The Link between Immigration and Trade: Evidence from the United Kingdom

By

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I. Introduction

Growing evidence has been found in support of the idea that im-migration has positive effects on trade between immigrants' host and home countries. Pioneering studies by Gould (1994) and Head and Ries (1998) document such immigrant link effects for both imports and exports of the United States and Canada, respectively. Recent work by Dunlevy and Hutchinson (1999) also uncover evidence of pro-trade impact of immigration on US imports in the late nineteenth and early twentieth centuries. These findings are important because they not only help us fully understand the economic impact of immigrants on host and home countries but also might have some relevant policy implications, especially for host countries. The purpose of this paper is twofold: first to investigate the robustness of the immigrant link effect using UK data, and second to identify a possible mechanism behind such linkage.

The existing literature suggests that the immigrant link influences bilateral trade flows through two basic channels. First, immigrants bring with them a preference for home-country products. Second, immigrants can reduce transaction costs of bilateral trade with their home countries. The former seems intuitively obvious and certainly could have an impact on imports of the host country, but the latter is potentially more important since it could affect both imports and exports. While there

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are many possible mechanisms through which immigrants can reduce the transaction costs of bilateral trade, we believe that they can be broadly classified into two: individual-specific and nonindividual-specific. In the former case, where the mechanism is individual-specific, the effect of the immigrant link would be 'universal.' For example, transaction costs of bilateral trade are reduced because of individual immigrant's business connections or personal contacts with his/her home country. Under this mechanism, regardless of which country immigrants come from, immigration would always lower the transaction costs of bilateral trade. On the other hand, if the mechanism is nonindividual-specific, the effect of the immigrant link would be 'nonuniversal.' For example, transaction costs of bilateral trade are reduced because of additional knowledge brought by immigrants about foreign markets and different social institutions. Under the second mechanism, whether immigration would reduce the transaction costs of bilateral trade depends on which country that immigrants come from. If they originate from a country whose social and political institutions are similar to those in the host country, their impact on the reduction of transaction costs would be lower.

The relative importance of these two mechanisms, however, has not been formally investigated in the literature. Although they are not mutually exclusive, we believe that their relative importance could be identified in some host country's trade data. This paper is a first attempt in this direction. We study bilateral trade between the United Kingdom and 48 trading partners. A unique aspect of working with UK dataset is that the countries can be classified into two distinct groups according to whether the trading partner is a former colony or not. In our study, we have 26 Commonwealth (former colonies; including Hong Kong) and 22 non-Commonwealth members. We hypothesize that the social and political institutions in Commonwealth countries are much more similar to the United Kingdom because of colonial connections. The United Kingdom is in a unique position of having a lot of knowledge about the social and economic institutions of Commonwealth countries, because of its status as a former colonial power. Hence information brought by immigrants from the latter would have less value-added compared to those from non-Commonwealth countries. This allows us to test our hypotheses and assess the relative importance of the two mechanisms through which immigrants lower the transaction costs of bilateral trade.

Our key empirical results fall into three categories. First, after controlling for other factors, the United Kingdom has a higher propensity

to trade with Commonwealth countries. This result is expected in light of the fact that the gravity model literature has consistently yielded significant dummies for language and cultural similarities. Second, and interestingly, the impact of immigration on UK's exports is very different between Commonwealth and non-Commonwealth countries. Specifically, we establish a robust evidence that immigration from non-Commonwealth countries has a significant trade-enhancing effect. A 10 per cent increase in the stock of immigrants increases UK's exports to those countries by 1.6 per cent. Strikingly, by contrast, the effect of immigration from the Commonwealth countries on UK's exports to them is statistically insignificant. This finding supports the nonindividual-specific mechanism. That is, the econometric evidence seems to suggest that immigration enhance bilateral trade through the knowledge (brought by immigrants) about foreign markets and different social institutions rather than their business connections or personal contacts with their home countries. Third, the effects of immigration on UK's imports are also different between Commonwealth and non-Commonwealth countries. Our study reveals a pro-trade effect of immigration from the non-Commonwealth countries, similar to other studies in the literature, but reveals a 'trade-substitution' effect of immigration from the Commonwealth countries. The latter could be a result of import-substituting activities by immigrants. As the immigrant population in the United Kingdom from Commonwealth countries is relatively large compared to that from non-Commonwealth countries, the manufacturing of some goods could be more attractive than importing them due to the economies of scale for production.

