaking countries with other German speaking countries and so on. Neighboring countries tend to trade more and there is evidence that past colonial ties matter. All of these factors are also positively related to immigration and trade, variables that should increase domestic demand for foreign news coverage ($1-\lambda$ in the theoretical model.) These results confirm an earlier study by Marvasti (1994) who found that rich countries tended to export to poor countries and trade was dominated by English-speaking nations, reflecting the popularity of American culture.[8]

Examining trade on a country-by-country basis, we see that each nation's trade is dominated by a relatively small number of countries. The column "H-Index" in table 2 refers to the Herfindahl index of trade concentration for each country. A few notable exceptions notwithstanding, most countries have highly concentrated trade in newspapers, with market concentration highest for those countries neighboring a major news exporter. The US dominates Canadian newspaper trade, the UK dominates Irish newspaper trade, and Germany dominates Austrian trade. While each country has relatively concentrated trade, global trade in newspapers is dispersed. The Herfindahl index across all countries in the sample was a fairly low 0.085 in

[7] 28 of the 75 partner countries are also reporters.
[8] The results in this study confirm Marvasti's and augment them with two important determinants of cultural goods trade: immigration and internet adoption.

2004. While newspaper trade for individual countries is concentrated, not all trade is dominated by the same nations.

A key prediction of the model is that countries with large immigrant and emigrant populations will have greater newspaper trade. To assess this, I collect immigration data for the 28 reporting countries from the *OECD International Migration Statistics Database*. For each bilateral country pair (28 reporting countries with 75 partner countries), I compute both the total number of immigrants and the share of the population represented by immigrants from a particular country. Table 2 presents summary immigration statistics, displaying a wide variety in demographics across the sample. The column "immigrant share" gives the percentage of a country's population that was born abroad, ranging from a cosmopolitan country like Luxembourg (30.1%) to a fairly homogenous Korea at 0.3%. Countries also differ in terms of their expatriate populations, with the number of people from Ireland living abroad being 21.4% as large as the native population, for example. Contrast this figure with the US, where the emigrant population is only equal to 0.5% of the native population. The patterns of immigration tend to move along cultural and geographic lines and are greatly influenced by colonial linkages, reflecting the costs and benefits of immigration. Not surprisingly, the same patterns that influence immigration also affect international trade in newspapers.

Econometric Model

The theoretical model yields several testable predictions. International trade in newspapers should be a function of country size, the cultural discount applied to foreign goods, and immigration. Country size is measured with two variables: real GDP and population. Two variables are used to capture the cultural discount: physical distance and an indicator variable for common language. The further apart two countries are, the greater the cultural difference should be (or rather, the less relevant news from the foreign country will be). Language is a clear barrier to trade in information goods, as there is a sizable portion of people in each country for whom the imported good is un-substitutable for the domestic good. Both distance and language are taken from the CEPII Geodesic Distance Database, with the language variable equal to 1 for two countries in which at least 10% of the population speaks the same language.[9]

Bilateral trade in newspapers is estimated with a modified gravity equation relating trade to distance, language, GDP, population, and bilateral immigration. The baseline model estimated is:

[9] The distance between countries is a CES trade weighted measure that adjusts for the locations of major centers of commerce within each country.

$$\ln TT_{i,j,t} = \beta_0 + \beta_1 \ln I_{i,j,t} + \beta_2 \ln Dist_{i,j} + \beta_3 Lang_{i,j} + \beta_4 \ln Y_{i,t} + \beta_5 \ln Y_{j,t} + \beta_6 \ln Pop_{i,t} + \beta_7 \ln Pop_{j,t} \quad (19)$$

To illustrate, let the reporting country (*i*) be the UK and the partner country (*j*) be Jamaica. The natural log of total newspaper trade between the UK and Jamaica is regressed on log immigrants from Jamaica living in the UK, log distance between the two countries, a common language dummy (equal to 1 in this case), log real GDP in Jamaica and the US, and log populations in both countries. Each coefficient represents the elasticity of trade to its respective variable. For example, if $\beta_1 = 0.5$, then a 10% increase in immigration from Jamaica to the UK will increase total newspaper trade between these nations by 5%. The other coefficients have analogous interpretations.

