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NAFTA's Labour Market Integration Experience: Lessons for the EU?

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Presented at
Economic and Political Integration in Regional Migration Systems Plenary
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Vienna, Austria

RIIM

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I. Introduction

Many economists, among them the famed Robert Mundell, have made strong trade-related pronouncements including the proposition that **trade is a substitute for migration.** This proposition was in the forefront of many United States policymakers' minds when they argued for the admission of Mexico into the then Free Trade Agreement (FTA) between Canada and the United States. If this proposition were true in the North American Free Trade Agreement (NAFTA) context, then it could be argued that increased trade in goods between Mexico and the United States, and presumably Canada, would permit factor price equalization and remove the incentives for unskilled Mexicans to migrate north for jobs. Of course, this proposition only holds under special conditions, and policymakers were more circumspect when the NAFTA side agreement on mobility was signed.[1] It is important to note that NAFTA mobility provisions were a side arrangement in the sense that they were concluded after the core of the NAFTA agreement was signed in order to avoid the contentious issue of granting mobility rights to the unskilled. In fact, complete labour mobility was only granted to the highly skilled under the NAFTA accord, and only between two members, Canada and the United States.[2]

Thus, even in the very constrained setting of NAFTA, U.S. and Canadian policymakers imposed a two-tiered mobility regime on Mexico, its new less-developed partner. I see reflections of this two-tiered NAFTA mobility policy in the debate over mobility rights for Poland and other aspiring eastern European members to the Economic Union.[3] Hence, there may be lessons to be drawn form the recent NAFTA mobility experience.

II. Model and Theory

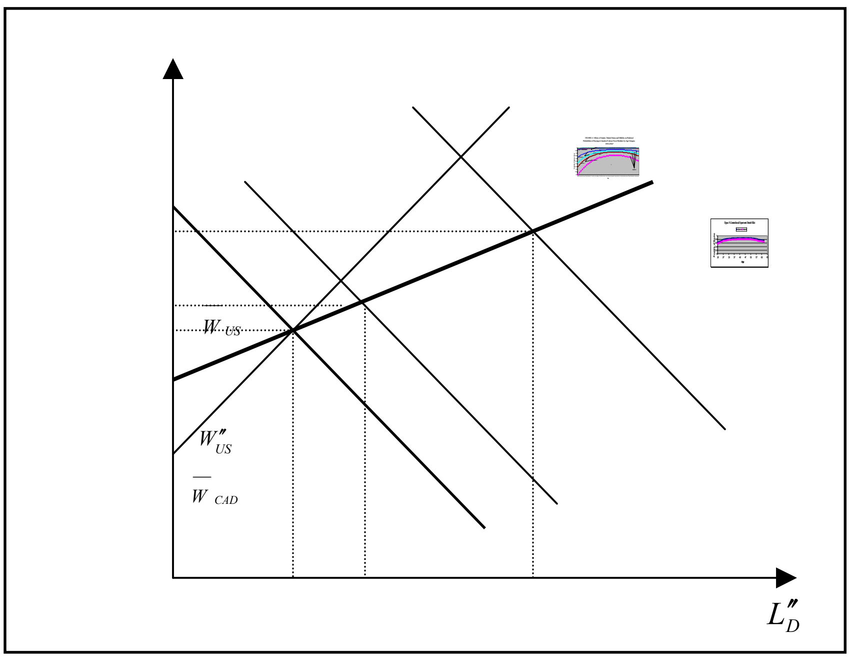
For the remainder of this essay I will outline a theoretical model and appeal to the exiting econometric evidence on NAFTA experience to reflect on the eventual equilibrium size of the flows of both skilled and unskilled immigrants between trade partners at unequal levels of development. This analysis will allow us to determine the equilibrium wage difference that will exist between countries and the degree of labour market integration when migration halts. The equilibrium income