The plan of the rest of the paper is as follows. Section II presents our modelling framework and Section III describes the data used in the study. In Section IV, we discuss the estimation results and the implications of our major findings. Finally, Section V provides some concluding remarks.

II. Modeling Framework

Following Gould (1994) and Head and Ries (1998), we use a gravity equation of trade augmented by immigration variables to assess the link between immigration and the bilateral trade between the United Kingdom and immigrants' home countries. The gravity model is a standard and empirically successful method of evaluating the determinants of aggregate trade flows between pairs of countries. Its theoretical underpinnings have been discussed in Anderson (1979), Bergstrand (1985),

Helpman (1984) and Deardorff (1995). Our general specification is $y_{it} = f(M_{it}; X_{it})$, where y_{it} is UK's exports to (or imports from) country i at time t; M_{it} denotes a measure of immigration from country i to the United Kingdom and X_{it} represents a vector of variables that influence bilateral trade between the United Kingdom and country i at time t. The gravity model predicts that the volume of bilateral trade is positively related to the product of the pair countries' economic masses (as measured by gross domestic products) and negatively related to the trade costs between them. Per capita GDP is also used to account for the wealth effect of the trading partner: wealthier countries are hypothesized to be more open to international trade. We have no data on trade barriers (such as tariff and nontariff barriers) and transportation costs, but we include common language and across country distance as determinants of bilateral trade flows. Distance would reflect the time and cost of trading, and speaking a common language (i.e. English) facilitates trade. Our model also incorporates an index of the economic remoteness[1] of alternative markets or "third country options" (Helliwell 1997). The less attractive are the "third country options" (the more remote are the alternative markets) for the trading partner, the more the latter is expected to trade with the United Kingdom. As discussed in Helliwell (1997: 6–7) the remoteness index we use in this paper is a more appropriate way of capturing third-country effects than the remoteness index suggested by Wei (1996).

The specific functional form that we use is as follows:

$$y_{it} = \gamma_0 M_{it} \cdot CW_{it} + \gamma_1 M_{it} \cdot NCW_{it} + \beta_1 GDP_{it} + \beta_2 GDPC_{it}$$
$$+ \beta_3 Lang_{it} + \beta_4 Dist_{it} + \beta_5 Re\, m_{it} + D_t + \varepsilon_{it} \tag{1}$$

where all variables, except dummy variables, are in real terms and measured in natural logarithms. In the above equation, M_{it} is the immigration variable measured by the stock of immigrants in Britain. CW and NCW are the dummy variables for Commonwealth and non-Commonwealth countries, which allows for the elasticity of immigration to vary across the two groups of countries. The use of time dummies (D_t) is to capture a host of macroeconomic and trade policy factors that affect UK's aggregate trade. Since we are only considering bilateral trade flows with the United Kingdom, the latter's GDP and per capita GDP do not vary across trading partners and their effects are subsumed into

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[1] The remoteness index for country i is defined as $Re\, m_i = \sum_{\forall j \neq i, UK} Dist_{ij}/GDP_j$, where $Dist_{ij}$ is the distance between country i and country j.

the set of time dummies. Following previous studies using gravity models (e.g., Gould 1994) that have used lagged exports and imports to account for some form of momentum (such as production and delivery lags) in trading, we also estimate a dynamic version of the above equation to check the robustness of our results.

The United Kingdom has always been trading with all of the countries under consideration during the study period. Thus, unlike Head and Ries (1998), we do not have to resort to a Tobit specification. We chose not to use country-specific fixed effects in our empirical model. To start with, this would be impossible to identify the impact of time-invariant regressors such as language and distance. But most importantly this would purge from our data all of the between-country variation[2] in trade and immigration: the very object of our study. We have, however, included *CW*- and *EU*-specific fixed-effect dummies to capture potentially distinct effects on the level of trade. However, we will report results from a gravity model with country of origin dummies à la Gould (1994) to see whether the impact of immigration on trade can still be identified from the time variation in the immigrant stock variable. A potential concern over the above specification is that immigration and trade could simultaneously be due to membership or otherwise of the Commonwealth. The use of the *CW* dummy will mitigate this concern, provided that the effect of such affinity is relatively stable over the period of our study. In the next section we briefly describe the salient features of the data used in this paper.