While the specification above estimates the elasticity of total trade, insights may be gained by looking at the elasticities of imports and exports separately. The dependant variable in (19) is replaced by log newspaper exports from country *i* to country *j* and log newspaper imports by country *i* from country *j*:

$$\ln X_{i,j,t} = \beta_0 + \beta_1 \ln I_{i,j,t} + \beta_2 \ln Dist_{i,j} + \beta_3 Lang_{i,j} + \beta_4 \ln Y_{i,t} + \beta_5 \ln Y_{j,t} + \beta_6 \ln Pop_{i,t} + \beta_7 \ln Pop_{j,t} \quad (20)$$

$$\ln M_{i,j,t} = \beta_0 + \beta_1 \ln I_{i,j,t} + \beta_2 \ln Dist_{i,j} + \beta_3 Lang_{i,j} + \beta_4 \ln Y_{i,t} + \beta_5 \ln Y_{j,t} + \beta_6 \ln Pop_{i,t} + \beta_7 \ln Pop_{j,t} \quad (21)$$

One additional refinement is to control for country size in the immigrant effect. This is done by replacing the log immigration variable with a new variable measuring the percentage of a particular country's population made up immigrants from another nation. For example, 1.21% of the French population in 2001 was born in Morocco. So $IShr_{i,j,t} = 1.21\%$ for *i* = France, *j* = Morocco, and *t* = 2001.

Table 3 presents the OLS estimates of the coefficients given in 19-21 using both log immigrants and immigrant share as the principal explanatory variable. In all cases, immigration has an impact on newspaper trade that is both statistically and economically meaningful. A 10% increase in immigration between two countries causes total trade between those countries to increase by 4.4%. Using the immigrant share variable, the results do not meaningfully change. If the immigrant share of a particular country increased by 0.1% (roughly doubling the average immigrant share across the sample), total newspaper trade would increase by about 7%.

The direction of migration appears to have slightly larger effects on the type of trade. An increase in immigration from France to Germany, for example, would have a larger impact on imports of French periodicals by Germany than on exports of German periodicals to France. This

makes sense, as the immigrants from France would make up a sizable portion of new demand for French periodicals in Germany. The fact that inward immigration still has a positive effect on exports suggests the presence of backward linkages as well. Immigration represents a connection between countries, which can serve to lower the cultural discount natives place on foreign news.

The cultural discount variables have the expected sign and significance. Countries located further apart tend to trade less in newspapers. While the significance of distance should come as no surprise to anyone familiar with empirical studies on trade, it does run counter to a result found by Disdier, Mayer, and Tai (2006) who find that distance only weakly affects trade in another cultural good: motion pictures. Still, we should expect distance to matter for newspapers, as people will be more concerned with what is happening next door than around the world. Language has a large impact, with twice as much trade occurring between countries that speak the same language.[10]

Country size, as measured by GDP, has a positive impact on newspaper trade, as would be predicted by the theoretical model. However, country size as measured by population appears to have a negative effect on trade. In particular, partner country population consistently reduces trade. Perhaps less populous countries trade more because they do not have the internal demand to cover the fixed costs of a full scale newspaper and periodical industry. For example, a low population country like Belgium has enough people to support a domestic news agency, but not enough to support specialized publications (i.e. sports magazines, trade publications, general interest journals), especially when more populous, culturally similar, and adjacent France already has an established publishing industry devoted to these specialized periodicals. Thus, Belgium will trade more than a country that has a large enough population to support these industries. This explanation does not necessarily contradict the positive impact of GDP, as richer countries will be more able to afford and have the leisure time necessary to enjoy these specialized publications.