[1] See Markusen (1983) for all the exceptions when this proposition would not hold.
[2] The TN visa is the instrument created by NAFTA to accomplish this task. It is a one-year visa which is renewable indefinitely.
[3] In fact, a fierce intellectual debate amongst German economists has arisen over the potential size and speed of Polish immigrant flows to Germany. Zimmermann and Bauer (1997) argue that full mobility rights should be granted Polish workers since there exists a small demographic window to accommodate these migrants and the numbers would be relatively small. Not everyone agrees with this analysis, and hence the German position of limited mobility rights for Polish workers.

difference under which migration halts will be termed the "reservation income gain." If this reservation income gain is small, then high levels of immigration will occur between states with unequal levels of development and vice-versa.

A second and equally important concept will be developed, which I will term the "border effect." The border effect argues that, given any distance or potential income gain from movement, migration will be lower if the migrant must cross a border, even if mobility is completely unfettered between two international points.[4] I further assert that these two effects vary by level of development and across occupations. Thus, theory suggest that the equilibrium range of labour market integration can range from zero to one hundred percent. Figure 1 presents an example of a labour market with incomplete but substantial integration.

Figure 1. Border Effects, Reservation Income Gain and the Degree of Labour Market Integration in Canada.



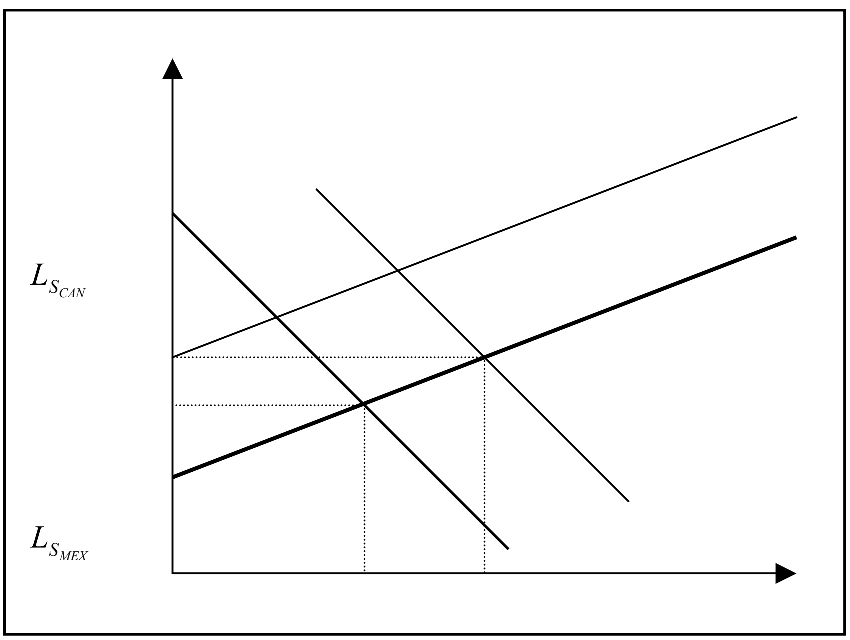
Before integration, in a closed economy all OA workers are Canadian, and there is no integration. However, after both sending and receiving countries enter a free trade agreement with mobility provisions, then the demand for labour shifts to the right in Canada, the potential receiving country. Now all the increased demand for labour, or AB, is supplied by the outsider from the United States, and this process continues until demand equals supply. How do we arrive at this situation? A

[4] Helliwell (1999) first argued this point by noting that even under free trade between Canada and the U.S. there was a greater tendency to trade between home country points of equal distance.

quick inspection of the labour supply curves in Canada and the US explains this outcome. For example, US workers will migrate as demand rises from L_D to L'_D, and now supply all of the new labour (A-B) at a lower wage than their Canadian counterpart. If the border effect is nil for American workers entering Canada and their supply wage is below the Canadian reservation wage, the Canadian labour market achieves equilibrium: AC/OC labour is foreign-born and only OA/OC is domestically supplied.