III. The Data

UK immigration data is available for a relatively long period of time and reasonably reliable. Information on the stock of immigrant population by country of origin is obtained from the 1981 and 1991 *Population Censuses* and flow information is collected from various issues of the *Control of Immigration Statistics* published by the UK government. We combined these two sources of data to estimate the annual stocks of immigration by using the following stock-flow rule: $S_{it} = (1 - \delta) S_{it-1} + F_{it}$. Here i and t indexes country of origin and year, respectively; S and F are immigrant stocks and inflows and δ is the attrition rate resulting from death and departure from Britain. Like Head and Ries (1998), we assume that δ is constant across time and countries. Using stock and annual flow data for the countries that are in both

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[2] The importance of between-country variation in our data can be seen from Table 2.

the 1981 and 1991 Censuses, and the *Control of Immigration Statistics*, we estimated δ via the following nonlinear equation:

$$S_{i,1991} = (1 - \delta)^{10} S_{i,1981} + \sum_{i=1}^{10} (1 - \delta)^{i-1} F_{1991-i} + error. \qquad (2)$$

The equation fits the data very well, with an R-squared of 98 per cent, and it is found that on average about 1 per cent of each year's immigrant's population departs from Britain or dies. At the end of this exercise, we obtain complete information on the annual immigration stock for 48 countries between 1981 and 1993. The list of the countries included in this study is given in Table 1.

The IMF *Direction of Trade Statistics* was used to obtain bilateral trading data. All exports are valued 'free on board' (f.o.b.) and all imports 'cost, insurance, and freight' (c.i.f.). For the distance measure, we use the Great Circle distance between capital cities, which is available from Jon Haveman's web-page (http://www.eiit.org/). The trading language dummy is constructed from Hunter (1992), whereas population and GDP figures are compiled from the World Bank's *World Development Indicators* CD_ROM.

Table 2 reports some descriptive statistics. The average yearly stock of immigrants in the sample is around 66,500 for the Commonwealth countries and 25,460 for the non-Commonwealth countries. This ranges from 2,241 for Tunisia to 400,398 for India (around 0.7 per cent of the population in Britain). The annual flow of immigrants from the Commonwealth countries is twice as large as that from the non-Commonwealth countries, but the stock of immigrants from the latter has exhibited a higher annual growth rate at around 3 per cent.

In absolute terms, the UK's bilateral trade with the non-Commonwealth countries is far more important than the one with its former colonies. This can be explained by the fact for the non-Commonwealth countries, the average GDP is almost ten times greater than that of a typical Commonwealth country in the sample. This is also due to the UK's membership of the EU and its geographical proximity to the rest of Europe. It is also interesting to note from Table 3 that the correlation between the exports (imports) and the immigrant stock is three (five) times stronger for the non-Commonwealth countries. This is perhaps an early indication that the impact of immigration on bilateral trade flows might differ across the two groups of countries.

Table 1: *Immigrant Stock, Exports and Imports (1993)*

Country	Immigrants	Exports ($ mil)	Imports ($ mil)	Country	Immigrants	Exports ($ mil)	Imports ($ mil)
Algeria	4,077	84	281	Malta*	30,873	309	97
Australia*	74,675	2,399	1,499	Mauritius*	23,580	110	422.2
Austria	20,463	1,366	1,456	Morocco	10,445	254	276
Bangladesh*	108,194	81	210	New Zealand*	41,989	499	747
Barbados*	21,970	42	38	Nigeria*	51,539	951	168
Canada*	63,359	2,764	2,786	Norway	8,939	2,252	6,236
China	24,137	1,112	1,990	Pakistan*	242,270	495	486
Cyprus*	77,045	354	204	Philippines	23,710	461	415
Denmark	14,112	2,195	2,870	Portugal	19,630	1,830	1,690
Egypt, Arab Rep.	23,111	506	284	Sierra Leone*	6,742	30.2	24
Finland	5,439	1,675	2,857	Singapore*	33,623	2,144	2,429
France	52,807	16,151	18,526	South Africa*	68,634	1,686	1,498
Ghana*	34,827	323	108	Spain	38,276	6,069	4,467
Greece	14,399	1,228	439	Sri Lanka*	40,257	189.5	213.7
Guyana*	20,439	51.4	112.2	Sweden	11,709	4,324	5,434
Hong Kong*	74,947	3,195	4,498	Switzerland	12,720	3,415	7,100
India*	412,006	1,695	1,635	Tanzania*	29,689	163	38
Iran, Islamic Rep.	33,838	746	369	Trinidad and Tobago*	17,707	106	67
Israel	12,758	1,315	826	Tunisia	2,558	93.5	59.3
Italy	89,487	8,291	9,064	Turkey	27,907	1,571	798
Jamaica*	142,194	84	183	Uganda*	50,119	45	11
Japan	31,593	3,980	12,785	United States	148,350	23,319	24,642
Kenya*	111,110	228	259	Zambia*	16,713	110	18
Malaysia*	43,958	1,447	2,097	Zimbabwe*	21,287	126	182

Note: The superscript (*) denotes Commonwealth member countries and Hong Kong.