The Impact of the Internet

In the dark days before the internet, people actually had to walk down to the local newsstand if they wanted to read a foreign paper. Today, that option is still available, but so too is simply logging onto the foreign newspaper's website. Online coverage closely matches print and for those papers with online subscriptions, coverage is virtually identical. Thus, we should see international trade in periodicals decreasing with internet usage. To assess this claim, two

[10] Technically, the marginal effect of language is 100*(exp(1.09) – 1) = 197% using the estimate in the first column of table 3. Linguistic pairs thus have nearly 200% more trade than linguistic strangers.

modifications to the baseline specification in (19) are presented. The first uses year dummy variables interacted with immigration to assess how increased internet usage has affected the relationship between immigration and newspaper trade.

$$\ln TT_{i,j,t} = \beta_0 + \beta_1 \ln I_{i,j,t} + \gamma_1 Y_{99} * \ln I_{i,j,t} + \gamma_2 Y_{01} * \ln I_{i,j,t} + \gamma_3 Y_{04} * \ln I_{i,j,t} + \beta_2 \ln Dist_{i,j} + \beta_3 Lang_{i,j} + \beta_4 \ln Y_{i,t} + \beta_5 \ln Y_{j,t} + \beta_6 \ln Pop_{i,t} + \beta_7 \ln Pop_{j,t} \quad (22)$$

The reference year is 1997 and it is expected that the γ coefficients will become increasingly negative, corresponding to the rise in internet usage over time from 9% of the sample population in 1997 to 48% in 2004.

The second specification classifies countries as low, medium, and high internet users and estimates the different impact of immigration on newspaper trade between these groups, with internet usage data taken from the *Global Market Information Database*. A country in the bottom 25% of the sample in internet usage per capita for a given year is classified as low and a country in the top 25% for a given year is classified as high.

$$\ln TT_{i,j,t} = \beta_0 + \beta_1 \ln I_{i,j,t} + \delta_1 Int_L * \ln I_{i,j,t} + \delta_1 Int_H * \ln I_{i,j,t} + \beta_2 \ln Dist_{i,j} + \beta_3 Lang_{i,j} + \beta_4 \ln Y_{i,t} + \beta_5 \ln Y_{j,t} + \beta_6 \ln Pop_{i,t} + \beta_7 \ln Pop_{j,t} \quad (23)$$

OLS estimates of the coefficients in (22) and (23) are presented in Table 4 for bilateral total trade, exports, and imports. The elasticity of trade to immigration has been declining over time, perhaps due to increased usage of the internet. In 2001, immigration yielded a 10.9% smaller impact on trade than in 1997, while immigration in 2004 yielded a 19.6% smaller impact. At least part of the decreased importance of immigration must be due to increased internet usage.

The second and third columns of Table 3 present more evidence for a negative correlation between internet usage and the elasticity of trade to immigration. Immigration in the high internet usage countries has an effect on trade 8.5% smaller than medium internet usage countries. Looking across all years in the sample, the low-internet usage countries tend to trade less as well, though the difference is economically small. The cause for this effect may lie on the supply side of trade, as a country with very little information technology could lack the necessary infrastructure to provide costless trade in information goods. When the regression is limited to just one year (2001), there is a monotonic and negative relationship between internet usage and trade-immigrant elasticity.

IV. Conclusion

The modern era of globalization has seen increased movements of both goods and people across borders. These movements cannot be studied in isolation, however. This is especially relevant for cultural goods like newspapers. Why would anyone want to read foreign coverage of news when a local periodical gives the same coverage tailored to your interests? Clearly, local coverage is not tailored to meet everyone's interests. For a subset of the population, foreign coverage is actually preferred. More cosmopolitan countries have greater trade opportunities in cultural goods. This result is confirmed both theoretically and empirically, with immigration having both a statistically and economically significant impact on trade, either measured in imports or exports.

With increased international trade, small open economies have become increasingly concerned with protecting their cultural industries. Industries characterized by increasing returns have a tendency to consolidate in the largest market, implying that small nations will see their cultural industries dominated by their larger neighbors. This paper presents a counter argument to this concern. With migration (or even foreign trade and investment interests), even small countries can maintain cultural industries. Their economic presence on the international stage creates a market for their production. Canadian culture need not be dominated by American, as long as some Canadians live in the US. French cinema can still thrive on the world stage as long as there are some people outside of France who have a preference for that artistic style.

