

**The Consequences of Increased Labour Mobility
within an Integrating North America**

by

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1. Introduction

One hallmark of a true common market is labor mobility. NAFTA has some provisions on labor mobility--in particular the temporary migration of business persons and professionals under the TN visa program which has been extremely successful. However migration within NAFTA is limited and traditional immigration controls are viewed as instruments of national social and economic policy within all three partners. To the extent there has been much discussion within NAFTA on migration it has been largely focused on the movement of Mexican's northward across the U.S.-Mexico border. Here in Canada the discussion has revolved around the movement of highly skilled individuals to the United States. There has been almost no discussion of a movement towards a common continental labour market, with mobility rights for all NAFTA workers. In contrast the single market program and the entire integration program of the EU has as one its central features mobility of labour. This has led to a new and growing literature on the consequences of increased labour mobility for labour markets, economic growth, trade, investment and social policy. Since labour mobility is not currently high on the policy agenda in NAFTA countries, why a paper on the subject now? Our position is that the question is likely to move higher on the policy agenda for a number of reasons.

Why is Labor Mobility likely to become a bigger issue in the Future?

There are a number of specific reasons why labor mobility within NAFTA is likely to become one of the more important items as deeper North American integration evolves with or without the help of governments.

1. The growth in service trade is expanding rapidly between the countries, particularly in business services. Given the potential size of this market it is reasonable to assume the after-market and complementary aspects of most service activity are often both firm and place specific. Customers want to be serviced in their home location. The existing TN program goes part way in this regard, but reducing border frictions completely to these type of labor flows would facilitate better integration of the service markets, and facilitate growth of Canadian service exports to the United States.

2. Multinational Enterprises (MNE's) routinely move staff across borders and the ease with which this is accomplished can affect FDI decisions. Reducing the barriers for MNE's to easily move staff between Canada and the U.S. may help to remove the bias against Canada locations for North American based FDI. This would help Canada attract its share of North American destined FDI and at the same time discourage Canadian firms from moving South of the border.

3. Telemobility is likely to increase in importance. Virtual labour mobility is a substitute for physical labor mobility in many areas already. Call centers in various Canadian cities serving the entire NAFTA market provide in essence a form of mobile labour service. The Internet has dramatically enhanced the ability of firms and individuals to deliver labour services via digital based telecommunication networks giving rise to the vision of a continental E-Labour Market. Doctors located in one city performing surgery in another and university professors delivering courses via Distance Learning Technology are two common examples--but there are many others.

4. The Brain Drain Debate. Within Canada there has been serious concern about the loss of highly skilled workers to the United States, particularly in the high technology areas. The mobility of high tech workers is a reality as long as supply shortages in these areas persist in the U.S. economy. Initiatives to further ease the extent to which workers can move between Canada and the U.S. may encounter public resistance in Canada given the concerns about a Brain Drain to the U.S. To be fair the Brain Drain is as much about other policies such as taxation and currency depreciation as it is about labor markets. The current degree of mobility however is function of current circumstances and not a permanent institutional characteristic of the NA labor market.

5. Border controls are becoming increasingly difficult to enforce without impeding other forms of commerce. At both the Canada-Mexico and Canada-US border there have been increased demands by business to expedite the flow of cross-border business visits and of course the movement of goods and services. The appeal of reducing border costs carries with it a cost--the inability to control immigration to the same extent. The call for formal mechanisms of reducing

border impediments to trade in goods may therefore have implications for the degree of labour mobility within NAFTA and the means by which it is regulated. 6. The increase in the average age of the population in Canada has not only well-known implications for the funding of social programs, such as pensions and health care, but it also implies that the flow of workers entering into retirement will increase relative to the number of first time entrants into the workforce. Although extra-NAFTA immigration helps to fill the gap, pressure to improve labor mobility within NAFTA will grow as the demands for younger workers increases. These pressures will be greater if adjustment costs both for firms and for individuals are lower for NAFTA migration than for extra-NAFTA migration.

Welfare and Trade

A preoccupation of the traditional economic analysis of a move towards a common market is the trade and welfare consequences of the assumed increase in factor mobility. Full labor mobility is not absolutely essential for a common market but generally the consensus view is that the greater the mobility the larger the efficiency gains. Different theories give rise to quite different predictions as to the welfare gains. In some instances countries can lose by increasing factor mobility. In almost all cases there are distributional consequences that are negative for some groups and positive for others. Then there is the classic Mundell question 'what happens to trade and welfare as labour mobility increases?'. One defense of strong restrictions on labour mobility is the prediction of Heckscher-Ohlin that most of the efficiency gains can be realized through free trade in goods and services. NAFTA has certainly moved us a long ways towards free trade. Does that imply the efficiency gains from increased labour mobility are negligible? This paper seeks to address this and other related questions.

An important caveat regarding this paper is that we do not explore the social and fiscal policy implications of formal labour market integration. Within a true common market there is labor mobility but not necessarily citizenship mobility, which only comes with more formal political integration. In a common market, but in the absence of political union, an individual's rights to social and transfer programs can be defined by citizenship and not available unless one resides in one's home country. Practically

however in both Canada and the United States most citizenship rights currently go more or less in hand with residency. Increasing labor mobility therefore may or may not imply increasing access to local social programs and public goods for non-citizen workers. For example this is the case for workers moving between Cantons within the Swiss federation. This is a topic which is sufficiently complex topic that we do not explore it here. The paper also has a distinctive Canada-US focus. There are some references to Mexico-US migration issues but this is not our intention here. Deeper Canada-US integration could of course involve a variety of formal and informal mechanisms which would enhance Canada-US labour mobility without the creation of a fully integrated continental labour market.

The paper proceeds as follows. Section 2 discusses some recent trends in international labour flows and some historical data. Section 3 reviews theories of international factor movements, and amendments to deal with a number of medium term considerations such as uncertainty, labour market rigidities, and short run factor specificity. Section 3 also draws out the implications of these theories should a Canada-US labour market integration proceed. Section 4 deals with the regional and industrial structure implications of labor mobility. In particular it looks at the question of whether increased labour mobility could lead to a core-periphery pattern of economic development in North American biased against Canada given the existence of continental free trade? Section 5 discusses some dynamic factors including those surrounding the recent Brain Drain Debate. Section 6 discusses new forms of labour mobility including temporary workers and virtual labour mobility. Section 7 discusses the macroeconomic adjustment implications of labour mobility and the lessons that can be drawn from the European and US experience. The last section provides some conclusions and possible policy implications of these developments for future Canada-US integration and NAFTA.

2. Historical and Recent Trends in Migration

Historical census data shows that rates of permanent out-migration are currently near an all time low, and also that Canada has enjoyed a net inflow of permanent migrants for a very long time. Rates of immigration have for many years been between

0.5 and 1 percent of the population, while rates of emigration have been in the 0.2 to 0.3 percent of population range. Historically there have been large flows out of Canada and into the United States. The classic Dales model of post-confederation Canadian economic development was predicted on the assumption of highly mobile flows of labour into and out of Canada. From 1870 to 1901 there were in fact very large rates of emigration from Canada, most of it to the United States (Table 2.1). However with the exception of the Great Depression immigration has usually exceeded emigration in Canada. In the early post-war period there were large flows from Canada into the United States, but relatively little reverse migration. (Tables 2.2 and 2.3). The most recent Brain Drain debate on Canadian migration to the U.S. attracted a great deal of media attention, and a number of efforts have been made to estimate these flows more accurately.

Finnie(2000) is the most recent effort using tax filer data, census data, and US Current Population Survey data. Finnie suggests the tax filer data indicate that the number of tax filers leaving Canada to all destinations has increased steadily in recent years, from about 15,360 in 1991 to 28,870 in 1997, with an average of about 21,700 per year over this period. He summarizes his evidence on the 1990's as follows:

"They suggest that 178,000 people left Canada to go to the U.S. between 1991 and 1996, and past experiences indicate that 126,000 of these would be expected to remain permanently in the United States and 52,000 to return to Canada (Graph 3.5). Emigration to the U.S. was, furthermore, 30 percent higher in this period than from 1986 to 1991, permanent migration increasing by 15 percent and temporary migration doubling."

Finnie(2000) page 3.

One of the interesting trends of the last decade has been the shift toward temporary forms of migration. The extent of this shift is indicated in Table 2.4. Of particular interest is the dramatic increase in the number of person using the NAFTA TN visa. For a number of reasons the TN data are thought to be unreliable as indicators of permanent migration flows. Nevertheless the dramatic increase in their use is undoubtedly indicative of greater labour market interactions by Canadians in the US market of some form. Likewise are the figures on MNE employee transfers(see Table 2.4) which have been rising at a rapid rate. These represent both the increased

importance of FDI in the economy, and the shift towards shorter-term assignments of MNE employees.

3. Trade and Migration: Traditional Theories and Implications

As noted in the introduction liberalization over the last two decades has been for the most part in the area of trade and investment. If anything, mobility of people has probably decreased over the same period. This is clearly the case relative to earlier periods in history. Recent historical research by O'Rourke and Williamson(2000) document the importance of large scale migration in the first great era of globalization pre-World War I. While trade was an important part of globalisation, they conclude that migration had a far bigger impact. Around 60m Europeans set sail for the resource-rich and labour-scarce Americas in the century following 1820, three-fifths of them to the United States. People were also on the move within Europe. Indeed in the 1890s, more Italians emigrated to France and Germany than to America. This migration had profound effects. Between 1870 and 1910, it swelled the United States' labour force by 24% and cut Ireland's by 45%. In their research O'Rourke and Williamson emphasize the strong convergence effects these factor movements had. Just as trade caused global commodity prices to converge, they conclude so mass migration contributed to the convergence of wage levels. In the new era of globalization, post 1980 we know that trade has been growing about twice as fast as economic output yet migration flows have been relatively stable.