Table 2: *Summary Statistics of Some Variables of Interest*[a]

Variable		Commonwealth		Non-Commonwealth	
		mean	std. dev.	mean	std. dev.
Immigrants (flow)	Overall	1169.10	1574.86	569.58	830.70
	Between		1535.70		829.77
	Within		436.10		174.75
	Growth (%)	3.19	4.10	0.62	23.52
Immigrants (stock)	Overall	66549.10	81513.89	25463.44	30811.14
	Between		82329.17		31289.08
	Within		6377.71		3397.24
	Growth (%)	1.75	6.11	2.90	7.38
Exports ($ mil.)	Overall	720.08	930.65	3268.69	5022.01
	Between		883.88		5044.42
	Within		328.95		919.70
	Growth (%)	−0.68	23.76	1.38	18.89
Imports ($ mil.)	Overall	649.71	923.87	4075.18	5367.07
	Between		901.83		5334.60
	Within		252.97		1243.28
	Growth (%)	0.83	28.13	3.23	28.76

[a] Data on 26 Commonwealth and 22 non-Commonwealth countries was observed over the 13-year period (1981–1993). – STATA, the statistical package we used in this study, calculates between variation in x_{it}, based on the country averages $\bar{x}_{i.}$ and the within deviation based on $x_{it} - \bar{x}_{i.} + \bar{x}$, where the last term is the global mean. The reason why the global mean is added back is to make results comparable. One effect of this approach is to sometimes make the within variation greater than the overall one.

Table 3: *Correlation Coefficients between Bilateral Trade and Stock of Immigrants*

	Immigration	Exports	Imports	GDP
	Non-Commonwealth countries			
Immigration	1			
Exports	0.8072	1		
Imports	0.7311	0.9331	1	
GDP	0.7657	0.7732	0.8168	1
	Commonwealth countries			
Immigration	1			
Exports	0.2671	1		
Imports	0.1381	0.8345	1	
GDP	0.4508	0.7626	0.6971	1

IV. Key Findings

The explanatory powers of the gravity equations are very high and the control variables all have the expected signs. Controlling for economic masses and bilateral distance, the United Kingdom has a higher *propensity* to trade with Commonwealth countries, as indicated by the positive and significant coefficients on the *CW* dummy. For example, the UK's *propensity* to export to the average Commonwealth country is greater by a factor of nine[3] compared to an equivalent non-Commonwealth and non-EU member country. Rauch (1996, 1999) has pioneered the network/search view of international trade[4] and reports empirical support for the view that common language/colonial ties are important in explaining international trade. This is consistent with our estimated results. However, to our knowledge, investigating the effects on trade due to the interaction between immigration and colonial ties has never been considered in the literature. A key result of our study is that the bilateral trade impact of immigration from Commonwealth and non-Commonwealth countries is also fundamentally different, however, in a very different way.

We start our discussion by considering the findings from the export equations. Since imports are likely to be subject to strong immigrants' preference effects for their home country products, exports data are probably more adequate to carry out the identification of the mechanism behind the immigrant-link effect. The first two columns of Table 4 report the estimated coefficients for the UK export regressions, and it seems that we have some robust evidence of a link between UK exports and immigration from non-Commonwealth countries. In the static model, a 10 per cent increase in the immigrant stock from non-Commonwealth countries has the effect of increasing UK's exports by 1.6 per cent. The dynamic version of our model shows that trade volume is strongly autoregressive. *Conditional* on past exports, variables such as distance and language seem to have a strong influence on exports. This is consistent with Harris and Matyas's (1998) observation that the introduction of dynamics has the effect of wiping out the significance of most structural parameters of gravity equations. But the *NCW* immigration effect on exports appears to persist even in the presence of the lagged dependent variable. A 10 per cent increase in the stock of immigrants has the *long-run* effect of increasing UK's exports to the non-Commonwealth countries by 5 per cent. Strikingly, by contrast, similar

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[3] This is one minus the exponent of the coefficients on the *CW* dummy in the static model.
[4] Also see Rauch and Trindale (1999), Rauch and Casella (1998), and Greif (1993).

