

**INTERNATIONAL MIGRATION
PAPERS
10**

**The jobs and effects of migrant workers
in northern America - Three essays**

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Foreword

The following studies were elaborated under the auspices of the ILO's Migration for Employment Programme at the request of the Spanish Ministry of Social Affairs. They were originally presented at the *Universidad Internacional Menéndez y Pelayo*, Santander, July 1995, on the occasion of the Seminar on "Immigration, employment and social integration", which was co-directed by the Ministry of Social Affairs and the ILO. The papers themselves were slightly revised in the light of the discussions.

The studies had the purpose of reviewing the scientific discussion in Canada and the United States concerning the labour market, social and economic impact of the employment of non-national workers. They were to focus on workers who are not admitted as future settlers, i.e. workers who are employed with limited-time contracts and, in the case of the United States, Mexicans who enter illegally and who are known to be largely interested only in short periods of employment there.

John Samuel's paper on Canada starts off with an examination of the conditions under which non-national workers may be said either to compete or to be complementary to local workers; and he then brings together the empirical evidence on that question. Thereafter he explains the origin and historical development of Canada's temporary worker programme, which has dwarfed permanent immigration in recent years, before setting out the labour market, fiscal and social effects of the employment of temporarily admitted foreigners.

Phil Martin and Ed Taylor look at the United States. Phil Martin initially explores agricultural labour demand discontinuities (segmentation) and adjustment examples that occurred through technological developments rather than wage movements. He then draws attention to the important role played by immigrant workers in filling, increasingly, certain workplaces in the US economy. He finally tries to answer the question what can be done to reduce the economy's dependence on immigrants in certain job that are shunned by nationals.

Ed Taylor finds that the perception of the competition vs. complementarity issue has changed in the US in the last two decades or so, and explains how this change in perception came about. Fiscal impacts at the local and national levels have been the touchstone of this discussion, which he examines critically. The 1986 Immigration Reform and Control Act is then used to exemplify how politics and political decisions shape the impact of temporary labour import in US agriculture.

In toto, these three studies provide a "state of the art" introduction to the key economic and social questions surrounding the temporary and permanent labour immigration in Canada and the United States. They document that there are unresolved and contentious issues in both Canada and the United States in terms of substance as well as methodologies - on which the authors shed their own light and observations.

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**A. TEMPORARY AND PERMANENT LABOUR IMMIGRATION INTO CANADA:
SELECTED ASPECTS**

by

J. Samuel

1. Introduction ¹

This paper looks at the two aspects of Canada's labour import policy, the admission of foreigners for the purpose of permanent settlement and the temporary employment of foreign nationals, which are usually dealt with separately and with scarce attention paid to the temporary admission of foreign labour. As will be seen, the latter is large in size - much larger than permanent immigration in recent years - and it is not necessarily always temporary in nature.

The focus of the treatment of permanent immigration is on the question whether immigrant and Canadian workers are complementary or competing groups. The focus with respect to the temporary employment of foreigners is on their social and economic impacts.

The terms "foreign born" and "immigrants" are used synonymously. Also, the terms "resident" or "domestic" workers are considered to have the same meaning as "national" workers. The term "native born" is often used interchangeably with "resident", "domestic" or "national" workers.

2. Trends in Canadian immigration policy and levels

Canada has always opened its doors to economic immigrants with attractive characteristics: strong backbone to farm or to build railroads; professional qualifications in short supply in a post-industrial society; or plenty of capital to invest and create jobs. In short, the employment effects of immigration has been a constant concern for Canadian immigration policy makers. If the rate of unemployment is used as a proxy for the buoyancy of the economy, as seen in Chart 1, when unemployment went up immigration levels came down and vice versa. With some exceptions, immigration levels have been generally responsive to the state of the Canadian economy over the last 40 years. The relationship between immigration and the labour market conditions as proxied by the unemployment rate has been particularly close during the last two decades. So much so that the policy has been described as a tap-on tap-off immigration policy. "During recession and high unemployment, there was considerable pressure on policy makers to turn off the immigration tap. Immigration, which has a tremendous long-term impact, was considered mostly in the short-term on economic vagaries" (Samuel and Jansson, 1988, p.108).

A view that was held firmly until mid 1980s was that more immigration would mean more unemployment. Based on this thinking, immigration was cut back in the 1980s; in 1985 the

¹ I am indebted to Roger Böhning of the ILO, Arun Roy of Human

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immigration level hit the rock bottom (84,000) in two decades. This relationship has been examined by various researchers in immigration countries. In Canada an internal document the author wrote in 1985 concluded that, on balance, immigrants may create more employ-

ment than they take.¹ This view "had a convincing effect on the ... minister of state for immigration... In virtually every speech he has given since he stressed that immigrants do not take jobs from Canadians. As often as not they end up creating them for others" (Malarek, 1987, p.41-42). In 1991, an Economic Council of Canada Study used several tests to see whether immigration causes unemployment, from the very simple to the very complex and came to the conclusion "that there is no connection: immigration does not create unemployment" (Economic Council of Canada, 1991, p.14).

The universalization of Canada's immigration policy was started in 1962 "when immigration regulations were amended, informally, to admit non-Europeans" (Samuel, 1992, p.170). The year 1967 marks an important watershed in Canadian immigration when immigration policy was formally placed on a universal selection system with an objective selection criteria. The new policy based on the Points System was adopted to allow immigrants to be chosen on the basis of suitability to Canada and its labour market needs and to eliminate any discrimination owing to country of birth, ethnicity, religion or race.

The success of an applicant under the Points System depended upon, among others, factors such as occupational demand, occupational skill and arranged employment in order to assure that immigrants do not unfavourably impinge on the employment prospects of residents. Also, it was meant to facilitate the economic integration of immigrants in occupations where there is a need since the Canadian born are not available in sufficient numbers. The 1967 policy resulted in a substantial change in the composition of immigrants with a significant increase in the flow from the Third World.

The 1976 Immigration Act (which came into effect in 1978), rearranged the Points System and more emphasis was added to the economic factors in view of the economic difficulties encountered by Canada at that time. Among them were: immigrants wishing to come to Canada had to obtain at least one point for occupational demand, a penalty of 10 points was imposed if the applicant did not have arranged employment, and additional penalties were included if the region to which the applicant intended to go had economic difficulties. Also, to safeguard the job market for Canadian residents, "temporary workers" were admitted only for short periods for specific locations and they were expected to leave once their visa expired.

This new immigration policy had three major goals: Canadian demographic needs, family reunification and tying immigration closely to the labour market needs. Under the 1976 Act, entry into Canada could occur through three classes: Independents, Family, and Refugees. During the period 1982-85, entry under the Independent Class was virtually prohibited due to high unemployment, except in a case of arranged employment which required certification from a Canada Employment Centre that Canadian residents with the requisite skills were not available. This restriction was lifted in 1986. Thus, in the post-1978 period, two contradictory forces appeared to change the potential labour market effects of the new immigration flows. The emphasis on job certification reduced the possibility of immediate unemployment for the Independent class. On the other hand, the family re-unification programme partially circumvented the job certification criterion and opened the possibility of competition for jobs (DeVoretz, in Globerman, 1992, p. 176).

Over the last 40 years, significant shifts occurred in terms of the origin of Canada's immigration intake. In the late 1950s over 85 per cent of Canada's immigrants came from Europe. Asia accounted for a negligible 2 per cent. By 1992, the Third World as a source constituted 77.8 per cent. The major reason for this shift was the universalization of immigration policy selection criteria.

¹ Revision and publication of the paper was later undertaken with a colleague, see Samuel and Conyers, 1987.