Figure 2 illustrates a similar case but now the US labour supply curve lies everywhere above the Canadian supply curve for labour in Canada. This is owing to a greater reservation wage for labour in the United States or a sizable border effect for Americans. Under these conditions, Canadian labour market equilibrium is achieved with zero labour market integration.

Figure 2. Border Effects, Reservation Income Gain and Zero Degree of Labour Market Integration in Canada.



Of course the core question is, which of the two Figures applies to which pair of countries?

Whether individuals respond to cross border wage or employment opportunities depends on the level of their reservation wage, size of their potential income gain from migration and the border effect. In turn, the size of the reservation wage and border effects, which inhibit mobility, arise from the stage of development in the sending country and the institutional and cultural variations between the sending and receiving regions. These observations and theoretical paradigms lead me to the following several propositions:

Proposition I: *The reservation wage is greater for individuals in occupations with greater human capital.*

Proposition II: *The reservation wage is greater for individuals who live in societies with more social capital and amenities than in the destination region.*

Proposition III: *The border effect is greater between countries with different institutions and/or language.*

Proposition IV: *The border effect is smaller the greater the immigrant enclave is in the receiving country.*

Proposition V: *The border effect approaches zero when the elasticity of migration with respect to any income gain is identical within a country or between two countries.*

Proposition VI: *The equilibrium degree of labour force integration ranges from zero to 100% depending on the size of the border effects and the reservation income gain.*

III. Stylized Facts and Migration Outcomes

Canadian Highly-Skilled Émigrés

NAFTA member countries offer us several examples to shed light on these propositions. Table 1 provides a topology of migration cases under a NAFTA-type environment to illustrate my propositions.

Table 1: Probability of Moving to High Income Destination from Low and Medium Income Welfare States: The Roles of the Border and Reservation Income Effects.

	Low Y:Welfare	MEDIUM Y:Welfare
High skill	Pm>.5 Border Effect~0 Reservation Y >0	Pm<.5 Border Effect ~0 Reservation Y >0
Low skill	Pm~1 Border Effect>0 Reservation Y~0	Pm~0 Border Effect >0 Reservation Y >0

I first argue that there exist at least four equilibrium states in this proposed regional integration scheme, and two types of labour, highly skilled and unskilled. The two sending states offer welfare packages to their residents, with the middle-income country offering more benefits under a high-tax environment. One of the sending states is a low-income environment and the second sending country has a medium-income environment. The receiving state is a high-income state with no welfare and a low-tax environment. These assumed conditions approximate the stylized facts for Canada, Mexico, and the United States as the receiving country.[5] I now have four asserted outcomes for the probability of moving for a prime-age resident (Pm) from Canada and Mexico to the United States, owing to various combinations of the Border and Reservation Effects. The range of Pm, or the probability to migrate across these cases, is from zero (unskilled from Canada) to near certainty (unskilled from Mexico).

These outcomes recognize the combined border and reservation income effects. I assert that the border effect, or the language and cultural differences between the medium-income country (Canada) or the low-income country (Mexico) and the USA, is nil for the highly skilled but positive for unskilled migrants to the United States. This minimum border effect arises for the highly skilled since the language and cultural norms of the highly trained vis a vis the United States are offset by their prior human capital accumulation. Higher education usually equips the potential skilled immigrant with English and a broader awareness of cultural norms in the receiving country. This is not true for unskilled workers from Mexico who have limited English language skills, and must live in an immigrant enclave to mitigate the border effects (Chiswick and Hurst 2000).

On the other hand, the reservation wage effect, or the required potential income difference to induce movement, is larger for the highly skilled than for the unskilled immigrants from either sending country. The lower absolute earnings of the unskilled insures that any income gain owing to movement will induce migration if the border effect can be offset. I now turn to some simulation experiments in actual case studies to support Propositions I to V.