One development that may serve to reduce measured cultural trade by small nations is the internet. This is ironic, as the internet reduces the cost of sharing information, which should presumably promote cultural diversity by increasing access. The results in this study suggest that increased internet usage decreases trade. In reality, trade has not necessarily fallen because of the internet, but rather the form of consumption has changed. Rather than purchasing a tangible import like a newspaper, consumers import the newspaper virtually. Physical trade for small countries falls, but the total exchange of goods need not do the same. Smaller countries may not export their cultural goods as much, but this does not mean that their industries are being dominated.

Opponents of free trade in cultural goods worry about the suburbanization of culture, in which increased trade leads to a homogenous cultural landscape where you cannot tell where one country begins and another ends. The cultural exception in the Uruguay Round of GATT negotiations has been used to protect sensitive industries such as film and music. It has not, however, been applied to periodicals. The results in this study suggest that even with free trade in periodicals, there has not been a homogenization of the product. Small countries continue to not

only have newspaper industries, but to export their products. While increased adoption of the internet has reduced measured trade, it is not clear that it has reduced production. Perhaps cultural goods do not need protection after all.

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Table 1: Newspaper Trade Statisitcs

	1999					2004				
Country	**Total Trade**	**Trade Balance**	**Top Partners**	**Rank**	**H Index**	**Total Trade**	**Trade Balance**	**Top Partners**	**Rank**	**H Index**
USA	1,145.5	595.3	Canada, UK	1	0.492	1,416.5	738.0	Canada, UK	3	0.486
Germany	1,123.0	362.6	Austria, France	2	0.123	1,440.1	557.3	Austria, France	2	0.116
UK	943.9	279.3	Ireland, USA	3	0.087	1,537.5	697.4	Netherlands, USA	1	0.135
France	841.7	2.1	Germany, Belgium	4	0.126	991.1	-78.8	Belgium, Germany	5	0.127
Canada	834.6	-533.4	USA, UK	5	0.885	1,018.6	-714.6	USA, UK	4	0.877
Belgium	453.8	-173.4	France, Netherlands	6	0.319	529.3	-154.0	France, Netherlands	6	0.361
Spain	376.6	64.0	UK, France	7	0.146	410.7	-20.4	France, UK	9	0.134
Italy	374.8	1.6	France, Germany	8	0.145	504.5	-8.6	France, Germany	7	0.160
Switzerland	357.6	-246.1	Germany, France	9	0.385	445.4	-350.6	Germany, France	8	0.419
Netherlands	239.7	38.5	Belgium, Germany	10	0.139	282.1	29.0	UK, Germany	10	0.133
Austria	216.3	-99.4	Germany, UK	11	0.787	269.8	-132.3	Germany, Switzerland	11	0.672
Australia	177.4	-129.9	USA, UK	12	0.314	246.9	-157.5	UK, USA	12	0.339
Japan	177.1	-134.1	USA, UK	13	0.224	164.7	-104.7	USA, UK	14	0.268
Finland	146.3	55.9	Russia, Sweden	14	0.202	246.9	82.9	Russia, Sweden	13	0.240
Ireland	116.5	-68.0	UK, USA	15	0.921	149.3	-65.0	UK, USA	15	0.984
Portugal	93.7	-83.7	Spain, Brazil	16	0.277	126.5	-119.5	Spain, Brazil	17	0.344
Mexico	91.9	-37.7	USA, Spain	17	0.366	92.4	-32.6	USA, Spain	20	0.374
Poland	88.2	-30.0	Germany, Czech Rep.	18	0.255	132.7	58.6	Germany, Russia	16	0.139
Sweden	87.2	-46.3	Finland, Norway	19	0.157	123.8	-63.7	Finland, Norway	19	0.133
Denmark	79.9	-3.7	Germany, UK	20	0.133	123.9	29.7	UK, Norway	18	0.147
New Zealand	65.7	-63.0	Australia, UK	21	0.340	81.4	-75.1	Australia, UK	21	0.464
Norway	58.6	-20.1	Sweden, Denmark	22	0.213	74.0	-65.3	Denmark, Sweden	23	0.199
Greece	51.0	-30.6	UK, Germany	23	0.160	38.3	-7.8	Cyprus, Germany	25	0.152
Czech Rep.	40.0	5.3	Germany, Poland	24	0.266	74.3	-0.3	Germany, Poland	22	0.320
Luxembourg	38.3	-29.9	Germany, France	25	0.402	51.4	-31.4	Germany, France	24	0.405
Hungary	21.3	-10.5	Germany, Poland	26	0.168	23.9	-6.6	Germany, Poland	28	0.146
Korea	12.6	-6.8	Japan, USA	27	0.432	29.6	-18.0	Japan, USA	27	0.274
Turkey	11.0	-10.4	Germany, France	28	0.269	32.3	-18.9	Germany, UK	26	0.196
Total	**8,264.3**				**0.312**	**10,657.7**				**0.312**
Herfindahl	**0.083**					**0.085**				