Another development which is of some importance in terms of the possible labour market effects of immigration is a shift in the distribution by immigrant class. The importance of the Independent class (selected) declined from an average of 74 per cent during 1970-74 to 48 per cent during 1975-79 and to 45 per cent during 1985-89. The relative importance of the Family class as well as that of the Refugee class, on the other hand, increased. The Family class immigrants increased from an average of 25 per cent during 1970-74, to 43 per cent during 1975-79, but declined to 37 per cent during 1985-89. The average of the Refugee class increased from a negligible one per cent to nine per cent during 1975-79, and to 18 per cent during 1985-89 (deSilva, 1992, p. 4).

3. Some socio-economic characteristics of the foreign-born

By way of a backdrop to a discussion of empirical findings by various researchers on the competition for jobs it is useful briefly to review some of the socio-economic characteristics of the foreign-born as seen in Table 1 and how these compare with the native-born Canadians.

The foreign-born not only constitute an important segment of the population of Canada, but regular immigration flows make a significant contribution to the annual labour force growth. The foreign-born population was 16 per cent (4.3 million) in 1991, almost unchanged since 1951 when it was 15 per cent. Over the period 1981-86, the flow of immigrant workers, i.e. immigrants destined to the labour force, accounted for a quarter of the average annual growth (Roy, 1987). The comparable figure for the ten-year period 1981-90 was 35 per cent. Thus the contribution of immigration flows to labour force growth has been increasing. Questions have often been raised whether new immigrants displace resident workers from their jobs and act as a competing group. The issue surfaces periodically in times of economic recessions and becomes a subject of public debate and political concern.

The characteristics of immigrants are relevant to the question of competition or complementarity between immigrants and residents. The majority of immigrants arrive in Canada as young adults. The median age of immigrants at the time of entry was reported to be 25 years for 1971 and it increased to 27 years in 1986.

As regards the educational attainments of the native-born and the foreign-born, concentrating on those with university education, immigrants have a higher level of education than the native-born Canadians. Over the period 1946-86, while 18 per cent of the Canadian born had university education, the percentage was 22 among the foreign-born. The appearance of a slight deterioration in the educational attainments of recent arrivals (deSilva, 1992, p. 6) is contradicted by more recent data. The apparent decline is due to increasing educational levels among the native born and not due to decreasing educational levels of immigrants (Akbari, 1994, p. 50).

Table 1. Foreign-born in Canada, 1871-1991

Year	Foreign-born (%)	Year	Foreign-born (%)
1871	16.7	1941	17.5
1881	14.0	1951	15.0
1891	13.7	1961	15.5
1901	13.0	1971	15.0
1911	22.0	1981	16.0
1921	22.3	1991	16.0
1931	22.0		

Immigrants have a slightly higher labour force participation rate and lower unemployment rate than the native-born (deSilva, 1992, p. 11). Even a considerable number of refugees with poorer skills found employment in a relatively short period of time, and the average duration of their unemployment was also rather short (Samuel, 1984, p. 47).

There were slightly more immigrants employed in managerial and professional jobs relative to their native-born counterpart (deSilva, 1992, p. 15). A slightly larger proportion of immigrants were self-employed than was the case with the native-born (11.6 and 9 per cent respectively).

By industry, a relatively high concentration of the foreign-born workers was found in 1980 in clothing, hardware, tool and cutlery, universities and colleges (Akbari and Devoretz, 1992, p. 612).

The unemployment rate was slightly higher among immigrants in the initial five-year period than among the domestic labour force but was substantially lower for later years. Also, the length of unemployment spells, once unemployed, is much shorter among the Independent class and those who enter with arranged employment than among other immigrants (Robertson and Roy, 1986, p. 11; Samuel and Woloski, 1985, p.18).

4. Determinants of competition in job markets

In general, if the foreign-born or immigrants have or they bring in skills that are different from those of the national labour force, they would be complementary and the two would be non-competing groups in the labour market. If there are plenty of plumbers and pipe fitters, for instance, but a shortage of civil engineers or surveyors, entry of new immigrants as pipe fitters or plumbers would pose a threat to jobs in these occupational categories for resident workers. The entry of new immigrants with background in civil engineering or surveying would in this case complement the resident labour market and to that extent they would be non-competing groups. In this context, one can examine whether the occupations of the new immigrants are positively correlated with those of the resident work force. If these are positively correlated, the newly-arrived immigrants are likely to act as a competing group in the labour market. Similarly, the time horizon could be several years instead of any particular year when labour market characteristics of immigrants entering the country over the given period are compared with those of the resident work force.

It should be emphasized, however, that this is a very simplistic way of analyzing the issue and could often be misleading. For example, whether immigrant nurses would be in competition with the native-born nurses would depend upon a variety of other factors and these must be controlled for in a statistical analysis. For instance, immigrant nurses may be acting as a competing group in a city like Toronto, but they might be complementary to the work force in the Atlantic provinces or in a remote region like the Northwest Territories where there might be a shortage of nurses and the native-born nurses are reluctant to move. Thus comparisons at the aggregate level without making allowance for other factors could lead to erroneous conclusions.

5. Measurement of competition

Competition in the labour market between new immigrants and the resident work force can be felt by both groups but poses problems of measurement in precise statistical or economic terms. One

measure which is commonly used is the extent to which immigrants tend to lower wages due to competition for jobs. From the standard economic theory it follows that as immigrant workers enter the country, there would be an increase in labour supply and, other things remaining the same, competition for jobs would tend to depress wages. However, as the downward pressures on wages are not observed in the real world due to institutional rigidities such as unions and collective agreements, this has to be econometrically estimated by controlling for factors other than immigration which influence wages.

A variety of factors, some of which are clearly interrelated, determine whether new immigrants become a competing group:

First, *size of the new immigrant labour force* is obviously an important factor which influences the degree of competition between the resident workers and the new arrivals. If in any given year there is an unusually large inflow of new immigrants relative to the level of employment or the labour force, it might become difficult for the economy at least in the short run to absorb them without causing large scale job-displacement effects among the resident workers. Competitive pressures in the labour market for the existing stock of jobs would tend to reduce wages - a rationale used to set low annual immigration target levels in immigration countries.

Second, the mechanism and the *labour market criteria* that are used to select immigrants are an important factor determining the possible competition or complementarity between the native-born and immigrant workers. If selection of immigrants is directed towards skills which are in greatest demand in the country, immigrants and the native-born are more likely to be non-competing than competing groups.

Third, the *timing of the arrival* of new immigrants is also of crucial importance. Even a relatively small number of new immigrants entering the country at a time when the economy is in a deep general recession would find themselves competing with the resident or native-born work force for a limited and probably a dwindling number of jobs. This would cause wide-scale job displacement effects for the native-born workers. As new immigrant workers are usually prepared to accept jobs at lower wages, resident workers who are rendered unemployed due to the recession might find it difficult to get jobs at their previous wages. This could create a great deal of frustration among resident workers and generate an anti-immigrant feeling.

Fourth, rising general unemployment, as is usually the case in an economic recession, does not necessarily make the immigrants a competing group in the job market. If *unemployment is structural in nature*, filling shortages of required skills in some particular regions, occupations or industries by immigration could open up avenues for new job creation. For example, while general unemployment could be high, there could be an acute shortage of professional engineers in a remote region of the country. New immigrants with the required skills would have the potential of creating jobs for complementary occupational groups such as engineering technicians or unskilled labourers.

If immigrants tend to locate themselves in certain *geographic locations* such as large cities they might exert some downward pressure on the wages of the residents in these areas. In Canada, for example, the majority of immigrants settle in Toronto, Montreal, and Vancouver. But quite often these are also areas where employment opportunities are greater. Thus this kind of generalisation may not always be valid. Immigrants generally also gravitate towards certain industries depending upon their occupational background, networks and aspirations. In Canada, for instance, there is a heavy concentration of immigrants in women's clothing; men's clothing; hardware, tool and cutlery; and universities and colleges, among others (Akbari and DeVoretz, 1992, p. 612).