Economists have naturally been concerned with both the positive and normative implications of both labour migrations, policy induced or otherwise, and changes in the labour mobility regime—such as a shift to more open borders. A large part of the international trade literature presumes that most economic benefits of integration can be obtained with goods market integration and without labor mobility. Is this perspective relevant to NAFTA? For the purposes of this paper we assume that NAFTA approximates a classic free-trade area, including free movement of capital even if it also contains few provisions facilitating the international mobility of some categories of workers. One question is whether the emergence of greater trade flows within NAFTA

should increase or decrease migration pressures within the NAFTA countries? This question can be addressed in a number of ways. One familiar line of attack is to ask whether labor migration and international trade are substitutes or complements in terms of achieving a given pattern of economic output and welfare. If they are substitutes for example then freer trade ought to reduce migration pressures. An alternative line of attack is to focus specifically on the wage impacts of reduced barriers to trade and lower barriers to labor mobility. We turn now to the answers provided by alternative mainstream international trade theories.

3.1 Neoclassical Trade Theory

The Heckscher-Ohlin model which explains trade as reflections of differences across countries in factor abundance provides a very clear picture of the link between trade and migration: the pressure of international labor migration decreases with freer trade and it disappears completely with free trade. In other words, trade and international labor migration are substitutes (see Mundell, 1957). This result is the intellectual basis for one of the main motivations behind the US desire to negotiate the NAFTA agreement with Mexico, given that the systemic illegal migration from Mexico was viewed as politically unsustainable. Free trade should under this theory eliminate or at least reduce the pressures on migration from Mexico to the United States.

The reason why this result follows within the Heckscher-Ohlin approach is simple. The US is relatively abundant in capital while Mexico is relatively abundant in labor. In free trade, each country will then export (import) the good using more intensively the factor that is relatively more (less) abundant in that country. Hence, Mexico exports the labor-intensive product to the US and imports the capital-intensive product. As long as the pattern of trade remains unchanged, freer trade increases the wage rate in Mexico while it decreases in the US. Consequently the pressure within Mexico for labour to migrate to the US decreases. With complete free trade, wages are equalized and the pressure to migrate disappears.

Another standard model of international economics is the specific factor model. Factors of production such as capital or natural resources are often specific to the sector

in which they are employed. Consider then trade liberalization such that the price of importables fall but the price of the exportable good remains unchanged. By lowering the price of the importable good, trade liberalization depresses the demand for labor in the Mexican import sector. If labor is mobile (or not specific) in this economy, the nominal wage must fall. The effects of trade liberalization on real wages however are ambiguous since the real wage expressed in terms of the exportable good falls but the real wage expressed in terms of the importable good increases. Hence, with migration pressure responding to real wages, a fundamental ambiguity exists about the direction of the migration as a response to freer trade since, depending on individual preferences, real wages in Mexico can fall or increase.¹

The assumptions underlying the neo-classical approach are quite stringent and, in recent years, many arguments have been put forward showing that, when the assumptions are relaxed, pressures to migrate can, on theoretical grounds, easily increase with freer trade. What could cause an increase in migration pressure with freer trade? There are a number of potential explanations² We review a few of these below. They correspond to relaxing at least one of the key assumptions of the standard neo-classical approach, namely, identical production technologies, the use of the same factors of production, constant returns to scale technologies, instantaneous adjustments to policy changes, perfect competition, homogeneous product, full employment and complete markets.

3.2 Departures from the Neoclassical Trade Model

Technological Differences and Increasing Returns

Consider a situation in which the technology of production is not the same across countries for example due to specialization effects, or extreme factor endowment differences that induce factor price differences across countries. Suppose for instance that pre-NAFTA Mexico produces a good with a labor-intensive technology while the US uses a capital-intensive technology to produce the same good. If NAFTA gives the US a comparative advantage in producing this good, then this forces Mexico to shift out of

¹ See Venables (2000) for other cases using the same model.

² See Martin and Taylor (1996) and Venables (1999) for surveys about some of these links between trade and migration.

producing this labor-intensive product. This drives the Mexican wage down increasing migration pressure to the US, at least as long as Mexico does not expand the production of other goods that use labor intensively or as long as it does not adopt the same technology as in the US.

Technological differences between countries may imply that one country has very large absolute productivity advantage in some sector. Such differences may exist because of limitations on technological transfer or differences in complementary public inputs (whether through public services, infrastructure, transportation, communication or education) making wage differences alone insufficient to create comparative advantage in a country. Hence, opening up trade causes the US to expand production in the sector in which it has a large absolute advantage but which is also labour intensive. This could in turn lead to more pressures on migration from Mexico to the U.S. pressures.

Introducing increasing returns to scale at the level of the sector can also reverse the standard result. Suppose for instance that the technology used in the labor-intensive sector exhibits increasing returns to scale. The expansion of production in the US through trade liberalization could encourage immigration to staff a growing and a more efficient industry. In general, when trade is due to scale economies, migration and trade are complements as shown by Markusen (1983) and Markusen and Melvin (1981).³

Adjustment Lags, Migration Costs, Risk and Migration Networks

All the above theories based on static neoclassic analysis implicitly assume that adjustments are instantaneous or, if they are not, that they do not affect comparative static results. Of course, adjustments can take time. In particular, while investments and the creation of new jobs usually take some time to respond to trade reforms, increased migration pressure might be an obvious short-term response to these adjustment lags.

One form of adjustment cost is the real cost of migration associated with relocation of workers and families. The existence of these costs can lead to increased migration pressure in response to trade liberalization through the following channel. Suppose the cost of migration is high relative to income thereby limiting the number of

³ Economies of scale at the firm level are important ingredients in the more recent approach of geography and trade. This approach has something

important to say about the links between trade and migration. We choose to develop this approach in a separate Section 4.

potential migrants. If trade liberalization raises incomes then it may increase migration pressure as this constraint is being relaxed. Similarly if migration involves some risk and there is no insurance against this risk then higher income through trade liberalization may reduce risk aversion thereby increasing migration pressure. Finally, when trade liberalization increases income inequality, those who are deprived might react by wanting to migrate to maintain family income (see Stark and Taylor, 1991). Of course these forces tend to disappear with more jobs opportunities at home.

Migration pressures following freer trade may be compounded by the existence of migration networks. A migration network is a series of formal or informal links among groups of people with similar source country background. In the majority of cases migration networks emerge when there are significant language and cultural differences between countries. Their main characteristic is that, once established, migration networks can keep migration flows going. If trade liberalization tends to increase pressure on migration, the existence of migration networks may magnify this effect since networks lower the cost of migrating by providing information, jobs, insurance, etc. Limits to this effect exist if there are diminishing returns to migration networks and, of course, with increasing job opportunities in the source country of migration. Through these networks, improved international mobility of labor expands trade because, not only the countries of origin often have products that the migrants wish to consume in their country of immigration (hence affecting mainly imports) but there might also be implicit costs to trade with these countries (hence affecting both imports and exports). Positive and significant relationships have been found between trade and immigration by Gould (1994) concerning the US, Head and Ries (1998), and Head, Ries and Wagner (1998) concerning Canada. Head and Ries evaluate that a 10% increase in immigrants leads to an increase of 1% in exports and 3% in imports, while Head, Ries and Wagner find that immigration creating trade networks might explain as much of 10% of Canadian trade over the first half of the 1990s.

Foreign Direct Investment

Finally, consider the effect of foreign direct investment(FDI). It is well known that market dealings often involve transactions costs. The more complex a product or a service is, the higher the transactions costs usually are because such products or services need before and/or after-sale services, specialized management, quality control or other specialized services. An exporting firm might find local specialized individuals to carry

out these services in the foreign country through licensing or other arms-length market based arrangements. Alternatively, it might prefer investing abroad (FDI) and send its own personnel to provide such services. In this case, the firm chooses to internalize the provision of such services. By doing so, transactions costs are often reduced because opportunistic behavior associated with market transactions is avoided. Trade liberalization is commonly thought to be a major factor driving new FDI.⁴ The more important FDI is in economy, the more likely there will be increased demands for these highly specialized workers who provide these transactions services within the firm. Trade liberalization may therefore induce more migration of specialized workers in so far as FDI require these specialized workers (see Globerman, 1999).

Short run Specificity

It may be important to distinguish those factors which persist in the long run from those that are viewed as part of a dynamic adjustment process. In this regard an important characteristic of modern economies like Canada and the United States are the importance of sector specific factors of production in either physical or human capital. In fact one aspect of globalization is probably an overall increase in factor specificity through specialization. When a particular type of labour is specific to an import competing sector, trade liberalization lowers its real return contributing to pressure on out-migration. In short, whether labor is a specific factor or not (but used jointly with other specific factors), freer trade can easily contribute to increased migration pressure in an otherwise very standard environment.⁵ When, in addition, there is the firm's internalization motive for migration, we must conclude that countries like Canada and the United States are not immune to migration pressures following freer trade even if it is not always easy to predict the sectors in which such pressure might occur. The most likely outcome is that migration pressure will occur for some sectors in one direction and for

4 Notice that FDI in this case are mainly designed for the provision of these services, not for production in another country. Hence, FDI and trade are here complements, an outcome often found in the empirical literature.

5 Hence, along with factor specificity, only difference in factor endowments can explain trade and increased migration pressure associated with trade liberalization.

other sectors in the other direction unless other forces (like tax reason) make such a pressure more systematically asymmetric between the two countries.

Unemployment

There is a substantial labor market and macroeconomic literature identifying unemployment as both a push and pull factor in the migration decision. A wide range of theories of unemployment can be used to explain migration. These include rigid wage theories, efficiency wage models, or rural-urban migration models. These theories are usually not focused on the issue of economic integration but do have integration implications.⁶ The unemployment issue figures prominently in virtually all discussion of North-South migration and the migration of illegal Mexican workers into the U.S. for example. In the Canada-U.S. context low rates of unemployment in the U.S. and higher rates in Canada ought to lead to out-migration from Canada. Improving factor mobility then ought to lead to an increase in the rate at which regional cross-border differences in unemployment are reduced by cross-border migration. This is all fairly standard.