Figure 3 reports a simulation experiment that portrays the relatively low probability of cross-border movement of the highly skilled between Canada (medium-income country) to the United States. Given the estimated parameters of the estimated migration model for the highly skilled Canadian movers to the United States and growth of the yearly income gain from this movement, it is clear that the probability of movement is low and invariant over a wide income gain range.[6] However,

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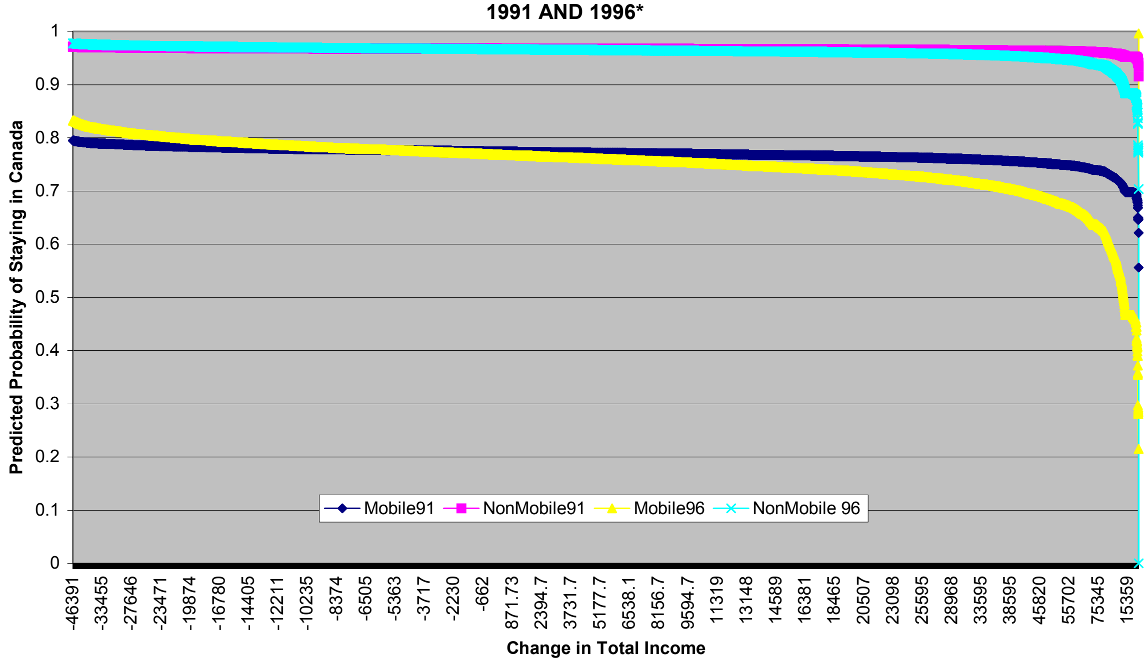
[5] Under current United States regulations, immigrants are not eligible for most federal programs.
[6] See DeVoretz and Iturralde (2001) for details on the construction of this simulation experiment.

when a critical income gain is reached, the probability of moving becomes large. In other words, when a critical income gain is reached, movement is near certain.

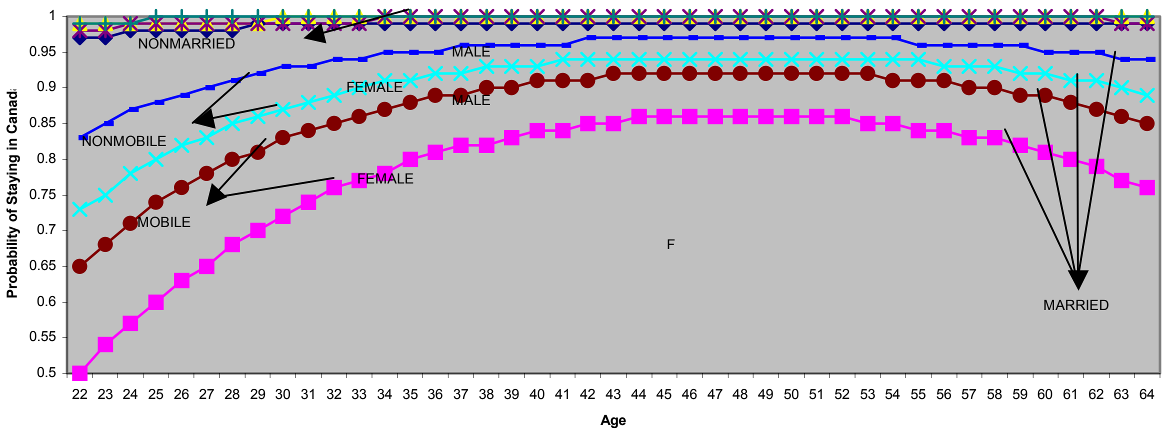
FIGURE 3: EFFECTS OF MOBILITY ON PREDICTED PROBABILITIES OF STAYING IN CANADA OF MARRIED MALE LABOUR FORCE MEMBERS BY CHANGE IN TOTAL INCOME CATEGORY: 1991 AND 1996*