Closely related to the preceding is the general point that if immigrants arrive with skills and occupational background that complement the resident work force, immigrants far from being a

competing group could become an engine of growth by removing structural bottlenecks in the labour market, by bringing in new technology, new work ethic and by importing new financial capital to the extent they bring in such capital with them from abroad. In addition, by expanding the market for consumer goods, housing, transportation, schools, hospitals and other social overheads and services, immigration is likely to have a stimulating impact upon the economy in the longer run. The extent of the effect would depend upon how soon the immigrant workers are integrated into the overall labour market.

Thus a large variety of factors and forces act and interact upon one another to determine whether the foreign-born and the resident workers compete in the labour market. In this context, it is also important to distinguish between the short-run and the long-run impacts. Some segments of immigrants who act as non-competing groups initially, could become competing groups as structural changes occur in the labour market.

Also the relative weights which can be assigned to the various factors as determinants of competition between the foreign-born workers and the native born are likely to change due to structural changes in the economy as well as changes in the composition of new immigrant flows into the country.

6. Empirical evidence on competition

A few studies focusing on competition for jobs between immigrants and native-born Canadians are available in Canada since the 1970s. A methodological pilot study on complementarity and non-complementarity of immigration on Canada's labour market in 1972 concluded that "immigration may have a triple effect ...: First, that of maintaining or creating certain jobs, a result of the support given to or of the increase in overall demand; second, that of filling vacant jobs that cannot be filled by the local labour force; and lastly, that of unemployment for some workers, or at least retirement or emigration of some of them" (Sutet, 1972, p. 35). This study maintained that it would be a mistake to consider the effect of complementarity and non-complementarity of immigration on the Canadian labour market only at the aggregate level and proposed to study the labour market by occupations and urban areas using input-output tables. Defining "the ideal situation for the economy" as having "a labour market in perfect equilibrium and full employment at the same time" (ibid.), it was postulated that "immigration can have a dual effect on local labour markets either re-establishing the equilibrium (where an excess demand exists as regards the labour factor) or contributing to worsening the disequilibrium" (ibid.). It calculated the complementarity and non-complementarity of immigration for Toronto for one year and two occupations - auto mechanics and nurses - from October 1969. For auto mechanics, the non-complementarity effect was estimated at 190 jobs and complementarity effect at 660 jobs with a net gain of 470 jobs. For registered nurses, the net gain was 771 jobs.

However, despite the pilot study, there was no effort made to extend the study to other periods, occupations or cities for two reasons. First, it became clear that the labour market effects of immigration are so dynamic and diffused that an equilibrium model cannot capture it any easier than a moonbeam. Second, the Job Vacancy Survey which was the primary statistical source for the study was discontinued in the 1970s.

Only by the end of the 1980s a few more such studies appeared. Competition for jobs between immigrants and native-born Canadians was examined by Roy (1987 and 1988). Although slightly different selection criteria and methodology were used in each of these studies, one common finding which emerges is that, in general, when all immigrants are pooled together as a group, they are not competing with the Canadian-born. In Roy (1988), immigrant labour force groups are disaggregated by occupation and by country of origin. Four labour force groups were analysed: Canadian-born, US immigrants, European immigrants, and immigrants from Asia and Africa. Applying a production-function-based approach, these studies found that, when disaggregated by occupation and by country of origin, some immigrant groups are either competing or non-competing groups with the Canadian-born work force in several specific occupational categories.

Several selection criteria were used for the large sample (500,000) drawn from the 1981 Canadian census. It consisted of working men in the prime age group (aged 15-54) who reported a specified number of annual weeks of work in the preceding year. For immigrants the sample consisted of individuals who had immigrated not longer than ten years ago. The implicit assumption here was that immigrants living in the host country for longer than ten years are almost fully integrated into the Canadian labour market.

The following differential characteristics of the foreign-born and the native-born Canadians are worth noting:

- (i) The average weekly wages of the US-born and European-born are higher, and those of the Third World immigrants are lower, than the wages of the Canadian-born workers. Part of these wage differentials can be attributed to observable heterogeneity such as skill, education, occupation, and geographic location.¹
- (ii) The occupational profiles vary widely. There is a much bigger concentration of US immigrants in the professional and managerial category than among the Canadian born. A relatively large concentration of the Europeans is found in construction trades and as production workers. Relatively large numbers of immigrants from Third World countries are found in the service sector, clerical and related occupations.
- (iii) As compared with the Canadian born, there was a heavy concentration of all immigrant groups in metropolitan areas and in particular of Third World immigrants (89 per cent).

The major findings of the analysis were:

- (a) When all immigrants are considered as a group and relevant factors are taken into account, considering the labour market as a whole, *immigrants* and the *Canadian-born* work forces are *not competing groups* in the labour market.
- (b) When disaggregated by country of origin, the *US immigrants* and the *Canadian-born* are substitutes or *competing groups* in the labour market and the effect was quite significant. The result may not appear to be surprising in view of the relatively large concentration of immigrants in the professional and managerial occupations.
- (c) The *Canadian-born* and *Europeans* are *competing groups in certain occupations*, while they have complementary skills in others.

¹ This finding is corroborated by a Statistics Canada study which showed that, when adjusted for age and education, Third

World immigrants had lower employment income than European, the U.S. or Canadian born workers (Beaujot *et al.*, 1988).

- (d) *Immigrants from the Third World and the Canadian born are slightly competing groups in certain occupations.* On the whole, immigrants do not have any substantial job displacement effects on the Canadian born except for the US immigrants.

Using a slight variation of the production function approach used by Roy (1988), Akbari and Devoretz (1992) in another study examined the job displacement effects or competition between the Canadian-born and the foreign-born by industry.¹ Their analysis focused on the stocks of Canadian-born and foreign-born workers in 125 industries in 1980. A distinction was made between earlier immigrants (pre-1971) and recent immigrants (1971-80 arrivals). The major findings were:

- (i) When all industries are pooled together, there is no competition and immigrants do not displace the native-born from their jobs, which confirms an earlier finding by Roy (1988).
- (ii) Recent immigrants appear to be complements to earlier immigrants. This is not surprising in view of the fact that post-1971 immigrants are younger, and differ in human capital content, and also differ in ethnicity.
- (iii) When the analysis is extended to those industries where there was a high concentration of foreign labour (59 industries), there were some job-displacement effects. In general, across these 59 industries, a one per cent rise in foreign-born labour reduced employment of native born by about 2,500. Thus job-displacement effects of immigrants would appear to be rather small.
- (iv) Physical capital is a complementary factor input to both types of labour, native-born as well as immigrant.

The Canadian evidence on the impact of immigration on job competition is summarized in Table 2 below.

Table 2. Summary of findings concerning Canada: Competition or complementarity?

Between	Frame	Competition/ Complementarity	Source
1. All foreign born and Canadian born	Aggregate economy level	No competition	Roy (1987)
2. All foreign born and Canadian born	Economy-wide, all 125 industries	No competition	Akbari and DeVoretz (1992)
3. American immigrants and Canadian born	Aggregate economy level	Highly competitive	Roy (1987)
4. European immigrants and Canadian born	Clerical services and processing occupations	Slightly competitive	Roy (1988)

¹ In this analysis, output in each industry is assumed to be a function of capital, and two types of labour: Canadian-born and foreign-born workers. In turn, foreign-born workers are further subdivided into two kinds of input, immigrant workers who entered Canada before 1971, and those who entered during 1971 to 1980. From estimates of production functions, a technical measure of job displacement effect (called elasticity of complementarity) is computed.