There is remarkably little literature on the implications for trade or economic integration of most theories of unemployment with the notable exception of the Brecher-Srinivasan model of trade with rigid wages. In this model there are two factors, skilled and unskilled labor. If there is rigid wage in the unskilled labor sector, equilibrium is resolved by having the quantity of unskilled employment adjust so all firms are on their demand curves. The flexible wage for skilled labor adjusts to clear the market for skilled labor at all times. In general shocks to technology or prices will impact on both the quantity of unskilled unemployment and the skilled wage. An interesting implication of this type of analysis occurs if we start with free trade and consider an out-migration of skilled labor--this will have two impacts. One, it will have the usual neoclassical effect of raising the real wage of skilled labor which remains, and two it will raise the rate of unemployment of unskilled labor whose demand falls given that there are fewer skilled workers available. Certainly this type of argument is one concern driving the debate on

⁶ They also have played a prominent role in optimal currency area theory. See section 7 on macroeconomics of mobility.

the Brain Drain.⁷ Losing skilled workers in Canada could contribute to job losses and rising unemployment amongst the lesser skilled.

What do relaxing migration restrictions within NAFTA imply? The case between Mexico and the United States/Canada is clear and fairly to explain using the traditional theories of comparative advantage. Whatever model one uses the large differences in income levels and relative supplies of unskilled to skilled labour between Mexico and the other members of NAFTA are sufficiently important to expect, along with the different causes of migration pressure reviewed in the previous Section, significant emigration out of Mexico in response to relaxing migration restrictions. This will be the case for at least the next 10-15 years as it will be only after significant income and development convergence with respect to the other NAFTA members that such migration pressure can be expected to subside. How would trade and wages be affected? Since most of the migrating Mexicans are probably not working in the Mexican manufacturing industry but rather in the subsistence sector of the economy, Mexican exports on the supply side would not be affected. US trade however would be as a large inflow of low-skilled (and legal) migrants would lower low-skilled wage and favor sectors using intensively low-skilled labor (importables).⁸ The case of Canada-US migration is however not easily to accommodate within this framework.

7 Unemployment or underemployment is a large concern in the literature on North-South migration and East-West migration in Europe. Since this is not that relevant to Canada-US it will not be covered here. See Zimmerman (1999) for an overview of this debate.

8 An additional trade effect of lowering barriers to international mobility could come from trade networks. They exist when differences in culture and language between the country of emigration and that of immigration confer an advantage to migrants to trade with their country of origin. Through these networks, improved international mobility of labor expands trade because, not only the countries of origin often have products that the migrants wish to consume in their country of immigration (hence affecting mainly imports) but there might also be implicit costs to trade with these countries (hence affecting both imports and exports). Positive and significant relationships have been found between trade and immigration by Gould (1994) concerning the US, Head and Ries (1998), and Head, Ries and Wagner (1998) concerning Canada. Head and Ries evaluate that a 10% increase in immigrants leads to an increase of 1% in exports and 3% in imports, while Head, Ries and Wagner find that immigration creating trade networks might explain 10% of Canadian trade over the first half of the 1990s.

3.3 Canada-US Labor Mobility within NAFTA

Some Stylized Facts

The main message of the last section is that regional trade liberalization under NAFTA may actually increase migration pressures in Mexico and in Canada. In Mexico, it mainly comes from low-skilled workers because technological or other differences do not guarantee that sectors using intensively low-skilled workers will expand, at least in the short- and medium run. In Canada, this migration pressure is globally much smaller but may exist in some sectors and for some categories of individuals. It is mainly associated with FDI activity and especially with labour which is industry specific. To get more explicit implications from the theory requires stronger assumptions on the relevant starting point. Any attempt to address the potential implication of either introducing reduced barriers to labor mobility, or opening up a common market in labor within North American, will require some quantitative assessment of the current state of trade and wages across the Canada-US regions. In addition specific predictions requires limiting the range of relevant theories. The 'facts' on Canada-US comparisons has been the subject of a large amount of research within Canada and is the subject of a number of other papers in this volume. Generally speaking, the literature falls into three areas: a) explanations for the observed increase in wage inequality across skill groups in both Canada and the United States, b) explanations of the Canada-U.S. productivity gap, and c) explanations for the large growth in trade and investment subsequent to the FTA in 1988 and NAFTA in 1993. One can take from this literature three important stylized facts that any analysis of increased Canada-US labour mobility must accommodate.

1. Wage level differences between Canada and the United States remain significant.

While there are many serious measurement problems the average gap in real incomes is in the 20 to 30 percent range. More relevant perhaps to the issue of skilled labour mobility are starting salaries for recent university graduates. A Statistics Canada report says

"After taking inflation and purchasing power parity into account, the median annual earnings of bachelor's graduates working in applied and natural sciences jobs upon arrival in the U.S. was \$47,400, considerably higher than the \$38,400

earned by their counterparts in Canada. The gap in salaries between bachelor's graduates in health occupations upon arrival in the U.S. and those who remained in Canada was similar."

(page x, *An Analysis of Results from the Survey of 1995 Graduates Who Moved to the United States* HRDC and Statistics Canada, Ottawa, Statistics Canada Catalogue Number: 81-587-XIE,, 1999.)

2. Overall earnings inequality has increased in both countries. In 1971, a worker at the 90th percentile of the wage distribution earned 266 percent more than a worker at the 10th percentile. By 1995 this number had risen to 366 percent.⁹ A substantial part of this growth in inequality is not explained by education. When one controls for education-experience and other variables there has been a remarkable increase in measured *within-group or residual wage inequality*. Many studies point to as much as 60 percent of the observed increase in wage inequality has been within groups who have the same education and age.

3. The Canada-U.S. productivity gap both in the total economy and in manufacturing remains substantial and appears to have widened in the latter part of the 1990's. Most explanations of the latter have focused on the superior performance of the U.S. economy in the New Economy sectors.

4. Trade and FDI have grown dramatically within NAFTA since 1988. Canada's export to GDP ratio has gone from around 26 percent of GDP in the mid 1980's to 46 percent using the most recent data. Most of the growth in exports was in Old Economy sectors. The U.S. now accounts for almost 85 percent (2000 data) of Canada's merchandise exports. Two-way flows of FDI into and out Canada have grown dramatically. In 2000 the U.S. accounted for 63.9 percent of inward FDI stocks in Canada.

5. The relative price of capital equipment to labour has diverged substantially between Canada and the United States over the 1990's, and the Machinery and Equipment

⁹ From Acemoglu(2000).

investment intensity of Canadian industry fell in the same period. A rough order of magnitude is that the relative price of machinery and equipment to labour in Canada rose by 30 percent as compared to the same relative prices in the U.S.¹⁰

An Explanation-General Purpose Technologies and the New Economy

Accommodating these facts is largely impossible given the static oriented theories discussed in the last section. . The trends identified above are inconsistent with the basic Heckscher-Ohlin model of trade since it predicts absolute factor price convergence. They are also inconsistent with most other neoclassical models that usually predict relative factor price convergence. At a minimum one needs to append to the basic international trade framework, a dynamic theory which helps to explain the Canada-US divergences over the 1990's. The decade of the 1990's were of course characterized by a number of other events that one may want to factor into a broader explanation of these trends and in the choice among competing trade theories. This would include macro policy developments, the Asia Crisis in 1997-98, and the emergence of the New Economy in the United States. A very promising theoretical approach has emerged which adds a significant dynamic element to the otherwise static theories discussed previously and in particular helps to explain the major divergences between the U.S. and Canadian economies over the 1990's.

This line of research comes from those models focused around Skill-Biased Technological Change or a new General Purpose Technology.¹¹ In either of these cases a basic assumption is made that an economy-wide acceleration of technological change rooted in the IT sectors has taken place, which gave rise to an increase in the wages of skilled labor in the United States and to the strong increase of within-group inequality. Work by Industry Canada and others has identified that the same forces are evident in Canada but with a lag relative to the U.S. Canada's weak productivity performance, together with the fact that most IT capital is imported, jointly explain the real wage gap particularly for skilled workers in the two countries. The fact that relative supplies of

¹⁰ See Harris(2001) and Schembri and Lafrance(2000).

¹¹ There is an extensive literature on this issue. See in particular the Beaudry-Green paper presented at this conference and a recent survey by Acemogle(2000).

highly educated labor grew much faster in Canada than in the U.S. also helps to explain why the increase in the skill premium was less dramatic in Canada than in the U.S. More importantly however this theory suggests that returns to learning and highly specialized skills complementary with the ICT based GPT will persist for sometime. This has a number of implications for both labour markets and the globalization process including labour migration.

The facts dictate a starting point in which the average level of labor productivity in Canada is lower than that in the U.S. but perhaps converging toward U.S. levels. With growth driven by an ICT based GPT the demands for skills are highly selective however with some skills in high demand and others falling. The U.S. continue to find certain types of skilled labor in short supply and therefore the wages of those skill groups remains high in the U.S. Since Canada is both close to the U.S. and relatively abundant in skilled labor medium run, migration pressures on skilled labour remain high. Longer run implications for Brain Drain are discussed below.

What about the case of Canadian unskilled labor? If one considers the Canadian unskilled workers as mid-skilled relative to Mexicans, Canadian and Mexican 'unskilled' workers do not really compete with each other simply because Canadian manufacturing sectors which are very intensive in the use of low-skilled workers no longer exist. These goods are now all imported from developing countries including Mexico. In addition, the wage gap between US- and Canadian mid-skilled labor is much lower than for the skilled workers, thanks in part to NAFTA. Hence, the introduction of a continental free-labor mobility would probably not have much effect on the Canadian patterns of comparative advantages (including outsourcing), nor would it bring much pressure from low-skilled Mexican or from mid-skilled US migrants simply because NAFTA has already induced most of the adjustments in sectors using intensively low- or mid-skilled labor. The only remaining issue is whether, with free mobility, Canada would absorb some very low skill Mexican workers and start building some of the labor intensive industries observed in the southern US states. Without detailed quantitative modeling one cannot be sure. A common sense guess however is that except possibly for agriculture, the answer is probably negative as these industries are also absent from the northern US states.