Table 4: *The Impact of Immigration on UK's Exports and Imports*

	Exports		Imports	
	static	dynamic	static	dynamic
Export$_{t-1}$ (Import$_{t-1}$)		0.926 (48.99)		0.931 (45.27)
Immigration · noncomwlth	0.162 (4.48)	0.0369 (2.80)	0.103 (2.44)	0.013 (0.68)
Immigration · comwlth	−0.029 (0.78)	−0.006 (0.30)	−0.097 (2.02)	0.004 (0.17)
GDP	0.648 (29.75)	0.041 (2.49)	0.562 (18.60)	0.039 (2.58)
Per capita GDP	0.151 (6.88)	0.0118 (1.48)	0.283 (10.74)	0.019 (1.30)
Distance	−0.439 (11.12)	−0.021 (1.17)	−0.313 (5.25)	−0.018 (0.83)
Language	0.663 (9.32)	0.033 (0.99)	0.549 (6.22)	0.008 (0.23)
Remoteness	0.054 (0.88)	0.0427 (2.18)	0.365 (5.12)	0.073 (2.33)
Comwlth	2.296 (5.74)	0.445 (1.91)	2.467 (4.54)	0.105 (0.39)
EU	0.287 (5.51)	0.041 (1.99)	0.285 (3.28)	0.034 (1.09)
R-squared (%)	89.5	98.7	85.9	97.9

Note: Time dummies are used in all of the above regressions. – The asymptotic *t*-ratios, which are given in parentheses, are based on heteroscedasticity-robust standard errors.

linkage between immigration and UK exports is not found for Commonwealth countries. The *CW* immigration effects in both static and dynamic models fall short of statistical significance. Thus the econometric evidence does not support the hypothesis that the effect of the immigrant link is universal, where immigration enhances bilateral trade through immigrants' business/personal contacts with their home countries. It supports, however, the idea that it is the knowledge about foreign markets and different social institutions brought by immigrants, that reduces transaction costs and facilitates bilateral trade between immigrants' host and home countries.

There are some indications from recent studies to suggest that the immigrant-link effect might not exist universally. In a study of trade among Canadian provinces and between Canadian provinces and US states, Helliwell (1997) finds trade effects of migration for international but not for inter-provincial trade. It is argued that migrants across provincial boundaries have less effect in creating trade because knowledge about the institutions and markets of their provinces are not new to the host provinces. As the author points out, however, the study is very preliminary because there is no direct data for migration between Canadian provinces and US states. Moreover, if there are decreasing returns to migration in the immigrant link effect, the result could be at-

tributed to the large migration flows among provinces. "Additional migrants may trip over their predecessors when they attempt to make use of any special knowledge they brought with them about conditions back where they were born." (Helliwell 1997: 17). Gould (1994) also finds decreasing returns to migration for the United States. Since immigration flows into the United Kingdom are relatively small in magnitude, we are likely to avoid the effect of decreasing returns to immigration.

Our raw data reveal that UK's export volume to CW has exhibited some decline. In light of this fact, our finding of no significant trade impact from CW immigration could be attributed to trade diversification away from CW countries during the study period. To account for the potential bias due to trade diversification, we let the time (year) dummy, D_t, interact with Commonwealth and non-Commonwealth dummy variables (CW and NCW). Indeed, most estimated coefficients (and also the average) for $D_t \cdot CW$ are negative and all the estimated coefficients for $D_t \cdot NCW$ are positive.[5] However, as reported in Table 5, our previous findings about the trade effects of immigration from Commonwealth and non-Commonwealth countries change little. Therefore, our conclusion that the trade effect of immigrant link is not universal appears to be robust.