5. European immigrants and Canadian born	Natural sciences and transportation occupations	Complementary	Roy (1988)
6. Third World immigrants and Canadian born	Machining and transportation occupations	Slightly competitive	Roy (1988)
7. All foreign born and Canadian born	Industries with relatively heavy concentration of immigrants	Slightly competitive	Akbari and DeVoretz (1992)
8. Recent immigrants (1971-80) and earlier immigrants (pre-1971)	Economy wide	Complementary	Akbari and DeVoretz (1992)
9. Earlier immigrants (>5 years since immigration) or recent immigrants (<5 years) and Canadian born	Economy wide	Neither competitive nor complementary	Roy (1988)

7. Conclusions regarding competition between resident and immigrant workers

When increased number of immigrants adversely affect the employment opportunities for the native born, the foreign born and the native born are said to be competing groups in the labour market. If, on the other hand, the foreign born tend to improve employment opportunities for them, they become non-competing groups or are even complementary. There are different channels along which such competition manifests itself. Sometimes, it is experienced in the form of higher unemployment among the native born - they find it harder to find employment as they are displaced from their jobs by immigrants who are usually willing to accept lower wages. If this kind of competition continues for long, it could result in the lowering of wages of the native born. Job displacement impacts of the foreign born have usually been estimated by using wages of the native born as the yardstick. If immigrants bring in skills and expertise which are in short supply, increased immigration could open up new job opportunities for the native born and result in improved wages for the native born. Increased immigration flows could also stimulate the economy generally by creating increased demand for a variety of goods and services and infrastructure such as schools, hospitals, roads, and housing. These macroeconomic impacts of immigration would tend to create new job opportunities for both native born and foreign born.

A variety of factors, some interrelated, need to be considered. In general, if the foreign born or immigrants have skills that are different from those of the resident labour force, they are likely to be complementary and the two would be non-competing groups in the labour market. The size of the new immigrant labour force is obviously an important factor which influences the degree of competition between the resident workers and the new arrivals. If in any given year there is an unusually large inflow of new immigrants relative to the level of employment or the labour force, it might become difficult for the economy, at least in the short run, to absorb this without causing large-scale job displacement effects among the resident workers. The mechanics and the labour market criteria that are used to select immigrants are another important factor determining the possible competition or complementarity. In Canada the annual volume of immigration is controlled to ensure that the new immigrants do not create excessive competition for the resident workers and do not overburden social programmes.

Timing of the new arrivals is also of crucial importance. New arrivals of even a relatively small number of new immigrants at a time when the economy is in a deep general recession would find themselves competing with the national work force for a limited and probably a dwindling number of jobs. Canada's immigration programme has been generally responsive to changing economic opportunities. In times of economic recessions, the numbers of immigrants admitted have been sharply reduced.

Unlike temporary workers who are admitted for short period of time and are usually attached to specific employers, the mobility of immigrants cannot be controlled. In Canada no institutional restrictions are placed on immigrants or on their geographic or occupational mobility except to the extent that entry into certain trades or professions requires licenses. These usually have the effect of protecting the residents from competition in these occupations due to the entry of new immigrants. It has been argued that such institutional restrictions are economically inefficient. A case in point is where foreign-born medical doctors work as taxi drivers since they are unable to obtain the required certification as doctors.

Immigrants have been found to gravitate towards certain geographic locations and have concentrated in certain industries and occupations. Several empirical studies indicate that

immigrants become unemployed less frequently and, once unemployed, the length of their unemployment spell is shorter than that of the native born. Also their dependence on social assistance is generally less than that of the native born. Whether immigrants in the process displace Canadian born from jobs is hard to say since the size of the employment pie becomes larger because of the effect of three factors: (a) immigrants' consumption expenditures, (b) immigrant capital and skills and (c) entrepreneurial activities of immigrants.

Empirical studies show that a variety of different complex factors must be considered in analyzing and understanding whether immigrants are in competition with the native born in the job market. The occupations and industries the immigrants move into, their geographic location and the period of their stay in the host country, their skills relative to those of the native born are some of the crucial factors that determine whether foreign born and native born would be competing groups.

A review of the literature suggests that the degree and nature of such competition can be assessed more conveniently as snapshots in a cross-sectional context. The relative importance and the role played by these factors are likely to change due to structural changes in the economy and in the composition of new immigrant flows. Because of the complexity and variety of factors which determine the degree of competition between occupational groups and also due to data limitations, it is not possible to develop any meaningful "flow chart" that would indicate changing degrees of competition or complementarity over time.

8. Trends and composition of temporary worker flows in Canada

8.1. The origin

In recent years there has been a substantial increase in the number of temporary workers (TWs) in Canada. Their flow outstripped that of landed immigrants by a ratio of two to one in the 1980s. Yet neither TWs policy and the issues associated with it nor undocumented immigration has received much attention relative to permanent immigration.

The TW programme in Canada had its origin in the Canadian agricultural workers programme established in 1966, first with Jamaica and later with several other Caribbean countries, on the basis of bilateral agreements to provide TWs who would stay for a maximum of four months in agricultural "stoop" jobs to harvest fruits, vegetables and tobacco in southern Ontario (White, 1984). A similar programme was started in 1974 for Mexican workers. The number of agricultural workers involved was not large and 90 per cent went to Ontario, where over 40 per cent of the Canadian population live. Their wage levels, working conditions and housing situation were far from ideal.

The Employment Authorization Programme of 1973 provided a formal legislative framework for the admission of TWs. Its overall objective was to respond to short-term requirements of the Canadian labour market without jeopardizing the employment prospects of the permanent residents. The programme had a three-fold purpose: (i) to respond to the urgent search by employers to fill jobs that cannot be filled domestically; (ii) to safeguard the employment prospects of Canadian residents against unwarranted resort to foreign workers; and (iii) to provide an effective system of keeping track of Canadian TWs. The European "guest worker" system was emphatically rejected when it was stated that "it will have been evident from the present description of Canada's approach that it is no part of Canadian policy to contemplate a resort to this type of manpower on any scale remotely comparable to that which has taken place in the countries of the Common Market" (Manpower and Immigration Canada, 1974, p. 198).

Employers who wish to recruit TWs from abroad must have their employment offers certified by the Canada Employment Centre as not adversely affecting employment opportunities of the resident work force. Such authorizations were called "Validated Employment Authorizations" (referred to as "Validated") and were granted only if the employer had demonstrated that no suitable workers from within the country were available (Boyd, Taylor and Delaney, 1986). However, "Exempt Employment Authorizations" (referred to as "Exempt") were granted for certain categories of foreign workers including those who possessed unique professional abilities such as entertainers, guest lecturers, religious and charitable organization workers. On the basis of agreements and reciprocity with other governments, exemptions were granted to those who were in academic endeavours. The Canadian TW programme authorized workers to be employed "in a designated occupation with a designated employer for a designated time period" (Boyd and Taylor, 1986, p. 717).

Canada's TW policy has often been characterized as bonded forced-rotational system. A TW's entry is authorized for the sole purpose of being employed only in the job specified on the visa, hence the notion of being "bonded" to an employer. When the first job is terminated, the foreign worker must leave Canada. In the case of layoffs, he/she is the first to be released regardless of the expiry date of the visa (Wong, 1984).