A forward looking issue surrounds the aging of the Canadian population and to what extent immigration may be viewed as part of a 'solution' to growing dependency ratios. Certainly opening the Canadian NAFTA border to unskilled labour from the U.S. and in particular Mexico might be part of a 'solution' to this problem. Even with complete continental free mobility of labour there is no guarantee the resulting inflows would be sufficient to make a great deal of difference to the larger macro problem posed by an aging population.

Productivity Effects

Would increased migration of skilled workers from Canada to the US tend to reduce or increase the labor productivity gap between the two countries? The static theories outlined in 3.1 above have little to say about this question other than through indirect effects on factor accumulation. In general we expect out-migration of skilled labor to reduce the average labor productivity of unskilled labor if skilled labour and capital substitute for unskilled labour--which certainly seems to be the case empirically.¹² A potentially more damaging channel would be via the reduced adoption and use of IT technology which is complementary to particular types of skilled labor. If increased NA labour mobility implied a loss of skilled labor supply in Canada, this could potentially slow the rate at which productivity grew in Canada and lead to an increase in the Canada-US productivity gap.

Unemployment

Lowering barriers to migration may alter structural conditions in regional labour markets and thus impact on rate of unemployment. Canada has had a significantly higher permanent unemployment rate than the US for sometime now that differences in measurement cannot entirely capture. Lowering barriers to international mobility should produce some migration of relatively low skilled workers from Canada to the US (assuming that there is a large proportion of the low skilled in unemployment). Will the unemployment rates be equalized between the two countries as a result? Most probably

¹² The large literature on SBT deals with this issue. The elasticity of substitution between skilled and unskilled labour is on the order of 0.5 to 1.0. See Murphy, Riddell and Romer(1999).

not since preferences, even language, make international mobility lower than the inter-provincial labor mobility. Even under the most liberal labor mobility regime unemployment rates across regions will not be equalized. Inter-provincial labour mobility and inter-state labour mobility has not equalized unemployment rates across provinces within Canada or across states within the US. Still, the introduction of the option to move to another country necessarily implies that there will be some migration flows and thus convergence of wages and unemployment rates.

Complements or Substitutes? The European Experience

The case of the EU is probably the most interesting recent case relevant to NAFTA as it is an example where migration rules were relaxed once free trade had been reached. Indeed, the 1992 Single Market Program which introduced free-labor mobility within the EU, followed a long process of trade liberalization. By all accounts, the 1992 changes have produced very little movements of people within the EU suggesting that, for the EU, trade and migration are substitutes. Table 3.1 illustrates this point for six EU countries for which data on intra-EU migration exists. For the period 1988-97, it indicates the share of all the migrants coming from other EU countries and, for the period 1988-95, the last row indicates the share of migrants coming from other EU countries with respect to the total population of these six countries. Although migration may take time to adjust to the elimination of restrictions, migration within-EU has been very stable in proportion to all migrants since 1992 as compared to the pre-1992 period and its share with respect to total population has been very low.¹³ Straubhaar (1988), using econometric techniques, found that trade and migration are substitutes within the EC.¹⁴ Of course, an important reason is the importance of culture and 'distance' restricting the scope for migration within Europe. Krueger (2000) does not expect this picture to change much in the future. The best proof of this is the low level of migration *within* EU countries estimated to be half the rate found within the US. Indeed Krueger (2000) reports that 2.8% of Americans moved between state boundaries in 1987, but only 1.1% of Germans, 1.1% of Britons and

13 At the individual country level, the proportion of EU citizens migrating to other EU countries tends to be larger in smaller countries but it remains very stable.

14 As Table 1 indicates, the same conclusion does not hold with respect to non-EU migrants, at least during the period 1990-94.

.5% of Italians moved across regions within their respective countries. This means that, within Europe, thus far the gains from integration have been through international trade, not free mobility of labour.

4. Agglomeration, Convergence and Regional Development

A central question when addressing both the positive and normative effects of increased labor mobility is the potential impact on the pattern of regional economic activity within a more integrated North American market. Traditional trade theory has little to say on this subject, but it has become the central question in the new theories of trade and geography initiated by Krugman (1991). These theories predict that in some circumstances increased factor mobility will lead to divergence in regional income levels and the concentration of economic activity in some regions at the expense of others. On the other hand there is also a considerable body of theory and evidence that suggests increased integration leads to convergence of regional income levels. Which of these is more relevant to explaining what might happen in North America should labour mobility between countries increase?

Agglomeration and Divergence

The New Economic Geography models are characterized by the joint presence of economies of scale and costs to trade. The latter can include transport costs, border costs, and other transaction costs associated with interregional goods trade, or more formal barriers to trade such as tariffs and quotas. With or without factor mobility these models are subject to cumulative causation effects. In particular factor mobility reinforces the gains to regions which tend to attract industries characterized by economies of scale due to their size advantage. This advantage translates into higher productivity, higher real incomes and thus attract additional factors by migration. Manufacturing production (assumed to exhibit economies of scale) tends to concentrate where there is a large market, and a market is large where manufacturing production is concentrated (backward linkages). This is reinforced by the fact that the cost of living is lower in the region with the larger manufacturing sector because consumers there rely less on imports that are subject to transport costs (forward linkage). Both forces tend to favor agglomeration in

the core leaving other regions (or countries) a rural hinterland. Large regions become larger and a core-periphery pattern of economic development emerges.

The predicted outcome is sensitive to the specification of trade costs. With free trade and no trade costs this asymmetric pattern of development cannot occur. But given trade costs are unlikely to be zero it gives credence to the view that by opening up labor mobility some regions of a free-trade area, in particular the smaller regions, may be hollowed-out resulting in the loss of industry and skilled people. In the absence of factor mobility the cumulative causation effect is lost and de-industrialization is less likely. The models still predict the possible emergence of permanent income and productivity differences but given the absence of a migration channel the de-industrialization effects are much less pronounced. For small regions within existing common markets, the policy issue is clear. Free movement of labour may in fact lead to lower incomes. In the case of existing free trade areas that are contemplating reducing the barriers to labor mobility, the possibility of a becoming a peripheral region in a large integrated economic area is obviously worrisome. The applicability of this question to the European Single Market is obvious and has generated a great deal of research on regional development patterns within Europe. At this point the evidence is not clear. The early evidence comparing US states to EU countries suggested that actual outcomes were different than predicted by the model. In the US where labor mobility is high, it appears that incomes were leveled but that industrial development was relatively uneven. These models can explain this outcome provided trade costs are sufficiently low. In Europe on the other hand where labor mobility has been historically low, income levels across countries exhibited a great deal of variability but industrialization patterns were more balanced.

The early models either worked with the polar cases of perfect mobility or complete immobility. Moving to the more realistic case of imperfect mobility leads to some important differences as shown by Ludema and Wooton (1999). They show that, with imperfect labor mobility and by appropriate choice of the sequence of trade versus labor market integration, it is possible to avoid the potentially negative effects of agglomeration on some regions.

Consider a typical geography and trade model in the Krugman's (1991) tradition with two sectors: agriculture and manufacturing. The agriculture sector produces a

homogeneous product under constant returns to scale with sector-specific immobile labor, while the second sector produces differentiated products with increasing returns technology and internationally mobile workers. Only the differentiated products face barriers to trade. As a result there is a tendency for the production of differentiated products to be concentrated in the country where the demand for this variety is larger so as to minimize trade costs. As a result, real wages may be higher in the larger country, providing an incentive for workers to move to the industrialized core reinforcing the decisions of the firms to locate at the core.

Suppose now that internationally mobile workers have preferences biased toward the home country in which they would rather live and work. Hence they need a higher real wage than 'at home' to induce them to move and this premium of course depends on the intensity of their preferences. This produces a labor supply showing the willingness of workers to take employment in one country as a function of the real wage and for specific preferences about 'home'. The equilibrium can be stable or not and can produce complete agglomeration or not. It is not difficult to imagine that if workers have strong preferences towards home it is more difficult to get complete agglomeration as an equilibrium since there exist workers for which only very high compensation will induce them to move to the other country. Ludema and Wooton show that very strong preferences for home are not needed to produce such a result. In other words, with imperfect international mobility of labor, it is difficult to produce complete agglomeration in which one region has all the manufacturing activity. They then look at two policies: one of trade integration (lower trade costs), and then a factor market integration which allows for reduced costs to migration. Given home locational preferences, there is never complete migration from one region to another. Not surprisingly, trade liberalization never leads to complete agglomeration if home preferences are strong enough. But of particular interest is the result that *for a given level of trade costs, an increase in factor mobility tends to level the agglomeration effect*. One could imagine that the NAFTA area, now characterized by relatively free, but not costless trade, may have been subject to agglomeration forces. At the regional level, this is even more obvious given the uneven growth rates across US states. Between Canada and the US, the smaller region Canada may have been partially pushed toward specialization in

those sectors not subject to agglomeration effects under free trade. The Ludema-Wooton model would then predict that increased mobility holding the trade regime constant would tend to lead to more even patterns of industrial development.