* These are the probabilities as a function of change in total income at the sample means of family size and age.
Sources: 1991 and 1996 Canadian Census, Public Use Microdata Individual File , 1990 Decennial Public Use Persons and Household and 1995 Current Population Survey, Person and Family Data Files, US Census Bureau.

Why does this pattern arise? DeVoretz and Iturralde (2001) state that the critical income gain offsets the loss of social goods (education, health care, pensions) provided by the Canadian welfare state. Once this critical income gain is reached, movers can purchase these goods in the private market in the United States; hence the movement. DeVoretz and Iturralde further argue that the household's composition (spouse, presence of children, age, etc.) determines the potential mover's eligibility for social goods in the sending region. This further reduces the probability of moving as the potential movers' reservation income gain rises when these controls are added. This situation is illustrated in Figure 4 below.

FIGURE 4: Effects of Gender, Marital Status and Mobility on Predicted Probabilities of Staying in Canada of Labour Force Members by Age Category: 1995-1996*



*These are the probabilities as a function of age at the sample means of total income and family.
SOURCES: 1996 Canadian Census, Public Use Microdata Individual Files and 1995 Current Population Survey, Person and Family Data.

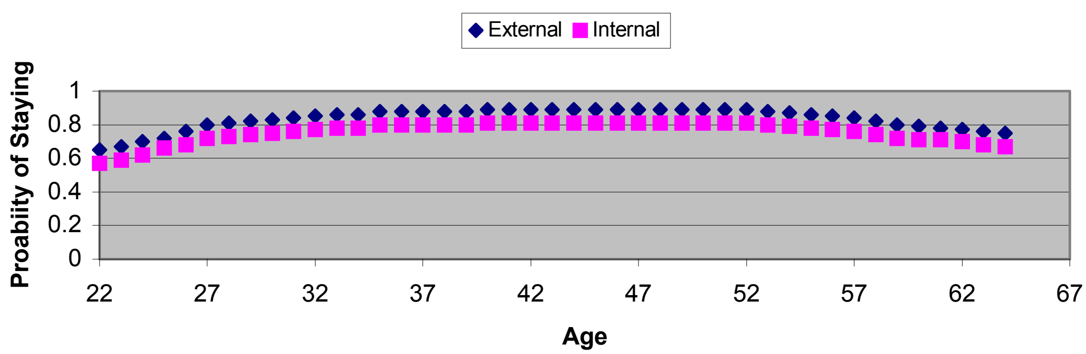
The simulations portrayed in Figure 4 represents the probability of staying as a head of household ages under various marital states, with and without children. Clearly, once an age is reached (around 35) where access to social goods matters, the probability of staying rises (.85) for the married highly skilled potential mover in the medium-income welfare state. However, there is little

holding effect derived from the social goods for a young skilled person, and the probability of moving is approximately one half at age 25.

In sum, Figures 3 and 4 allow us to conclude that the income gain effect is critical, and its size reflects the available social goods for the potential mover across his/her lifetime. I now turn to a methodology to evaluate the border effect for highly skilled Canadian émigrés.