In addition to the above, exemptions from the labour market validation procedures apply to select groups within Canada on social and humanitarian grounds as they need to sustain themselves during an interim period. These groups, consisting of indigent students and persons who have applied for refugee status or whose removal from Canada has been temporarily stayed or is under appeal, were allowed to apply for "Exempt" status.¹

¹ Three different measures of TWs have been used from time to time, all based on data files maintained by Employment and Immigration Canada: (i) *Document Number Measure*: the number of employment visas issued in a given year. In this measure, any extension or renewal is counted as a new visa; the same persons may be counted more than once if the visa is renewed within a twelve month period - the maximum period allowed. This is an older data base and had been used in a variety of studies (Wong, 1984; Marr, 1986). (ii) *Person Year*: This measure more appropriately reflects the duration of stay of the worker and adds up the equivalent in total person years. (iii) *Person Measure*: Based on visa documents, an alternative measure has been generated by Statistics Canada (see Michalowski, 1992b). It measures the number of workers instead of documents. For the same person, the original visa

8.2. The seventies

The following observations can be made on the first ten years of the TW programme:

(i) Over this period, 423,000 person years of employment visas were issued. The annual level increased from 32,000 in 1973 to 49,000 in 1983 (Marr, 1985).

(ii) Approximately 90 per cent of the TWs came without dependents and 70 per cent were male (Wong, 1984).

(iii) Two-thirds of TWs came from the United States and Europe. All the TWs did not go into poor, back-breaking jobs at that time. There was a "dual" labour market - the highly skilled professionals and managers were on one side of the coin while the less-skilled service workers were on the other.

(iv) In the first two years of the programme (1973-74), four out of five were workers, less than a tenth were students (mainly from Hong Kong) and the rest were waiting to be deported, mostly from Latin America (Shingadia, 1975). More than four out of five were in the 19-44 age group and had few dependents. The ratio of workers to school-age dependents was 21:1.

(v) Changing labour market conditions and fluctuations in the unemployment rate did not have any influence on the number or the person years of employment visas issued.

(vi) The ratio of the number of TWs as measured by the number of person years to the annual inflow of labour force immigrants (i.e. destined to the labour force) increased from 34 per cent in 1973 to 132 per cent in 1983.

Occupationally, TWs were the "gap fillers" (Böhning, 1991, p. 44) and the main gap was in the service area - domestics, security guards, hotel workers and cooks - mostly from the Caribbean, Hong Kong, the United Kingdom and the US. In nearly all service occupations the TWs outnumbered immigrants. Another sizeable category were professional and managerial jobs (dominated by the British and Americans) followed by those in fabricating, clerical work and construction. Another study focusing on the same period concluded that "there is some tendency for visa recipients and immigrants to be concentrated in many of the same major occupational groups" as the labour force as a whole (Manpower and Immigration Canada, 1976, p. 11).

In the 1977-1983 period the ratio between "Validated" and "Exempt" categories in person years was 1:1.6 (Employment and Immigration Canada, 1985a, p. 6). In 1983, in service occupations, natural sciences and engineering, medicine/health, literature and performing arts the "Validated" exceeded the "Exempt". There was a high concentration of TWs from the US in the artistic, literary and performing arts, sports and recreation, natural and social sciences, and managerial occupations and administration, considered as the primary segment of the labour market. The TWs from Central and South America, on the other hand, were heavily concentrated in the secondary segment of the labour market such as service occupations (Wong, 1984).

8.3. The eighties

and the renewal visa documents are counted as one.

From 1981 onwards, a new data set has been generated which provides person as the unit of observation (Michalowski, 1992b). This data set yields the following observations for the period 1981-90:

(i) There was a substantial upsurge in the number of TWs during this period (see Table 3), an annual average of 132,400. The numbers increased from 58,500 in 1981 to 96,600 in 1985 and skyrocketed to 259,500 by 1989 but declined to 233,800 in the following year. There were three major factors which contributed to the upsurge. First, the economic recovery and a general economic expansion following the recession of 1981-82 created a labour shortage, especially in Ontario. Second, the 1985 Supreme Court of Canada interpretation of the Charter of Rights and Freedoms, known as the "Singh decision" (which required that anyone claiming to be a refugee has the right to a full oral hearing before a quasi-judicial body), resulted in issuing "Exempt" employment authorizations to refugee claimants and applicants for landing in family class. The year 1989 witnessed a 60 per cent increase in the number of TWs over the preceding year. Employment authorizations were issued to almost 100,000 refugee claimants who were awaiting determination of their claims. Third, changes in regulations announced at the beginning of 1988 made it possible for students to be employed after graduation and for their spouses to seek jobs without going through the "Validation" procedure.

(ii) Over the period 1981-90, the average annual inflow of TWs exceeded the number of labour force immigrants by two and a half times (132,400 and 53,700 respectively as seen in Table 3). This was a sizeable decline in permanent labour force immigration flow compared with the period 1973-80 during which the average annual number was 67,000. The level of immigration was not only lower in absolute terms, it was lower relative to the TWs. With the recession of 1981-82 and rising unemployment rates, regular immigration levels were reduced. Restrictions were also placed in 1982 on "Validated" TWs in occupations which experienced massive layoffs of Canadian workers (Boyd, Taylor and Delaney, 1986). But this reduction was more than counterbalanced by an increase in the "Exempt" category.

(iii) The decade also witnessed a significant shift in the country and regional origin of TWs. While the importance of the American region and Europe declined, the share of Asia increased substantially and that of Africa increased marginally (see Table 4). The share of the American region declined from 45 per cent in 1981 to 38 per cent by 1990 and of Europe from 23 per cent to 15 per cent. During the same period, the importance of TWs from Asia increased from 26 per cent to 38 per cent.

(iv) There has been a noticeable trend towards long-term residence by TWs, regardless of the region of origin (see Table 5). For all TWs, the long-term (longer than 12 months) residence rate increased from 45 per cent in 1981 to 70 per cent in 1990. In the 1985-89 period an unprecedented number of refugee claimants arrived and were granted "Exempt" visas which influenced the residence rate of TWs.

(v) As the TWs consist in large part of refugee claimants and in-Canada applicants for permanent resident status (in Family class), the data on occupation is extremely sketchy. Workers from North America, among whom there were hardly any refugee claimants, are highly skilled. About one-half of them belong to the professional and management category.

Table 3. Employment visa workers and immigrant workers, Canada, 1981-90

	Visa workers (in thousand)	Immigrant workers (in thousand)	Ratio of visa workers to immigrant workers (%)	Percentage distribution of visa workers by year
1981	58.5	57.0	103	7.6
1982	76.5	55.5	138	7.0
1983	80.2	37.1	216	7.4
1984	90.2	38.5	235	7.3
1985	96.6	38.5	251	8.1
1986	117.1	48.2	243	10.1
1987	150.1	76.7	196	10.6
1988	161.6	76.3	212	10.7
1989	259.5	98.2	264	19.3
1990	233.8	114.0	205	11.9
1981-1990	1 324.4	537.0	247	100.0

Source: Demography Division, Statistics Canada. Estimates based on Visitor Immigration Data System, Employment and Immigration Canada. See also Michalowski, 1992.

Table 4. Visa workers in Canada by region of last permanent residence, 1981-90 (per cent)

Region	1981	1983	1985	1987	1990
Europe	23.1	21.1	18.8	19.8	15.2
Africa	4.3	4.6	4.8	7.3	7.7
Asia	26.0	27.7	31.8	34.5	37.5
American region	44.6	44.6	43.7	35.8	30.7
- North America	20.5	17.2	14.3	12.1	9.7
- Central America	1.2	1.9	3.0	6.6	7.4
- Caribbean	15.6	16.3	14.9	9.2	8.5
- South America	2.0	2.0	1.9	2.4	2.7
Total	100.0	100.0	100.0	100.0	100.0

Source: Same as table 3.