If NAFTA were to move towards a common market in labour how would the pattern of regional development within Canada be affected by lowering barriers to labor mobility across the Canada-U.S. border? It would not be unreasonable to assume for example that the variability observed within US states in terms of incomes (before tax and transfers) and industrial specialization would also be observed within Canada. Theory provides no precise answer to this question. Clearly however the impact of opening up the US labor market to Canadian labor will have a much greater impact on regional development within Canada than would the converse. It is also useful to note that the local demand linkages for a number of the smaller Canadian regions are not likely to be important even with some trade costs. Exports of manufactured goods will tend to be relatively more important for these regions than would production for local use. Assuming that skilled labor is the main target of mobility enhancing policies, those regions in Canada for which the geographically proximate border wage gap was largest and which have the smallest markets would be impacted the most visibly in the short run. Over the longer run, reduction in trade costs and the benefits of specialization may lead to a longer-run leveling in income levels. It is interesting to note that border state-province comparisons indicate there is already a tendency for proximate border regions to look somewhat similar. Lowering the costs of labor mobility may therefore not have a large effect on the smaller Canadian regions if the relevant migration margin is between adjacent border regions.

Convergence

There is an alternative empirical approach to regional development based on the convergence hypothesis. Its basic hypothesis is that increased integration leads to faster rates of convergence in income and productivity levels. The evidence for this hypothesis has been mixed. Generally most of the evidence presented has been for trade integration, and studies such as Ben-David(1991) find strong effects of trade integration on

convergence.¹⁵ Some studies claim to find similar effects on US state and Canadian provincial data [Barro, Coulombe]. Generally however there appears to be no strong case that greater labor mobility leads to faster rates of convergence in productivity. Hulten and Schwab (1993) in fact find the opposite for US states using as their indicator TFP levels. If economic growth is being driven by spillovers of knowledge and human capital, which are common rationales for expecting convergence, then it stands to reason that increased labor mobility ought to have some positive effects on these forces.

5. The Brain Drain and Knowledge Transfers

The Canadian policy debate on North American labour migration has been almost exclusively focused on the Brain Drain from Canada to the United States of medical professionals, high tech professionals, business managers, and scientists and engineers. As is well known the numbers were initially small but have been growing. The extent to which the rapid increase in TN visas issued represent more permanent flows remains unresolved. The major concern is that the current flows represent the best and brightest of Canadians and there is some evidence this appears to be the case. There are three issues the Brain Drain debate raises with respect to common market like arrangements for labour. First, to what extent one country in a regional economic grouping is likely to be the location of most human capital intensive activities. Second, whether a common labor market would significantly reduce real barriers to skilled labor mobility. And third, what the broader growth consequences of these movements might be.

Human Capital Specialization and North American Integration

At the root of the brain drain debate lies the fear that Canada could conceivably lose most human capital intensive employment given a high level of mobility of highly skilled labour or human capital. In effect the worry is that Canada could become specialized in sectors where human capital requirements are low. This may not lead to lower incomes but it might lead to substantially reduced employment opportunities for highly educated Canadians. The situation in North America is one in which the U.S. continues to draw in large numbers of high ability individuals to study and pursue careers

¹⁵ These theories and evidence are reviewed in Harris(1995)/

in Science and Engineering. Many of these choose to stay in the U.S. A National Science Foundation study notes that

"Between 1988 and 1996, foreign students from major Asian and European countries, Canada, and Mexico earned over 55,000 U.S. S&E doctoral degrees (table 2). During this period, about 63percent of these doctoral recipients planned to remain in the United States after completion of their studies, and about 39 percent had firm plans to do so."

Johnson and Regets (1998)

The same study reported the number of Canadians who intended to stay in the U.S. was 43%.

The earlier discussion on agglomeration and core-periphery development is relevant to these arguments. As noted there are a number of theoretical arguments which counter the hypothesis that one region (Canada) could become peripheral with respect to that activity in which agglomeration economies exist. Nevertheless the commonly cited agglomeration benefits associated with labour networking and the success of regional agglomerations such as Silicon valley raise legitimate concerns. In the agglomeration models it is worth recalling there are at least three forces at work. One, the strength of the agglomeration effect (in those models it comes through increasing returns to scale effects), two the rapidity at which human capital moves relative to firms or capital relocation, and three the attachment of labour to its home location. With respect to the first, we have evidence that a number of Canadian high technology centers such as Kanata are succeeding. In addition Canadian cities are of sufficient economic diversity that there seem little prospect they are going to be de-industrialized. New forms of knowledge transfers via digital networks is increasingly replacing face-to-face contact. To that extent the stickiness of the locational preference of the people may be more relevant than higher wages abroad. On the second issue the worry is whether firms lead or follow human capital. If the firms move first, this creates a positive dynamic which tends to provide additional pull to human capital seeking to migrate. If firms lag workers in the propensity to move, the scope for a destabilizing out-migration of people and capital is less likely. Attachment of people to their home locations depends on a host of

factors, economic, social and cultural. Canada is certainly not disadvantaged in this respect anymore than any average U.S. state seeking to attract or keep people.

How Mobile is Highly Skilled Labour in North America ?

There is a general view that skilled labor is already very mobile across the Canada-US border and thus any further changes in labor mobility provisions are likely to have little incremental effect. Perhaps the analogy most frequently made is between Brains and FDI. Both are regarded as highly desirable and in short supply. Competition for both these factors has created a sellers market and both can choose their location. Moreover since both Brains and FDI are viewed as engines of economic growth and employment there is considerable international tax competition to keep and attract these highly internationally mobile factors. The analogy is instructive and contains a lot of truth. Recent surveys report a very dramatic willingness of students in science, engineering and business to move to the United States for employment purposes.

" The majority of respondents (78%) indicate that they are willing to relocate to the United States, and 88% are willing to relocate within Canada. Overall, only 12% of respondents indicate that they would NOT consider relocation."

Personnel Systems, Ottawa "Today's Technology Graduate: Mobile, In Demand & Demanding!", page 3.

With respect to the Canadian situation it useful to remember that this vision has emerged out of a decade long economic boom in the United States coupled with some critical skilled labor shortages in the U.S. The expansion of the TN and H1-B visa program has to a considerable extent been an endogenous response to this boom. Tax competition between jurisdictions which lowers effective marginal rates on income earned by human capital can be viewed as an efficiency enhancing outcome of this process--but is it permanent?

A more cynical view of the situation is one 'Scientists and Engineers as Guest Workers'. Should a prolonged slump or oversupply of labor in these areas emerge cross border mobility may quickly dissipate. It is interesting for example that historically in some engineering areas there was been little cross-border mobility between Canada and the U.S. in the 70's and 80's. Using immigration regulations as a means of controlling labor supply is of course one of the conventional rationales behind immigration policy.

A firm commitment to permanently increase mobility within a common market for labour is essentially another example of giving up some national sovereignty in favor of a more liberal regime--exactly the same argument as was used in the case of removing the power to tax trade under the FTA. Canada has similar reasons to favor a more permanent labor mobility regime for human capital. Given the increasingly highly specialized nature of human capital it would substantially decrease the risk involved in for any Canadian resident undertaking the lengthy training in one of these areas by expanding their relevant job market. This would benefit not only Canadian suppliers of labour, but also the sectors providing that training and the economy at large. Second, there is always the risk that immigration controls, like tariffs, will be used as political devices for rent sharing and in highly unpredictable ways which may be detrimental to the smaller country.

Growth and Knowledge Transfers

The traditional argument about Brain Drain is that it leads to a transfer of scarce resources from one country to another and that, as a consequence, this transfer leads to a higher growth rate in the country benefiting from this inflow of talents relative to the growth rate in the country losing those talents. Part of the Canadian concern with allowing increased mobility of skilled labor is that the growth rate might fall in response to an out-migration of Brains. This argument which is commonplace has not gone unchallenged. There are in fact arguments whereby a brain drain could lead to faster growth in the country losing talented individuals that could attenuate or even reverse the other negative 'brain drain' effect on growth? Two arguments have been proposed in the literature and both are relevant to the current discussion. First, a brain drain may foster investments in human capital (see for instance Stark, Helmenstein and Prskawetz, 1998) and, second, brain drain could lead to higher growth rates through the transfer or the spillover of the knowledge generated by brain drain.

Consider the first argument. Assume that agents in a country are differentiated by skills. For any individual contemplating whether or not to migrate, income abroad is uncertain. Skilled individuals, whatever their skill level, can be highly successful abroad or not. Their expected income abroad is increasing with their skill level. Suppose now that skill level people choose to acquire is a positive function of training and investments

in human capital. An individual, taking into account the possibility of migrating and deciding (in an uncertain environment) which level of human capital to acquire, will want to invest more in human capital than someone not contemplating migrating. Simply, such an investment improves his/her possibility of success abroad. Of course, this additional investment in human capital also increases the probability that an individual actually migrates. However, not everybody will be migrating and, even among those who do, not everybody will be successful abroad and the unsuccessful ones may return to their country of origin. As a result, the average human capital may increase in the source country even in the presence of Brain Drain. In addition, if these effects are strong enough, the growth rate may increase, not decrease (case of 'beneficial brain drain'). In a recent empirical paper using cross-section data for 37 developing countries, Beine, Docquier and Rapoport (2001) find that the possibility of a 'beneficial brain drain' growth effect may be more than a theoretical curiosity.

This effect applies to developed countries as well, at least in so far as investments in human capital are seen as a form of insurance (more than an income effect as in less developed countries). Simply, individuals, investing in human capital, keep their option open to be able to move abroad in case the possibility arises.¹⁶

Consider now the second argument and ignore the possible dependence between individual skills and investments in human capital. Skilled individuals may simply not be able to take advantage of their skills in one country but may have to migrate to another country to do so. In particular, skilled individuals may need other inputs not readily available in their country of origin, like capital, to innovate whether it is with respect to new products, new processes of production or with respect to new knowledge. It is thus only by migrating that these individuals can create these new products, services or knowledge. In other words, it is efficient for the world if those skilled individuals migrate to the country where they can find the inputs that are complements to their skills. If imitation or knowledge spillovers are important, the country subjected to brain drain may benefit from a higher growth rate with respect to the rate it would have if brain drain did

¹⁶ The case of non-english speaking immigrants to Canada choosing to locate in English Canada rather than in Quebec in a very simple form of the same phenomenon: learning English gives more options, more potential mobility, than learning French.

not occur. In fact, it means that both countries (the country of emigration and of immigration) benefit from higher growth rates as compared to the rates without brain drain.