* Total trade and trade balance data in millions of dollars. H Index is the Herfindahl trade index for each country, while Herfindahl refers to the Herindahl index across all countries. Trade data taken from the UN Comtrade database and refers to exports and imports of HS code 4902: Newspapers, Journals, and Periodicals. Shaded rows indicate countries that are net exporters of periodicals.

Table 2: Immigration and Emigration Characteristics

Country	Immigrant Share	Top Senders	Emigrant Share	Top Receivers
Australia	20.7%	UK, New Zealand, Italy	2.0%	UK, USA, New Zealand
Austria	7.9%	Germany, Turkey, Czech Rep.	5.9%	Germany, USA, Switzerland
Belgium	8.6%	France, Italy, Morocco	4.0%	France, Netherlands, Italy
Canada	16.8%	UK, China, India	4.1%	USA, UK, Australia
Czech Republic	1.5%	Ukraine, Poland, Russia	2.0%	Austria, Germany, USA
Denmark	5.4%	Turkey, Germany, Sweden	3.8%	Sweden, USA, Norway
Finland	1.6%	Sweden, Estonia, Germany	5.8%	Sweden, USA, Canada
France	6.2%	Morocco, Portugal, Italy	2.3%	USA, Spain, Belgium
Germany	5.8%	Turkey, Italy, Greece	4.3%	USA, Turkey, UK
Greece	5.5%	Germany, Turkey, Russia	8.3%	Germany, USA, Australia
Hungary	2.1%	Romania, Ukraine, Germany	3.3%	USA, Canada, Germany
Ireland	9.9%	UK, USA, Nigeria	21.4%	UK, USA, Australia
Italy	2.9%	Germany, Switzerland, Morocco	4.7%	Germany, USA, France
Japan	1.0%	Korea, China, Brazil	0.5%	USA, UK, Canada
Korea	0.3%	China, Japan, Philippines	3.6%	USA, Japan, Canada
Luxembourg	30.1%	Portugal, France, Belgium	10.6%	Belgium, France, Germany
Mexico	0.5%	USA, Spain, Argentina	9.9%	USA, Canada, Spain
Netherlands	7.3%	Turkey, Indonesia, Morocco	4.6%	Canada, Germany, USA
New Zealand	16.2%	UK, Australia, China	13.5%	Australia, UK, USA
Norway	6.0%	Sweden, Denmark, USA	3.4%	Sweden, USA, Denmark
Poland	1.7%	Ukraine, Germany, Lithuania	3.8%	USA, Germany, Canada
Portugal	3.0%	France, Brazil, Germany	13.6%	France, USA, Canada
Spain	4.9%	Morocco, Ecuador, Colombia	2.1%	France, USA, Germany
Sweden	9.6%	Finland, Iraq, Norway	2.8%	USA, Norway, Finland
Switzerland	16.8%	Italy, Germany, Portugal	7.9%	Italy, France, Spain
Turkey	1.5%	Bulgaria, Germany, Greece	4.0%	Germany, Netherlands, France
UK	6.7%	Ireland, India, Pakistan	6.1%	Australia, USA, Canada
USA	10.3%	Mexico, Philippines, Germany	0.5%	Mexico, Canada, UK

***** Immigrant share is defined as the percentage of a country's population born abroad. The emigrant share is defined as the total number of natives living abroad divided by the native population staying at home. Both shares are computed based on the sample of 28 reporting and 75 partner countries and do not include any countries sending or receiving immigrants outside the sample. All numbers refer to 2001 and are taken from the *OECD's International Migration Statistics* database.