Figure 5 represents the results of a counterfactual experiment which tests for the size of the border effect in the context of highly skilled movers to the United States. My assertion from Table 1 is that the border effect is nil in this case and this assertion is confirmed by the results of the counterfactual experiment reported in Figure 5. In this particular case, I divided the Canadian movers into internal movers and cross-border movers. I then asked what would be the probability of external movers moving between any two points in Canada, given the parameters of their migration function and the endowed characteristics (age, children, marital status, income gain) of movers within Canada and vice-versa for the internal movers (Gaetz 1998: 54). Figure 5 indicates that there is little difference between internal and external movers in the probability of moving over their lifetimes when faced with identical conditions. This implies that external movers respond to income differences and other conditioners to the same degree between Canada and the USA as they would within Canada. In other words, there is no additional effect from the border if the circumstances facing potential movers are identical.

Figure 5: Counterfactual Experiment: Border Effect



Thus, the assertions contained in Table 1 with respect to the movement of skilled émigrés from a middle-income country (Canada) are confirmed by Figures 3-5. There is no border effect for the highly skilled movers from a middle-income country (Canada), and a probability of moving lower than .5, which declines with age and is insensitive to very large income gains.

Canadian Unskilled Émigrés

Canada's very progressive tax environment paired with substantial services results in the following: the real income for low-income Canadian earners actually exceeds that of comparable United States workers.[7] Thus, in the absence of a critical income gain to offset any border effect results in no emigration of unskilled Canadians to the United States.

Mexican Unskilled Émigrés

The econometric evidence does not currently exist to demonstrate the outcomes for the degree of equilibrium integration between Mexico and the United States with simulation studies for either highly skilled or unskilled émigrés. However, both policy measures and some ancillary facts offer hints to support in Table 1. In particular, I argue that unskilled Mexican émigrés are more likely to

[7] DeVoretz and Laryea (1998b).

move to the United States since both the actual border effect is low and the critical income difference to induce emigration is not large. The critical income effect has grown during the last decade between Mexico and the United States due to a decline in Mexican agricultural opportunities and United States expansion (Martin 2003). The border effect generated by cultural norms, consumption items and language should be high; however, the work of Chiswick and Hurst (2000) indicates the opposite. Chiswick and Hurst argue that Mexicans live in United States border enclaves to reduce border effects, and that this, in turn, lowers the deterrent effect of the border. In addition, Chiswick notes that the enclave labour market may pay a lower income than the broader unskilled U.S. labour market. Chiswick argues that the lower border costs in the Mexican enclaves offset the necessity of any large critical income effect to induce movement.[8]

One contrary fact emerges to measure the substantial degree of the border effect for Mexicans, namely remittances. In the Lucas and Stark (1985) tradition, remittances can be viewed as part of a co-insurance scheme between immigrants and their family, allowing Mexican émigrés to re-integrate into their home community upon return. In sum, the border effect does not act as a **significant** deterrent for the unskilled Mexicans. What of the inducement of the job-income effect in the United States? The argument here is that the absolute size of the inducement can be small, since the home wage is low and the rate of return on any modest improvement in expected income will be large. This observation is reinforced by the observations of Martin (2003) who predicted a bubble in unskilled Mexican emigration to California. According to Martin this post-NAFTA increase in Mexican emigration would be induced by the comparative advantage of California in exporting food and semi-skilled produced goods to Mexico. This in fact occurred and raised employment opportunities for unskilled Mexicans in the United States. If I combine these observations of a substantial pull effect of income and a minimal deterrent border effect, I conclude that south-north unskilled emigration from Mexico would grow over the next decade under NAFTA.