The country of emigration may benefit further relative to other countries if we add network effects. Indeed, those skilled individuals having migrated know their country of origin better than outsiders. They are thus more able than others to channel the necessary foreign direct investments and other resources to take advantage of untapped human resources there. Recently it has been proposed on the basis of this argument that Brain Drain be replaced with the phrase 'Brain Circulation' in reference to scientists in particular. The general idea that the creation of knowledge is increasingly a global industry with relatively rapid international spillovers is contrary to the conventional proprietary view of knowledge. Evidence such as the Coe-Helpman(1996) work on international R&D spillovers confirms to a considerable extent this view of knowledge for a highly open economy such as Canada. They find that most TFP growth in Canada is in fact accounted for by world R&D spillovers, and not domestically generated R&D.

6. New Forms of Labour Mobility

The TN visa program was a case of policy ahead of theory. The original motivation for the program was to allow business to provide customer and related technical support that is essential in the modern economy. Highly firm specific tacit knowledge can often only be transferred in close physical proximity to the customer. In addition activities such as sales, advertising and management of MNE subsidiaries often require repeated visits to the foreign market. The TN program was explicitly designed to facilitate these types of activities across NAFTA borders. The program evolved into much more than that, a form of temporary mobility for certain types of professionals, but it stands as an important example of a successful policy designed to facilitate modern international business. The traditional economic approach to labour mobility has been to treat it in a comparative statics framework in which there is a migration decision by the individual involved reflecting a relatively permanent re-location of that person and thus the location from which that person delivers labour services. One can imagine other forms of delivery of labour services across borders other than those which reflect a

migration decision. In this section we outline four types of 'delivery mechanisms' which involve a type of labour mobility which does not involve a permanent migration. In each case these are mechanisms which have been facilitated by new forms of technology both in transport and communications. They also reflect the judgement that close proximity of most Canadians to the Canada-U.S. border makes these type of delivery issues perhaps more relevant to this particular case than would be true in many other regional trade grouping.

Temporary Visits Associated with related Business Service Trade

As noted this type of program already exists in the form of the TN visa program. The motivation is to facilitate trade, and in particular those types of trade where close interaction with either the customer at the point of delivery, follow-up service related to previous sales, or preliminary interactions with customers prior to sale are an important aspect of the job. For many types of modern goods and services these activities are an essential part of business. In general NAFTA already provides a fairly high degree of mobility with respect to a lot of these activities. However improvements are possible particularly with respect to border procedures. One area where these impediments are currently binding is in border communities. In these cases there is a potential for cross-border trade in a lot of services that would not be the case between communities at distances beyond a normal commuting distance. Some imagination is required as to how 'integration at the border' could be enhanced in areas such as Vancouver-Seattle and Windsor-Detroit.

At the moment the actual barriers often lie in labour market regulations and entry barriers that are not covered by trade agreements. Certain occupations, often unionized, are subject to entry restrictions which prohibit full temporary mobility. For example in the film industry, which is important in most Canadian cities, certain types of jobs are subject to union membership restrictions. Similar restrictions also apply to Canadian wishing to work in California or New York. 'Deeper integration' which would facilitate temporary labour movements in these areas will require fairly major changes in the way in which some occupations are both organized and regulated. Other examples include

pilots, certain types of health professionals, engineers, technicians, and construction trades.

There has been relatively little economic theory or measurement with respect to these type of labour movements. A major issue is the quantification of the welfare effects of facilitating this type of mobility. The general argument usually made is that these type of visits are complementary to trade and FDI. However there are other possibilities. In many cases the service delivered is a form of non-traded sold by a foreign based subsidiary of a Multinational. In these cases one could imagine that by facilitating this type of mobility the decision to produce and sell in the foreign market rather than export is made easier. At the margin therefore it is possible that in this sense trade and labour mobility of this form are substitutes in some sectors.

Virtual Mobility and E-Labour Markets

Innovations in communications technology such as the Internet and similar private data networks have given firms and individuals the ability to transmit large volumes of data instantly, and at close to zero marginal cost to other related parties any where in the world. This is an innovation which has already impacted on many forms of business and may soon begin to have similar effects in labor markets. There are indications this is already happening in areas such as the delivery of software coding and in call services centres. Its economic effects are many but one of relevance here is the ability to remove the barriers to delivery of particular types of services. In the international trade literature a common distinction is drawn between services and goods. For commodities with a sufficient degree of durability and transportability production can be divorced from consumption. Trade is realized by the transport of goods from the location of production to the location of consumption. Service transactions on the other hand are often characterized by the requirement that there be a coincidence in both time and space of meeting buyers and sellers. Delivery of labour services have also traditionally been characterized by this requirement. As in the case of some business services, there are labour services which could in principle be subject to electronic delivery. This raises the prospect of a continental E-labour market for some types of

labour services. Examples would include software engineering, data entry, translation services, and distance teaching.

As in the definition of any market the key issue is the degree of substitutability between alternative sources supply-in this case the virtual and the physical factor supply. Firms may seek to source labour via the Internet when it is technically possible and cost effective.

There is not yet a large economic literature on this subject but it is certain to grow in parallel to the emerging field of Internet economics. One issue related to the earlier discussion of agglomeration and regional development, is how E-labour markets within NAFTA would affect various regions. This problem has been treated theoretically in Harris(1998). The general fear that agglomeration might be biased against the smaller country is shown not to occur in this case. On the contrary in that paper it is shown that the emergence of an Internet for business labour services results in greater specialization by skilled labour in the integrating region as a whole, but a dramatic increase in market size for the specialized labour services provided by the smaller regions. Smaller regions sell more specialized labor services but to a much larger market with virtual labor market integration. The net welfare effect is positive and proportionately larger for the smaller region.

In a fully integrated, virtual labour market the country of location of the point of origin of the labor services should in principle not be a barrier to sourcing. Reducing the regulatory and trade barriers to firms and individuals in these type of virtual employment arrangements is necessary for a North American E-labour market to evolve. Most worker-firm contractual relationships are heavily conditioned by local labor laws and various tax policies. It would be advantageous to create new forms of cross border worker-firm contractual relationships which would facilitate the Telemobility of labor services across the border. This would expand the NA market for virtual labor services, and potentially increase employment of skilled labor in those regions where job growth has been but labor supply has been ample.

At the moment there are few restrictions beyond general labor market regulation on the development of E-labour market. However that situation could change. If Telemobility of labor services grows we can expect labor that is adversely affected to

want restrictions on this type of competition. A NA integration program should at a minimum seek to preserve the rights of NA originating labor to deliver services digitally in any NA location from any other NA location when this is technically possible and economically desirable.

Cross-Border Labour Demand Variations

Regional labour markets and particular industries in particular regions are subject to shocks in demand and supply which are not correlated across regions or industries. The existence of these types of idiosyncratic risk has two implications . First, there is potential demand for insurance arrangements to be created so that the income risk which results can be reduced. Second, there are efficiency gains to be had if labor can be moved from those locations where its' productivity is temporarily low to locations where it is high. Improvements in both objectives can be made if at least some labor is made locationally mobile. Greater specialization of labour has compounded the potential severity of this problem. Highly specialized talents are often in very inelastic supply in the short run. Allowing increased mobility for these type of people is particularly beneficial and in some cases critical. In the short run when regions lose people with these highly specialized skills to a foreign based demand there are obvious short run costs. However in the longer run the larger labour market available to specialized labor tends to reduce income variability and risks of employment in these occupations, and thus increase the long run supply of individuals with these talents, *ceteris paribus*.

As discussed in section 7 regional mobility of labour even within existing common markets is quite low. The actual extent to which regional specific variations in labour demand could be facilitated by moving workers is an unresolved empirical question. Historically however Canada has had some large interprovincial labour flows in response to regional specific booms and busts. In principle there is no reason this could not occur across borders. Canadian labor flows have historically been East-West, but the existence of a North-South option might change this pattern considerably. The closer proximity of northern U.S. states than distant Canadian provinces might lead to Canadians responding to local employment shocks to move North-South. Likewise province specific booms might give rise to inflows of more closely available U.S. labour.

To the extent that workers choice set would expand this type of mobility would be an unambiguous welfare improvement and moreover would tend to raise expected output of the integrated industry as a whole relative to the situation without labour mobility. In modern terms the existence of labour mobility gives workers essentially a put option on local employment conditions. The option is only exercised should local employment conditions become sufficiently bad relative to conditions elsewhere. Competition amongst workers would raise the pattern of wages such that at the margin those who are mobile versus immobile would have the same levels of expected real income net of all expected costs of moving over a working life. Note that the total welfare benefits to this type of mobility are particularly important for non-traded goods (for example construction or health care), where imports cannot provide an alternative source of supply. The welfare benefits of greater labour mobility include a more secure source of supply with more stable prices than would otherwise be the case, and these benefits accrue to local consumers, not just mobile labour.

Historically the type of workers who exhibit this type of temporary mobility within countries are younger workers, both skilled and unskilled. The costs to them of a temporary move are much lower than for older workers and those with spouses who have jobs or dependents who are not mobile. The aging population in Canada implies that the potential supply of these type of workers available for interprovincial and intercity migrations is falling. While increased immigration targeted at young workers is one obvious response, another is to increase temporary cross border mobility of both skilled and unskilled workers from the U.S. A significant extension of the TN visa program to a wider range of occupations would be one possible response to this growing problem.