Table 3: Newspaper Trade Elasticity

	logTT		lnX		lnM	
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Ln(Immigrants$_{ij}$)	0.44	-	0.30	-	0.48	-
	[0.000]	-	[0.000]	-	[0.000]	-
Immigrant Share$_{ij}$	-	69.18	-	31.61	-	80.05
	-	[0.000]	-	[0.038]	-	[0.000]
Ln(Distance$_{ij}$)	-1.13	-1.33	-1.10	-1.27	-1.02	-1.19
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Language$_{ij}$	1.09	1.58	1.24	1.63	1.01	1.43
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Ln(GDP$_i$)	0.78	1.48	1.42	1.93	0.12	0.71
	[0.000]	[0.000]	[0.000]	[0.000]	[0.557]	[0.000]
Ln(GDP)$_j$	1.75	1.83	1.14	1.22	2.32	2.28
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Ln(Population$_i$)	-0.01	-0.28	-0.44	-0.65	0.24	0.075
	[0.934]	[0.063]	[0.021]	[0.001]	[0.190]	[0.690]
Ln(Population$_j$)	-1.15	-1.01	-0.76	-0.67	-1.53	-1.29
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Constant	-3.59	-7.37	-3.71	-6.39	-3.44	-6.08
	[0.000]	[0.000]	[0.002]	[0.000]	[0.000]	[0.000]
Sample Size	1123	1153	947	976	815	837
R^2	0.64	0.61	0.55	0.53	0.58	0.55

* OLS regression estimates of total newspaper trade, newspaper export, and import elasticity with p-values in brackets. For specifications 1-2, the dependant variable is log bilateral trade in periodicals (exports + imports). For specifications 3-4, the dependant variable is log exports of periodicals from country *i* to country *j* and specifications 5-6 use log bilateral imports. Periodicals are defined as HS2002 code 4902: Newspapers, journals and periodicals. *Immigrants$_{ij}$* is the total number of immigrants from country *j* living in country *i*, while *Immigrant Share$_{ij}$* is the fraction of country *i*'s population that country *j* immigrants compose. Distance is measured in kilometers and is a CES trade weighted measure taken from the *CEPII* database. *Language$_{ij}$* is a dummy variable equal to 1 if at least 10% of the population in countries *i* and *j* speak the same language. GDP and Population data are taken from the *International Financial Statistics* database.