Mexican Highly Skilled Émigrés

The inclusion of Mexico in NAFTA did not afford the Mexican highly skilled the same mobility rights as their Canadian counterparts in the United States. It will be remembered that substantial mobility rights were granted to a large number of skilled workers who were Canadian citizens with the TN visa. Mexicans however, have a capped number of potential skilled émigrés who must apply inland in Mexico. These restrictions have effectively deterred substantial movement to date. However, when these restrictions are relaxed, the high probability of emigration will occur in the

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[8] According the 2000 US Census, Mexican immigrants have left enclaves in large numbers for unskilled work in interior US cities. This indicates a further erosion of the border effect in deterring Mexican emigration to the United States.

skilled groups with access to TN visas. The reasons for this are simple. Regardless of where the Mexican highly skilled go to work in the U.S., the border effect will be nil. Moreover, few economic factors (low rate of return on subsidized education in Mexico) will retain these skilled workers in Mexico. Finally, if a United States employer needed a skilled engineer and had to choose between a high cost Canadian and a modestly priced Mexican engineer, the choice would be obvious.

In sum, both the border effect and size of the critical income to induce skilled Mexicans to the US are such that the probability of skilled Mexican emigration will be greater than for a Canadian.

IV. Conclusions

Table 1 and the underlying principles embodied in the stylized scenarios allow me to draw some limited lessons from the NAFTA experience for future mobility patterns within the European Union. First, the mobility patterns for new members of the European Union will depend more on their qualifications than on their country of origin, if the income gain effect exceeds the border effect in their country. Hence, countries with similar language and cultural traditions will have small border effects and the degree of integration (Figure 1) will ultimately depend on the slope of the occupational supply curve in the sending country relative to the receiving country. For pairs of countries with potentially large border effects, only the existence of a substantial prior enclave will insure the conditions for substantial labour force integration. For example, Poland can send either agricultural products or agricultural workers to Germany. With no trade barriers on agricultural goods and a limited Polish enclave in Germany, I would predict that trade in goods would be a substitute for migration given a substantial border effect between the two countries. If Germany should inhibit the flow of agricultural goods, then the agricultural market would achieve equilibrium: Poles would move in and Germany's agricultural output would increase. This would occur if the income gain offsets the border effect. In sum, I offer interested economists two analytical tools; the Border and reservation income gain effects to predict labour mobility in an expanded European Union.

References

Chiswick, B. and M. Hurst. 2000. Hispanics and the American Labour Market. In P. San Juan Cafferty and D.W. Engstrom (eds.) *Hispanics in the United States: An Agenda for the Twenty-First Century*, 175-93. New Brunswick: Transaction Books.

DeVoretz, D. J. and S. Laryea. 1998a. Migration and the labour market: Sectoral and regional effects in Canada. Migration, Free Trade and Regional Integration in North America, *OECD Proceedings* 30: 135-53.

———. 1998b. *Human Capital Transfers: The USA and Beyond*. Toronto: C.D. Howe Institute.

DeVoretz, D.J. and C. Iturralde. 2001. Why do the Highly Skilled Stay in Canada? *Policy Options* (March): 59-63.

Gaetz, C.E. 1998. Interprovincial Migration in Canada, 1986-1991: A Multinomial Logit Approach. Master's thesis project, Simon Fraser University, Burnaby, Canada.

Helliwell, J. 1999. Checking the Brain Drain: Evidence and Implications. *Policy Options,* (September): 6-17.

Lucas, R.B. and O. Stark. 1985. Motivations to Remit: Evidence from Botswana. *Journal of Political Economy* 93(5): 901-18.

Markusen, J.R. 1983. Factor Movements and Commodity Trade as Complements. *Journal of International Economics* 14 (3-4): 341-56.

Martin, P. 2003. Mexico-US Migration. NAFTA. http://www.iie.com/publications/papers/nafta-migration.pdf.

Zimmermann K.F. and T.K. Bauer. 2002. Integrating the East: The Labour Market Effects of Immigration. In K. Zimmermann and T. Bauer (eds.) *The Economics of Migration* IV, Part 1:123-60. Cheltenham: Edward Elgar Publishing.

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