Seasonal Labour Demand and Supply

One of the most important differences between Canada and the United States is its weather. The Canadian winter is a reality many of us would like to forget in January and February. The Canadian winter affects both the supply of labour and demand in a large number of sectors. Currently beyond a few isolated professions, such as golf instructors and hockey players, there is little in the way of seasonally oriented North-South labor

flows. There are however a large number of climate motivated permanent moves. It is claimed there are over 2 million Canadians by birth, currently living in California. There is a very significant fraction of retired Canadians who winter in the southern US but they do not work and from a macroeconomic perspective contribute significantly to a tourism deficit in the current account. The full extent of the snowbird migration seems to be unknown but one estimate put the number at about 1.5 million in 1997 and growing rapidly.¹⁷ A full common market in labour services between Canada and the U.S. could change both of these situations, although the magnitudes remain unclear to us. Canadian winters would certainly induce a larger number of people who possess skills which are transportable to southern U.S. locations to make this seasonal move. Most of us in the education business for example already know of people who do this. Other occupations such as the building trades, tourism, consultants of all types, health workers, and agricultural workers all contain large numbers of people who could potentially benefit from opening up this type of mobility. In the case of retired Canadians, the issue of cross-border labour mobility is now almost never discussed. But an aging population and its implications for pensions and health programs may put the issue higher on the agenda. If one policy response to aging is part time or temporary work by the aged then making this option available to retired Canadians spending the winter in the U.S. would be a highly significant and valuable option both to them and to Canada. Specific arrangements for these type of employment arrangements could be made in both countries so that unemployment or pension benefits for example were not portable across borders for workers past a certain age. This would serve to both increase the attractiveness of these people to potential employers, and to increase the likelihood of a positive decision to stay in the labour force after the normal age of retirement. For both countries the fiscal and real output benefits would be favorable.

MNE personnel

The last form of unconventional mobility is with respect to the personnel, of multinational enterprises. In this area mobility is already very high and the number of

¹⁷ See Canadian snowbirds face taxing plight. Financial Post. v.10(45) N 8/10'97 pg F7.

transfers significant as discussed in section 2. In many respects the MNE market for professionals is global in scope, and the mobility of management is on par with the mobility of the investment itself. One distinguishing characteristic of the personnel of these firms is the relatively short tenure of their foreign postings, and the frequency with which they are required to re-locate. One study (Solomon, 1998) found there had been a substantial increase in short term overseas assignments amongst MNE's largely to save costs, because of reluctance of people to move for longer periods, and to accommodate project specific tasks. Specialization of tasks within large organizations is a common theme in the current human resources literature. A common market in North American labour would have little incremental impact with respect to this type of specialization, as mobility for the employees of these firms is already very high class of employment. The TN program together with continental free trade undoubtedly contributed towards greater task specialization within large MNE's. However as the organizational form of business shifts toward greater contracting out more formal arrangements to facilitate the temporary movement of personnel who are not at arms-length with the previous MNE will be increasingly useful and important.

7. Mobility and Adjustment

An alternative perspective on labour mobility is provided by the macroeconomic literature on regional adjustment mechanisms, and the related literature on the costs and benefits of optimal currency areas.¹⁸ Within an integrated economic area within which factor mobility is high, factor flows are an important adjustment mechanism to asymmetric shocks across regions. Both macroeconomists and labor market economists are often concerned with how wages, labour force participation, unemployment rates, and migration flows adjust to these shocks. In a cost-benefit analysis of more formal mechanism for labour mobility a principle benefit would be greater adjustment capacity of labour markets to regional macroeconomic shocks.

In principle adjustment is presumed to be more efficient and flexible the greater the response of wages and migration to a shock, as opposed to changes in unemployment

¹⁸ Most of the empirical literature on OCA and asymmetric shocks takes the state of labour mobility as fixed. The question in this section is how those adjustment costs would change if formal restrictions on cross-border flows were reduced. This may or may not result in increased labour mobility.

or participation rates. This question is a central question in the empirical literature on adjustment mechanisms in Europe. With substantial wage and other forms of labour regulation in Europe the loss of exchange rate movements as an adjustment mechanism puts all the weight on the alternatives noted above. The general worry is that Europe's labour markets are relatively poor at adjusting and in particular labour mobility is quite low within Europe. The usual benchmark for comparison is the interregional migration of labour within the United States. Below we review some of the basic findings of this literature. It is important to note that this question is of interest independently of whether NAFTA countries were on flexible or some form of fixed exchange rate regime. Even under flexible exchange rates increased cross border labour mobility would be a valuable adjustment mechanism.

As a benchmark we review what is known about interprovincial Canadian migration. Rosenbluth(1986) finds that interprovincial migration within Canada accounts for approximately 1% of the Canadian population each year. This is large relative to the annual change in population. In general, whenever there has been increases in provincial demand for labour, there has been an increase in in-migration and a decrease in out-migration. Morley Gunderson(1994) claims regional migration to be of greater significance to Canada than immigration from abroad: at the country level 2/3 of all migration is regional, ranging from 40% (Quebec) to 94% (NW and Yukon Territories) at the provincial level. The author cites two sources of barriers to labour mobility in Canada: natural/economic barriers (distance, and culture/language) and artificial barriers (professional/trade licensing, education/language requirements). Due to forces of global competition, free trade, technical change, and industrial restructuring, there is an increased importance to reduce these barriers in order to achieve efficient allocations of labour in order for Canada to be strong and competitive. Data for 1981 to 1986 are presented in Table 7.1 below (to be updated). Mobility tends to occur from low-wage, high unemployment regions to higher-wage low unemployment regions and is negatively affected by distance. Mobility tends to be higher among younger people, due to a longer benefit period from the move, less family disruption, and typically, lower forgone wages. The Atlantic and Prairie provinces are the main sources of out-migration,

while Ontario and B.C. are the main destinations. Quebec mobility (in and out) is lower than most province, probably due to language/cultural differences.

Finnie(1999) updates some of this. He does an empirical analysis of interprovincial migration from 1982-1995. Consistent with the previous studies, the author finds that the largest number of people (measured as the percentage of their provincial population) move from the Atlantic and Prairie provinces to the larger, and nearby, provinces of Ontario, Quebec, and British Columbia. Overall, the annual out-migration rates for provinces as a whole held constant at 1.5% of the population from 1982-1983 through until 1988-1989, but this level had subsequently dropped to 1.2% in 1994-1995—all provinces fell except Newfoundland. Though this drop appears to be small, Finnie claims that this represents interprovincial migration rates shifting down structurally. Over the period of 1982-1995, 7.4% of the Canadian population were involved in interprovincial migration; these movers were classified in to three groups: single movers (4.5%), multiple movers (1%), and returnees (1.9%). Within each of these three categories, the Atlantic and Prairie provinces had the highest provincial rates in each. For 20-24 year old men, there is no pattern with respect to earnings. However, for older groups of men, multiple movers tended to have the highest initial incomes, followed by single movers and returnees. Unfortunately, there are no data available on education, occupation, etc. For women, movers are no typically concentrated among the high income earners. In fact, women typically lose out with respect to income.

Europe and US evidence

In considering how an integrated labour market in North American might adjust to macroeconomic shocks we might usefully examine look at the cases of the EU and the United States. Both have formal common labour markets with permanent labour mobility rights for all workers. If Canada were to have an integrated labour market with the U.S. for example an obvious question is whether on a North-South basis the degree of labour mobility would converge towards U.S. levels or towards European levels. The difference is significant. The general view of European labour mobility is that in contrast to the US it is exceptionally low. The majority of studies find that migration within

Europe is largely within European states. Migratory responses to labour market shocks are low, and are mainly accommodated by changes in the labour force participation rate. The lagged response of migration to changes in employment are exceptionally long. Decressin and Fatas(1995) for example find that there is a zero percent response after the first year. Two, three and four years after the employment shock the equivalent numbers are 27, 45, and 80 percent. These authors find in contrast using US state data that 52 percent of a shock in labour demand is accommodated by migration. Barro and Sali-Martin(1995) find similarly qualitative results for the US. Interesting they also find evidence that in Europe income differences seem to play a relatively minor role in explaining migration but more so in the U.S. A recent paper by Puhani(1999) looks specifically at France, Germany and Italy. In the case of Germany he finds that for a given decrease in unemployment, 29.6 percent of that decrease would be accommodated by an increase in migration over 1.66 years. The numbers for France and Italy are much lower--8.4 and 3.7 percent. He concludes labour mobility is an inconsequential adjustment mechanisms within Europe.

The contrast between the US and European experience carries mixed messages for the Canada-US case. Most labour market specialists view Canada as lying somewhere between the US and Europe in terms of our labour market adjustment mechanisms, and in our unemployment experience for example. This perspective would suggest that full Canada-U.S. labour mobility might serve to increase the macroeconomic adjustment capacity within Canada by more than has been observed in Europe under the EU, but less than has been the case in the U.S. An alternative perspective however is that these type of changes are very slow to evolve, involving fundamental changes in life experience and perspective of workers. It is worth recalling that historically there have been very large flows across the Canada-U.S. border. Under a more liberal migration regime, in particular with an elimination of uncertainty as to access rights, it is quite possible the U.S. benchmark could prove more relevant, and macroeconomic adjustment would improved.

8. Conclusion: Policy and Research Implications¹⁹

This paper has examined the interactions between deeper North American economic integration and increased labour mobility between Canada and the United States. The paper has identified a number of potential channels through which increased labour mobility would affect the U.S. economy and some of the positive and normative implications. While NAFTA is still a long way from a common market with permanently enshrined mobility rights for workers we have identified a number of factors which are pushing in that direction. There are implications for both future research and for policy.