Table 5. Long-term visa workers to Canada by region of origin during selected years, 1981-90 (per cent of visa workers on long-term stay)

Region	1981	1983	1985	1987	1990
Americas	42	56	63	42	68
Europe	36	53	47	47	60
Africa	60	65	70	45	78
Asia	56	73	68	54	70
All regions	45	59	62	47	70

Note: Long-term stay is defined as a stay of longer than 12 months. Thus in 1981, 42% of temporary workers from the American region stayed for longer than 12 months.

Source: Same as table 3.

Table 6. Arrival of foreign domestics as temporary workers, 1983-1990, and projections to 1995 by area of origin

Year	Foreign domestics					Total
	Philippines	United Kingdom	Europe	Caribbean	Other	
<i>Actual</i>						
1983	526 (15.0%)	660 (18.8%)	1 026 (29.2%)	546 (15.6%)	753 (21.5%)	3 511 (100)
1986	2 564 (37.0%)	846 (12.2%)	1 681 (24.2%)	770 (11.1%)	1 077 (15.5%)	6 938 (100)
1989	4 388 (49.6%)	736 (8.3%)	1 683 (19.0%)	544 (6.2%)	1 491 (16.9%)	8 842 (100)
1990	6 400 (58.2%)	750 (6.8%)	1 700 (15.5%)	550 (5.0%)	1 600 (14.6%)	11 000 (100)
<i>Projected</i>						
1991	8 300 (63.0%)	750 (5.7%)	1 770 (13.4%)	550 (4.2%)	1 800 (13.7%)	13 170 (100)
1995	23 790 (79.0%)	750 (2.5%)	2 070 (6.9%)	550 (1.8%)	2 950 (9.8%)	30 110 (100)

Source: Employment and Immigration Canada, 1990.

The comparable figure for Europe was one-third, and it was one-fifth for Asia and Africa (Michalowski, 1992).

(vi) During this period there appeared to be an increased feminization of Canada's "guest worker" programme. Though men on the whole dominated, as observed by Boyd and Taylor, "the labour recruitment stream of Canada's employment authorization programme consists primarily of young, single females" (1986, p. 720). They were mostly in domestic occupations, unskilled, predominantly from less developed countries, creating a group of "permanent sojourners" for whom a policy of permanent settlement evolved.

The TWs went more or less to the same provinces of Canada as permanent immigrants. Ontario attracted the largest proportion, followed by Quebec and British Columbia. Gender-wise males outnumbered females. In 1982 there were 130 males per 100 females; by 1988 this increased to 139 (Michalowski and Fortier, 1990, p. 193). Close to three out of five TWs were single in the 1980s compared with over two out of five for the total Canadian population. This was more marked among females. Widowed and divorced at less than two per cent formed half the rate of total Canadian population. More than three quarters of TWs were in the 20-39 age group compared with over a third of the Canadian population and over half the landed immigrants in 1988 (Michalowski and Fortier, 1990).

8.4. The nineties

A brief profile of TWs in the 1990s is available from two sources. For the first time in 1991, the Canadian Census collected information on a section of TWs - those who were in Canada for one year or longer, the "non-permanent residents". Only less than a third of this group (which is a "stock" figure vis-a-vis the "flow" figures so far used) came from the US and Europe. Only 11.1 per cent had grade nine education or less and 34.8 per cent had university education. Three out of five were in service, clerical and professional occupations (Michalowski, 1995).

The second source of data is from the administrative system of the Citizenship and Immigration Canada. These have not been converted to "person" measure comparable with those reported above for the 1980s. By using an average ratio of count of persons to the count of employment visas issued during the second half of the 1980s, an unofficial estimate of TWs is available. They increased from 168,000 in 1991 to 302,000 in 1992, and declined to 253,000 in 1994. As discussed, the numbers of TWs are greatly influenced by the employment visas granted to refugee claimants every year. Occupationally, in 1991 up to 23.8 per cent were in service occupations, 17.7 per cent in artistic, literary and performing arts, 11.5 per cent in agriculture and mining and 11.0 per cent in teaching (Roy, 1995).

9. Foreign domestics

In terms of impact, this is one of the most important components of TWs. Domestics have economic and social impacts far beyond their numbers. Economically, the ready availability of live-in domestics made it possible for many middle and upper class Canadian couple (especially women) to pursue their career goals without worrying about the welfare of their children. Socially, it provided the children left under the care of domestics an opportunity to understand and appreciate other cultures and people with whom they were interacting at home.

Domestics who come to Canada as TWs are given an opportunity to apply for permanent resident status from within the country, after two years of satisfactory work performance with demonstrated willingness and ability to retrain and upgrade their skills.

There were 11,327 foreign domestics in Canada in 1982 (Langlois, 1991, p. 1). The number of new arrivals increased from 3,511 in 1983 to 8,842 in 1989 (Employment and Immigration Canada, 1990, p. 2) for a total of 56,612. They came mostly from the Philippines, the U.K., the Caribbean and Europe as seen in Table 6. The share of the Philippines grew substantially, while that of the United Kingdom and to some extent that of the Caribbean declined. Their numbers were projected to add up to 30,110 in the year 1995. A good feature of the programme is that it does not create a permanent underclass since the domestics have an opportunity to apply for landed immigrant status after two years. During the period 1982 to 1987, 14,129 were accepted as immigrants.

Four out of five foreign domestics tend to abandon domestic occupations and become permanent immigrants (Langlois, 1991, p. 1). The rate at which they became "landed" was much higher for Filipinas (over 80 per cent) than for those from Europe (32 per cent), with the others coming in between. They remain in low-paying jobs even after five years of employment. Only a tenth of them remain as domestics after landing, thereby making this programme a stepping stone to permanent immigration and other occupations. In the immigration levels announcement for 1995, the Government declared its intention to cut down the intake of foreign domestics.

The foreign domestics is the only group of TWs for whom recent data on detailed occupations and earnings were available. A sample of arrivals in the 1984 to 1986 period showed that only about a quarter of them were originally domestics. Since it was easier to come to Canada as TWs for domestic work, persons belonging to other occupations (mainly clerical, service, sales, occupations in medicine and health, social sciences, teaching, product fabricating etc.) accepted temporary employment as domestics (Langlois, 1991, p. 1). Domestics "pay Canada Pension Plan, UI premiums and income tax - about one month's earnings a year - without being able to claim benefits" (Arat-Koc, 1989, p. 49).

10. Undocumented immigrants

A certain proportion of TWs in any country are undocumented or migrant workers in an irregular situation. The term "circular migration" is used by some US and Mexican researchers to refer to the undocumented workers in the US from an enforcement point of view. The term "illegal" is also used by most of the immigrant-receiving countries. With greatly improved communication and transportation facilities and the growing chasm between the living standards of rich and poor countries, the extent of undocumented migration is expected to grow world-wide. In Europe their number in 1990 was estimated to be 2.5 million (Böhning, 1991, p. 450), in Spain between 170,000 and 260,000 (Valderrama, 1993, p. 1). The sources of undocumented immigration are: (i) Users of fraudulent documentation. (ii) Those who crossed the border covertly. (iii) Those who entered legally and lapsed into illegal status such as (a) visitors who require no visas (b) visitors, temporary workers and students with expired visas. (iv) Unsuccessful refugee claimants.

There are numerous US studies on them, partly because of the sheer volume of such migrants, estimated to be close to 4 million in 1995 and growing annually between 200,000 and 300,000 (Warren as quoted by Fix and Passel, 1994, p. 24) even though the 1986 Immigration Reform and Control Act (IRCA) regularized 2.8 million such immigrants.