The estimated coefficients for the UK import regressions are given in Table 4. In the static model, the effect of the stock of immigrants on UK's imports is found to be positive for the non-Commonwealth countries but negative for the Commonwealth countries. A 10 per cent in-

Table 5: *Exports Equation with Varying Time Dummies*

	Static	Dynamic
Export$_{t-1}$		0.923 (46.14)
Immigration · noncomwlth	0.151 (3.99)	0.0376 (2.93)
Immigration · comwlth	−0.032 (0.84)	−0.007 (0.33)
GDP	0.649 (29.77)	0.043 (2.48)
Per capita GDP	0.146 (6.60)	0.0107 (1.35)
Distance	−0.445 (11.03)	−0.024 (1.29)
Language	0.677 (9.38)	0.038 (1.12)
Remoteness	0.059 (0.95)	0.0401 (2.08)
Comwlth	3.16 (6.16)	0.492 (1.85)
EU	0.288 (5.45)	0.042 (2.01)
R-squared (%)	89.6	98.7

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[5] The full results can be obtained from the authors upon request.

crease in the immigrant stock from the non-Commonwealth countries is estimated to have the effect of increasing UK imports from those countries by 1 per cent, which confirms the pro-trade effect of immigration found in Gould (1994), Head and Ries (1998), and Dunlevy and Hutchinson (1999). We also find, however, a 10 per cent increase in the immigrant stock from the Commonwealth countries reduces UK's imports by 1 per cent but the coefficient falls short of significance in the dynamic model.

The result from the static model may reveal a 'trade-substitution' effect of immigration, which could be, as discussed in Diaz-Alejandro (1970), due to immigrants' import-substituting activities. Since the immigrant stock from Commonwealth countries is relatively large compared to that from non-Commonwealth countries, CW immigrant merchants may well become manufacturing entrepreneurs if there are economies-of-scale for production. There could be another possibility that immigration might substitute for trade if unskilled immigrants come to the United Kingdom (e.g., through the Rybczynski effect in the Heckscher-Ohlin model). However, the Rybczynski effect is economy-wide and should be captured by the time dummy variable in our estimation. Therefore, the effects of immigration on trade substitution are probably negligible on the bilateral trade between immigrant host and home countries.[6] Since the estimates are only significant in the static model, and we do not have the details about the skill composition of immigrants and which sectors they choose to work, it is not possible for us to do further tests.[7]

In the remaining part of this section, we briefly discuss results from additional experiments designed to test the robustness of the findings of this study as well as accommodate alternative interpretations. Our argument that the information brought on by immigrants is not instrumental in fostering trade between the United Kingdom and their home country can be viewed as asserting that Commonwealth membership captures the information benefits that immigrants could provide. To verify this, we estimate the imports and exports equations by dropping the Commonwealth dummy and test if immigrants from the Commonwealth countries now have a positive and significant effect on bilateral trade. The results are reported in Table 6, Panel A. Consistent with our expec-

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[6] More generally, this is also the reason why the Rybczynski effect on bilateral trade is a big concern in the immigration-and-trade literature.

[7] We thank the referee for pointing out this possibility. The rest of this section also benefits from the referee's very helpful suggestion.

Table 6: *Further Sensitivity Analyses*

	A OLS without dummy		B Within estimator		C Box-Cox model	
	exports	imports	exports	imports	exports	imports
Immigration · noncomwlth	0.070 (2.04)	0.09 (1.45)	0.313 (2.79)	0.264 (3.31)	0.124 (0.00)	0.039 (0.00)
Immigration · comwlth	0.126 (4.47)	1.36 (0.45)	0.224 (1.62)	0.016 (0.09)	0.044 (0.00)	0.012 (0.00)
GDP	0.641 (28.01)	0.555 (18.12)	-1.047 (4.02)	-0.988 (3.04)	0.636 (0.00)	0.526 (0.00)
Per capita GDP	0.172 (7.99)	0.303 (11.48)	2.733 (10.75)	2.339 (7.37)	0.157 (0.00)	0.309 (0.00)
Distance	-0.459 (11.81)	-0.338 (7.15)			-0.373 (0.00)	-0.224 (0.00)
Language	0.815 (10.17)	0.697 (8.53)			0.429 (0.00)	0.158 (0.29)
Remoteness	-0.024 (0.42)	0.294 (4.53)			0.045 (0.27)	0.249 (0.00)
Commonwlth			0.0.23 (3.58)	0.370 (4.63)	0.547 (0.00)	743 (0.00)
EU	0.313 (4.37)	0.410(2.88)			0.807 (0.00)	0.409 (0.00)
Box-Cox coefficient (λ)					-10.20 (0.00)	-10.20 (0.00)
R-squared (%)	89	85	44	30		