Table 4: The Impact of the Internet

	ln TT			ln X			ln M		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Ln(Immigrants$_{ij}$)	0.46	0.47	0.44	0.36	0.36	0.29	0.46	0.47	0.49
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Ln(Imm$_{ij}$)*Y$_{99}$	-0.01	-	-	-0.01	-	-	-0.02	-	-
	[0.157]	-	-	[0.234]	-	-	[0.161]	-	-
Ln(Imm$_{ij}$)*Y$_{01}$	-0.05	-	-	-0.06	-	-	-0.05	-	-
	[0.000]	-	-	[0.000]	-	-	[0.000]	-	-
Ln(Imm$_{ij}$)*Y$_{04}$	-0.09	-	-	-0.08	-	-	-0.07	-	-
	[0.000]	-	-	[0.000]	-	-	[0.000]	-	-
Ln(Imm$_{ij}$)*LowInt$_i$	-	-0.02	0.06	-	0.00	0.06	-	-0.05	0.03
	-	[0.071]	[0.025]	-	[0.887]	[0.041]	-	[0.000]	[0.298]
Ln(Imm$_{ij}$)*HighInt$_i$	-	-0.04	-0.03	-	-0.02	-0.02	-	-0.02	-0.02
	-	[0.000]	[0.028]	-	[0.010]	[0.304]	-	[0.077]	[0.265]
Ln(Distance$_{ij}$)	-1.19	-1.14	-1.10	-1.18	-1.14	-1.09	-1.07	-1.05	-0.99
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Language$_{ij}$	1.26	1.24	1.12	1.33	1.30	1.26	1.09	1.07	1.04
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Ln(GDP$_i$)	0.63	0.34	1.23	1.14	0.95	1.92	0.04	-0.41	0.38
	[0.000]	[0.001]	[0.000]	[0.000]	[0.000]	[0.000]	[0.704]	[0.000]	[0.192]
Ln(GDP$_j$)	1.82	1.76	1.76	1.17	1.12	1.15	2.37	2.33	2.32
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Ln(POP$_i$)	0.12	0.37	-0.44	-0.22	-0.07	-0.91	0.36	0.78	-0.01
	[0.125]	[0.000]	[0.044]	[0.028]	[0.589]	[0.001]	[0.000]	[0.000]	[0.983]
Ln(POP$_j$)	-1.21	-1.19	1.17	-0.77	-0.76	-0.76	-1.55	-1.54	-1.53
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Constant	-2.53	-1.32	-5.63	-1.79	-1.01	-5.70	-3.00	-1.22	-4.59
	[0.000]	[0.016]	[0.000]	[0.002]	[0.112]	[0.000]	[0.000]	[0.066]	[0.002]
Sample Size	4308	4308	1123	3535	3535	947	3242	3242	815
R^2	0.64	0.63	0.64	0.56	0.56	0.55	0.59	0.58	0.58

* OLS regression estimates of total newspaper trade and newspaper export elasticity with p-values in brackets. Columns (1) and (2) present results for the entire sample period, while column (3) restricts the sample to 2001 only. Similarly, columns (4) and (5) cover the whole sample and column (6) covers 2001 only. Y_{99}, Y_{01}, and Y_{04} are year-specific dummy variables for 1999, 2001, and 2004 (the reference year is 1997). $LowInt_i$ and $HighInt_i$ are dummy variables for countries with low and high levels of internet usage. Countries are classified as low internet users if they are in the bottom 25% of internet users per capita across the sample for each year (1997-2004). Countries are classified as high internet if they fall in the top 75% for the sample for each year. The middle 50% of internet users are the reference group. See Table 2 for definitions of the other explanatory variables. Internet usage data comes from the *Global Market Information Database*.

Appendix A: List of Reporter and Partner Countries

Reporters	Partners		
Australia	Argentina	Hungary	Poland
Austria	Australia	Iceland	Portugal
Belgium	Austria	India	Romania
Canada	Bangladesh	Indonesia	Russia
Czech Rep.	Belgium	Iran	Saudi Arabia
Denmark	Bolivia	Iraq	Singapore
Finland	Brazil	Ireland	South Africa
France	Bulgaria	Israel	Spain
Germany	Canada	Italy	Sweden
Greece	Chile	Jamaica	Switzerland
Hungary	China	Japan	Thailand
Ireland	Colombia	Korea	Trinidad
Italy	Costa Rica	Latvia	Turkey
Japan	Cyprus	Lebanon	Ukraine
Korea	Czech Rep.	Lithuania	United Kingdom
Luxembourg	Denmark	Luxembourg	Uruguay
Mexico	Dominican Rep.	Malaysia	USA
Netherlands	Ecuador	Mexico	Venezuela
New Zealand	Egypt	Morocco	Vietnam
Norway	El Salvador	Netherlands	
Poland	Estonia	New Zealand	
Portugal	Ethiopia	Nicaragua	
Spain	Fiji	Nigeria	
Sweden	Finland	Norway	
Switzerland	France	Pakistan	
Turkey	Germany	Panama	
United Kingdom	Greece	Peru	
USA	Hong Kong	Philippines	