Research Priorities

Labour mobility studies in both Canada and the United States remain largely national in scope. It is clear that we need additional quantitative work which would seek to identify the probable flows and their frequency in response to various shocks under a common labour market. In addition we need further work on issues such as firm location, patterns of comparative advantage, and productivity effects of a substantial liberalization of cross border labour flows. The NAFTA studies which focused on trade and investment liberalization did not identify the static nor dynamic efficiency gains to internal NA labor mobility--this remains a largely uncompleted task for general equilibrium modelers. Given the human capital intensity of New Economy this is a potentially an important research issue and some of the recent work in Europe could be a useful starting point. In addition there is a need for research on the distributive consequences of greater labor mobility in Canada. Disaggregation by skill and/or occupation will be a necessary feature of this research program. A potential consequence of increased cross border movements are the knowledge spillovers that might result. While there is now an extensive literature on spillovers to R&D and aggregate human capital stocks. But we know relatively little as to how international labor flows

¹⁹ As this paper was written prior to the September 11, 2001 terrorist attacks in New York there is no discussion of the interaction between labour mobility and security issues. Clearly this is an issue which needs further attention in light of any specific recommendations on improving cross-border labour mobility. However the basic thrust of the recommendations here are not in conflict with a desire or requirement for increased border security.

contribute to knowledge spillovers and thus productivity gains. The quantification of this particular spillover channel is important in order to assess both costs and benefits of greater labour market integration. On the human capital supply side there are concerns about opening the markets for Higher Education in Canada under NAFTA.²⁰ Many of these worries seem overdone, but a research piece on human capital supply mechanisms, and some estimates of on how greater mobility might impact on private and social rates of return to human capital acquisition in Canada would be very useful.

Policy

There is admittedly little formal discussion of taking NAFTA towards a common labour market. However the 'bottom up' integration which is ongoing is giving rise to greater cross border labour flows and for demands to facilitate these flows.²¹ Policy can either be in front or behind on this process. If Canada were to enter a formal agreement to open it's borders in some permanent way to free movement of NAFTA labour this would undoubtedly be seen as sacrificing national sovereignty. However as in other policy areas, before this option is rejected a more realistic assessment of its long term consequences should undertaken. It is possible that as in the case of freer trade in goods, the forces of integration and globalization will benefit those most who successfully adopt to the implied levels of greater mobility. For small countries in particular, failure to do so may imply a loss of both the investment and human capital to those jurisdictions who adapt more effectively.

Short of a common labour market the issues raised in the paper suggest a number of medium term policy options for Canada and the U.S. which would serve to enhance labour mobility in the northern part of the continent. In each case we would recommend a more serious examination of these options.

(1) The NAFTA TN visa program led to increased mobility for professionals, and basically anyone with a technical university degree. A useful approach would be to

20 There has been a number of concerns expressed about the impact of NAFTA on Canadian sovereignty in the areas of culture, water, health, environment, education and immigration.

21 For a discussion of the bottom up versus top down integration see Harris(2000a)

increase the scope of that program to other classes of labor by creating a negotiated schedule of dates for liberalizing the movements of various occupations. Generally one could imagine moving from the highest to the lowest skill categories. Certainly it would be relatively easy to extend the program to technical and trade workers for example.

(2) How can Canada-U.S. border procedures be amended such as to lower transactions costs to individuals seeking work in the other country? Would it be useful for Canada and the U.S. to coordinate border management with respect to non-NAFTA nationals?

(3) E-Labour Markets. Reducing barriers to firms who are or might be virtual employers should be looked at. It would be advantageous to create new legal forms of cross border worker-firm contractual relationships which would facilitate the Telemobility of labor services across the border. This would expand the NA market for virtual labor services, and potentially increase employment of skilled labor in those regions where job growth has been but labor supply has been ample. If Telemobility of labor services grows there is a danger that labour that is adversely affected will lobby for restrictions on this type of competition

(4) Work on harmonization of professional and occupational standards, and the elimination of entry barriers such as residency prerequisites for licensing for occupation currently subject to these restrictions, should be initiated by a joint Canada-U.S. task force. This will require in many instances state-province cooperation. In some instances the standards issue could be dealt with by resort to a principle of Mutual Recognition, while in other instances a common Canada-US standard may be appropriate or necessary. These should be examined on a case-by-case basis.

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Table 2.1
Canadian Population and Growth Components

Period	Net Natural Increase	Immigration	Emigration³	Emigration / Immigration	Census Population at end of Period
1851-1861	611	352	170	0.48	3230
1861-1871	610	260	411	1.58	3689
1871-1881	690	350	404	1.15	4325
1881-1891	654	680	826	1.21	4833
1891-1901	668	250	380	1.52	5371
1901-1911	1025	1550	739	0.48	7207
1911-1921	1270	1400	1089	0.78	8788
1921-1931	1360	1200	971	0.81	10377
1931-1941	1222	149	241	1.62	11507
1941-1951 ⁴	1972	548	379	0.69	13648
1951-1956	1473	783	184	0.24	16081
1956-1961	1675	760	278	0.37	18238
1961-1966	1518	539	280	0.52	20015
1966-1971 ⁵	1090	890	427	0.48	21568
1971-1976 ⁶	931	1053	492	0.47	23518
1976-1981	977	771	366	0.47	24900
1981-1986	987	677	360	0.53	26204
1986-1991	987	1199	279	0.23	28111
1991-1996	908	1170	230	0.20	29959
<i>Source: Helliwell(1999), Table 2.</i>					

Table 2.2a:
Canadian born immigrants to the United States, 1951-1998

Years	Average Annual Flows ('000s)
1951-1960	N/a
1961-1970	41.3
1971-1980	17.0
1981-1990	15.7
1991-1996	16.2
1991-1998	14.06

Table 2.2b:
U.S. Immigration to Canada, 1961-2000

Years	Average Annual Flows ('000s)
1951-1960	10.1
1961-1970	16.7
1971-1980	17.9
1981-1990	7.9
1991-1994	7.1
1991-2000	6.05

Table 2:3

Flow of non-immigrant professional workers and their families to the United States

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
	Canada-U.S. Free Trade Agreement									
Professional Workers under FTA (TC)	2677	5293	8123	12531	16610					
Spouses and children of FTA workers	140	594	777	1271	2386	North American Free Trade Agreement				
Professional Workers under NAFTA (TN)						19806	23904	26987	N/a	59061
Spouses and children of FTA workers (TD)						5535	7202	7694	N/a	17816

Table 2.4
Flow of Temporary Workers under the Canada-U.S. Free Trade Agreement
and the North American Free Trade Agreement

Categories*	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Traders	24	18	11	3	5	6 (0)	7 (0)	5 (0)	6 (1)	5 (1)	11 (4)
Investors	27	27	28	29	16	12 (0)	22 (0)	11 (3)	18 (2)	22 (0)	14 (2)
Intracompany Tranferees	867	1,297	1,139	1,101	1,090	1,474 (7)	1,333 (15)	1,299 (15)	1,633 (25)	1,922 (42)	1,734 (44)
Professionals	1,741	2,756	3,466	3,673	4,348	5,109 (19)	5,082 (66)	6,240 (88)	7,572 (69)	8,502 (96)	7,331 (77)
Total	2,659	4,098	4,644	4,806	5,459	6,601	6,444	7,555	9,229	10,451	9,090

**Temporary workers who qualify in these categories are business persons who require an employment authorization but are exempt from labour market assessment (employment validation). Business Visitors are not included since an employment authorization is not required.*

Note: The numbers are based on persons not on employment authorization documents. The numbers in parentheses indicate those workers coming to Canada from Mexico.

Source: Unpublished data provided by Citizenship and Immigration Canada.

Table 3.1: Inflows of Foreign Population in Selected EU Countries
(in thousands)

Years	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Belgium										
Total	38.2	43.5	50.5	54.1	55.1	53	56	53.1	51.9	49.2
EU (%)	52	52	49	46	49	50	48	50	55	56
Denmark										
Total	n.a.	n.a.	15.1	17.5	16.9	15.4	15.6	33	24.7	n.a.
EU (%) ¹			15	15	16	20	24	13	16	
France										
Total ²	44	53.2	102.4	109.9	116.6	99.2	69.3	56.7	55.6	80.9
EU (%)	n.a.	n.a.	11	11	22	15	16	14	13	8
Germany										
Total	648.6	770.8	842.4	920.5	1207.6	986.9	774	788.3	708	615.3
EU-15 %	22	18	17	16	12	14	20	23	24	25
Luxemb.										
Total	8.2	8.4	9.3	10	9.8	9.2	9.2	9.6	9.2	9.7
EU-15 %	85	82	82	78	72	77	77	73	n.a.	n.a.
Netherl.										
Total	58.3	65.4	81.3	84.3	83	87.6	68.4	67	77	76.7
EU-15 %	27	24	23	25	27	23	23	22	25	27
EU-6										
Total in % of pop.	.65	.8	.6	.59	.75	.62	.45	.45	n.a.	n.a.
EU migr. in % pop	.2	.21	.13	.12	.13	.11	.12	.13	n.a.	n.a.

1. Include Finland and Sweden from 1995; 2. From 1990, spouse of French nationals, parents of French children, refugees, self-employed and others eligible for a residence permit are also included.

Source: OECD (1998) and Krueger (2000).

Table 7.1**Domestic and International Migration, Canada 1994-2000**

Province/Territory	Total Immigration	Numbers by Source		% by Source	
		Other Provinces	Other Countries	Other Provinces	Other Countries
Canada	3553298	1469023	2084275	0.41	0.59
British Columbia	728810	302397	426413	0.41	0.59
Alberta	557437	97133	460304	0.17	0.83
Saskatchewan	135428	12926	122502	0.10	0.90
Manitoba	134632	26686	107946	0.20	0.80
Ontario	1310240	800292	509948	0.61	0.39
Quebec	355242	200364	154878	0.56	0.44
New Brunswick	84900	4839	80061	0.06	0.94
Nova Scotia	131803	18621	113182	0.14	0.86
P.E.I	20372	1084	19288	0.05	0.95
Newfoundland	57401	3452	53949	0.06	0.94
Yukon Territory	12795	575	12220	0.04	0.96

Source: HRDC and authors' calculations.