Some efforts have been made in the 1980s to examine the extent of undocumented immigration to Canada¹. No Canadian studies are available after 1983 that provide an estimate of the number of undocumented immigrants, since funding for such research is withheld by the Government. The Government policy, considering the highly sensitive political nature of the topic, is to let "sleeping dogs lie". Even cautious and conservative estimates of the number of undocumented are frowned upon, and it is suggested that "(Employment and Immigration Canada) remain silent on the question of how many illegals reside in Canada" (Employment and Immigration Canada, 1985b, p. 3). However, amnesties have been offered from time to time (1973, 1983) to regularize the status of those who have been in the country without documents.

On the basis of existing evidence from a number of sources, it could be guesstimated that there are at least about 200,000 undocumented immigrants in Canada at present.

11. Socio-economic impacts

The temporary workers have an impact on the receiving and sending countries far beyond their numbers economically and socially in the short and the long term. This paper looks at labour market, fiscal, social and international impacts.

11.1. Labour market impacts

The Canadian programme had as its main objective the satisfaction of seasonal labour shortages and the filling of jobs with relatively low wages and unattractive working conditions for which domestic workers were not forthcoming. With the recent increase in the number of TWs driven by social and humanitarian considerations, labour market aspects play a less important role than before. The refugee claimants awaiting decisions on their claim are given work permits on social and humanitarian grounds.

The question arises whether this new stream of workers might be in competition with North American residents for jobs and dampen wage levels. Despite the significant number of TWs in Canada, this does not appear to be a source of great concern.

Another area of labour market impact is experienced when TWs move from temporary to permanent status. This happens as a result of temporary workers being allowed to become permanent. For instance, refugee claimants are accepted as refugees, undocumented immigrants receive an amnesty or foreign domestics become immigrants in Canada. Most Canadians enter the US as TWs and then obtain permanent status. Half the Canadians who applied for legal status in the US in 1988-89 were illegally there before 1982 (Samuel, 1991, p. 16). It is estimated that in 1992 there were 104,000 undocumented Canadians in the US (Warren as quoted by Fix and Passel, 1994, p. 24). TWs frequently apply for immigration after they return or, if allowed, while in the country. For Canada, in the case of business immigrants in British Columbia, research revealed that "immigration of the entrepreneur or investor class is correlated to students and visitors who have

¹ Sampson, 1978; Basavarajappa and Verma, 1982; Paliga, 1982; Canada Employment

and Immigration Advisory Council, 1982; Employment and Immigration Canada, 1983a and 1983b.

arrived one to three years before from the same country" (Kunin, 1993, p. 453). The correlation coefficients were high for immigrants from the areas both of Taiwan, China, and of Hong Kong, as well as for immigrants from the Republic of Korea.

11.2. Fiscal impacts

While there has been little discussion on the fiscal impact of TWs in Canada, in the US it has focused more or less exclusively on undocumented TWs. From what is known of the characteristics of undocumented immigrants in Canada, as observed in government reports (Employment and Immigration Canada, 1983a and 1986) they were young, unmarried, have very few children, participate in the labour force, work in service occupations, have secondary school education or better, reside in major urban centres, are social assistance recipients to a low extent and have relatives in Canada. These characteristics suggest that their fiscal impact on the treasury was at worst insignificant and at best positive.

There is no doubt that estimating the economic costs and benefits of immigrants is extremely difficult. Data required to develop precise estimates are generally unavailable. Consequently, researchers must fill in the gaps with assumptions. In most instances there are no inherent biases in these exercises but several of these studies use assumptions that tend to overstate the costs of immigrants. Alternative assumptions - which appear to be more logical - and approaches that are more complete produce very different results

The methodology that has been commonly used in the United States, to estimate net fiscal impacts at the national level, consists of the following steps: (i) Local or county area data (sometimes derived from socio-economic sample surveys) are used to compute the revenue side of the equation, i.e., taxes paid by the immigrants and native-born population. Taxes include estimates of both direct revenues such as income taxes as well as indirect revenues such as sales taxes, social security taxes and hospitalization payments withheld. Per capita estimates of taxes paid are generated for the native-born and immigrants on the basis of their employment and earnings profile. (ii) Local or county level data are also used to estimate the public expenditure side of the equation for immigrants and the native-born population. The expenditure side of the equation includes items such as incidence of the use of hospitals and clinics, unemployment benefits, social assistance, children in schools, participation in job training programmes etc. These data are often compiled from a variety of sample surveys. Per capita estimates of costs of public services are thus generated for the two groups of population. (iii) Per capita estimates of public revenue and public expenditure are then used to derive estimates of net costs to the government at the local, state and national levels for immigrants and the native born taking into account their earnings profiles and the varying proportions of immigrants in the population at the county and national level respectively.

As different analysts use different data bases and make assumptions to fill in the gaps for data that are not available, quantitative estimates emerge that vary widely. It is therefore important not to attach absolute importance to the magnitude of the estimates.

11.3. Social capital impacts

The social capital requirements of TWs such as housing, health and social welfare service, education and training, leisure and infrastructure facilities including water, energy supply, waste disposal, communications and administrative services - are expected to be low in Canada as seen from their characteristics (young, unmarried, very few children, unqualified to collect unemployment or welfare benefits).

Since the TWs contribute to the public coffers and, generally speaking, demand less from governments than they contribute, the country's fiscal strength is enhanced by them. This is particularly true of undocumented workers who are often afraid to claim any direct service for fear of being detected and deported. In the long run, however, when they become permanent residents through amnesty, they sponsor close relatives who will become entitled to all social services and will have a greater impact on social capital requirements.

11.4. Social impacts

The TWs, like all immigrants, help the host countries to reinforce values such as hard work, saving habits and strong family ties, some of the pillars on which North American society is built. The mingling of TWs and their families with the Canadian public in general is likely to boost some of these values currently considered to be on decline in North America.

The multicultural society of Canada is becoming even more diverse as a result of permanent and temporary immigration. Despite occasional outbursts against cultural diversity, the number of Canadians who approve of such diversity is more than twice the proportion (69.3 per cent compared with 27.3 per cent) not in favour of the idea of Canada being a diverse society (Berry and Kalin, 1993, p. 6). Immigration changed drastically the ethnic make up of North America.

The fact that immigrants and their progeny live mostly in urban areas means that those who control the levers of power will more and more be associated with multicultural realities. Astute leaders and corporate managers have realized that their world was changing. "The new education system, public services, the big corporations all have run into the reality of the new market place..." (Samuel and Schachhuber, 1995, p. 16). Work force diversity is seen as a key to success in increasingly open and integrated global markets. In this new environment, when immigrants -be they permanent or temporary - arrive, what is taking place is not just immigrant adaptation but a "coaptation" (Richmond, 1994, p. 1). The word coaptation implies that migrants and non-migrants must respond to - at times traumatic - changes that "emphasize the multi-dimensional nature of the process affecting sedentary as well as mobile populations" (ibid).

11.5. International impacts

Internationally, the TWs impact in a number of ways. First, the large number of workers who move transnationally, be they high or low skilled, make governments of both the sending and the receiving countries become involved in the process. Some governments are constitutionally bound to protect the interests of their citizens in other countries. For instance, the Spanish constitution makes it a special duty of the executive power to safeguard the rights and welfare of citizens abroad. The TW movements to the Middle East and Europe have created a number of thorny issues that defy easy solution.

The TWs have an impact on their home countries as well. First, they remit significant amount of funds to their home countries. One estimate puts the annual remittance at \$25 billion annually (Böhning as quoted by Snowden, 1991, p. 577). These remittances have helped many countries to have access to scarce foreign exchange they badly need for development purposes. Second, on return the workers act as agents in technology transfer to their home countries. Third, their entrepreneurial spirit is kindled by the funds available and the businesses they directly create or indirectly encourage through their expenditure, promote development.