Note: In panel B, country-of-origin dummies are included. As a result the coefficient of the time-invariant variables (distance and language) are not determined because the model is identified via the time series variation in the data. – Panel C reports estimates in which the immigration stock variable is subject to a Box-Cox transformation. Since transformed variables have to be strictly positive, we did not interact the immigrant stock variable with the commonwealth dummy. But the reported marginal effects are computed at the respective mean values. We also use an alternative measure of common language, i.e., the proportion of the population which speaks English. – For Panels A and B, t-ratios are given in parentheses. For the Box-Cox model, the figures in parentheses are the p-values for the significance of the regressors.

tation, the immigrant variable attracts a positive and significant coefficient, whereas the one in the imports equation is not significantly different from zero. However, remembering that the variable is negatively signed when a Commonwealth dummy was introduced, it is clear that the omission of the latter has had a positive effect influence on the immigration variable.

Panel B of Table 6 gives within estimates in which country-of-origin dummies are included as in Gould (1994). The coefficients of the time-invariant variables (distance and language) are not determined because the model is identified via the time series variation in the data. Not surprisingly the explanatory power of the equations has dramatically diminished as most of the variation in the data is due to between rather within country differences. We find, however, further evidence that the link between trade and immigration from non-Commonwealth countries is robust.

We noted earlier in the paper that the immigrant stock from Commonwealth nations is relatively large compared to non-Commonwealth countries. An alternative interpretation, therefore, of our main result is to say that the impact on trade of immigration may have been masked due to diminishing returns. To allow for non-constant elasticity effects in the spirit of Gould (1994), we subjected the immigrant stock variable to a Box-Cox transformation, $(x^{\lambda} - 1)/\lambda$, where $\lambda < 0$ providing evidence for diminishing returns. As the final panel of Table 6 shows, both imports and exports equations yield a λ value of -10. Thus it may be argued that part of the differences in the immigrants impacts countries can be ascribed to the differences in the absolute level of immigrants.

VI. Concluding Remarks

To our knowledge, this paper is the first systematic empirical analysis of the link between trade and immigration using UK data. To date, most of the economic studies focusing on UK immigrants has been confined to measuring their impact on the local labour markets.[8] We feel, therefore, that we made a contribution towards the understanding of the possible overall effects of immigration on the economy as a whole.

Another contribution of the paper is in helping further understand the mechanism behind the trade and immigration nexus. To do so, we explored a unique aspect of the UK immigration data: immigrants in

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[8] For a recent review see Hatton and Whitely Price (1999).

Britain come from either Commonwealth or non-Commonwealth coun-
tries. Countries in the former group have a shared history and similar
social institutions as the United Kingdom, but those in the latter do not.
Using the exports data we found a robust relationship between the stock
of immigrants from non-Commonwealth countries and UK's exports,
whereas we fail to establish any trade-enhancing effect from Common-
wealth immigrants. We interpret this result as giving support to the idea
that the trade-immigration linkage is driven by the new information
brought by immigrants about their home countries' market and differ-
ent social institutions, rather than the business connections or personal
contacts with their home countries. An issue worth addressing might be
whether our findings are driven by the UK's unique colonial ties with
some of its trading partners. A comparative study employing data from
some other Commonwealth country (e.g. Canada) can be done to this
end, with the view of testing if the immigrant-trade link is weaker with-
in the group of former colonies.

   A study of the import data appears to reveal a trade-substitution ef-
fect of immigration from Commonwealth countries. This is an interest-
ing finding and we wish to explore the issue further in the future. Fu-
ture research is also planned to investigate the immigrant link effect by
considering trade flows by commodity groups, as aggregate data might
have some important heterogeneity. Data permitting, we also wish to
extend the analysis of this paper to other European countries with sim-
ilar experience as colonial powers. This would certainly help assess the
robustness of our findings on the link between immigration and trade.

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Abstract: Immigration and Trade: Evidence from the United Kingdom. – This paper investigates the link between immigration and trade using recent UK data. Immigration from non-Commonwealth countries is shown to have a significant export-enhancing effect. By contrast, immigration from Commonwealth countries is found to have no substantial impact on exports. We conjecture that this could be because immigrants from the UK's former colonies do not bring with them any new information that can help substantially reduce the transaction cost of trade between their home countries and the host nation. The study also reveals a pro-imports effect of immigration from the non-Commonwealth countries, whereas immigration from the Commonwealth appears to be reducing imports, perhaps reflecting trade-substituting activities by immigrants. JEL no. F22.