12. Conclusions

It looks as though the "back-door" TWs route might be in use more often in the future for two reasons. First, in the emerging global labour market of which North America is a part, domestic or foreign temporary workers will supplement the core labour force and be preferred to permanent workers to allow flexibility and lower per unit wages and to raise profits. Second, a TW programme is less visible than a regular immigration programme. In Canada, it is mandatory for the Federal Government to table in the House of Commons the immigration levels proposed for the following year. One of the opposition parties has in the past targeted and criticized the "high level" of immigration. The number of TWs arriving or present is not even publicized in the annual statistical reports, although that is the case in the US. Next to nothing is known about undocumented immigrants.

As more and more countries with which North America interacts become developed, such as Asian and Latin American countries from where a sizeable number of North Americans originate, TWs from these countries are bound to rise. However, in view of the rapid economic growth and high population growth of some of these countries, they are likely to encourage the less skilled to migrate to the developed world. At the same time, with American populations experiencing post-industrial structural changes and ageing, the services required by the older population will have to be delivered directly and personally. The native labour force is neither available nor willing to render such services. Therefore, TWs will become essential for post-industrial societies, as seen even in hitherto homogeneous societies such as Japan's.

The dual labour market that has been at the heart of the TWs phenomenon is being strengthened by globalization and the emergence of the post-industrial society. The less-educated and poverty-stricken populations of various parts of the world are informed about the life that could be theirs in a developed country. They try to be part of that society, legally or illegally. From the periphery of a less-developed society they move into the farther periphery of a developed society. Despite being marginalized socially, their basic economic needs are met and some remittances are made possible. Perhaps what is lacking socially is filled by the dream of success in North America "some day". Those whose skills are badly needed or who are transferred for a temporary period by their multinational employers, have superior incomes; they are more easily accepted in the host society and often enjoy opportunities for advancement and if, they choose, settlement.

Under the new economic regime that is emerging with downsizing, outsourcing and restructuring, one can envisage that, instead of admitting foreigners as permanent residents with all the socio-economic, political, moral and legal obligations deriving therefrom, North America may be moving more towards a system of drawing on foreign labour that would select the desired kinds of workers, make them available when needed and rotate them, and minimize the workers' demand on social expenditure and integration in the host society.

B. "IMMIGRANT" JOBS IN INDUSTRIAL DEMOCRACIES: WHY THEY OCCUR, AND WHAT TO DO ABOUT THEM

by

P.L. Martin

Somewhere, somehow, workers must be found to fill these [seasonal farm] jobs, or we will have to depend on foreigners for our food. Farmer testimony to the CAW, 1990.

There is no shortage of farm workers; there is only a shortage of decent wages and working conditions. Union response.

1. Introduction

This paper explores two questions: **why** do citizens or nationals in a country such as the United States avoid jobs in certain industries, areas and occupations; and **what** can governments do about such job avoidance?

Immigrant workers are in most industrial countries only a small fraction of the overall labour force, and they tend to be concentrated in particular areas, industries, and occupations. This raises immediately the question of whether the causes and remedies for job avoidance behaviour by nationals are micro or industry-specific or macro and society-wide.

A review of the why-job-avoidance literature suggests that:

- the reasons offered for job avoidance tend to be discipline-specific. For example, economists discuss why rational individuals might find it economically rational to remain unemployed rather than accept immigrant jobs. Geographers stress spatial disparities in the location of workers and jobs. Sociologists point to rising expectations among nationals unwilling to accept low-status jobs. Lawyers look to rules and regulations that restrict immigrant access to particular jobs; and
- the lack of a comprehensive theory of job avoidance means that there is little consensus on the relative importance of variables such as information, wages, working conditions, worker immobility, or legal and social status in explaining why nationals avoid certain jobs, and little sense of the dynamics of change in such factors, as might occur if some jobs were first avoided because guestworkers were restricted to them and later became isolated as immigrant networks “took over.”

2. Immigrants in the US labour market

Most US economic data array individuals by race or ethnicity rather than by citizen/non-citizen categories. Thus, monthly labour market data collected from 60,000 households (the Current Population Survey, CPS) reports employment and unemployment data by sex, age (16 to 19 and 20 and older), and race (Black) as well as ethnicity (Hispanic), but not by citizenship and country of birth.

Both nationals and immigrants in the US are concentrated by geography, industry and occupation, but these concentrations differ. The largest single concentration of immigrant workers consists of

unskilled and semi-skilled Mexican workers employed in services, agriculture and construction in California. There are many other concentrations of immigrants, from Korean green grocers in New York City to Cuban bankers and shopkeepers in Miami to Asian immigrant engineers in Silicon Valley in northern California.

The number of foreign-born persons in the United States increased by one-third between 1980 and 1990, from 13 million to 20 million, as measured by the decennial Census of Population. The number of immigrants continues to increase in the 1990s; their number climbs by 700,000 to 800,000 per year, producing in 1995 a foreign-born population of about 24 million.¹

In the United States in February 1995, there were 198 million persons 16 and older, and 132 million or 67 per cent were economically active or in the labour force, meaning they were employed (125 million) or unemployed but actively seeking jobs (7 million). These numbers include about 25 million foreign-born persons, of whom 13 million are in the labour force, and 1.2 million are unemployed - 3 million may be unauthorized workers.² In addition, there were in 1993-94 about 500,000 non-immigrant foreigners working temporarily in the US labour market - temporary non-immigrant workers are often found in the same sectors as settled foreign workers, viz, construction, agriculture, and hotels and restaurants.

2.1. Population data

Since US labour force data group persons by place of birth rather than citizenship status, naturalized immigrants are included with the foreign-born.

2.1.1. Geography

Immigrants, both legal and unauthorized, are concentrated in seven states and, within these states, in a few major cities. Almost three-fourths of the foreign born population in 1990 was in six states - California (6.5 million or 33 per cent), New York (2.9 million or 14 per cent), Florida (1.7

¹ The United States admitted an average 1 million immigrants per year in the 1990s; the

1.8 million in 1991 reflected the legalization of previously unauthorized aliens. Some legal

immigrants leave the US each year, and unauthorized aliens every year enter the US; if

emigration offsets illegal immigration, then net immigration is about 700,000 to 800,000

annually.

² There were an estimated 3.4 million unauthorized aliens in the United States in October

1992, and their number was believed to be increasing by 300,000 per year, 25,000 per month,

or almost 1,000 per day. Not all unauthorized aliens work; for example, about 20 per cent or

800,000 are believed to be in public education.

million or eight per cent), Texas (1.5 million or eight per cent), New Jersey and Illinois (1 million each or five per cent each). These large states had almost 40 per cent of the 249 million US residents in 1990.

The unauthorized alien population is concentrated in the same states and cities that include most of the foreign-born population.¹ The Big Six states had an estimated 85 per cent of the unauthorized aliens in the US in October 1992 - California (1.4 million illegal aliens), New York (449,000), Texas (357,000), Florida (322,000), Illinois (176,000) and New Jersey (116,000). Within these states, there was a further concentration in a few cities. For example, in California, Los Angeles county has about one-fourth of the state's population but almost two-thirds of the state's illegal aliens.

2.1.2. Education

Foreign-born persons have more of an hourglass than a pyramid shape when they are arrayed by the best single predictor of earnings in the US - years of education. In 1990, US-born persons 25 and older generated a diamond shape when arrayed by years of education — the tails of the distribution, representing persons with a college degree or more, and those with less than high school education, were dwarfed by the broad middle group of persons with a high school education, but not a college degree. Immigrants counted in the Census in 1990, by contrast, generated a pyramid shape when grouped into these three education categories - a higher percentage of immigrants who arrived in the 1980s than US-born adults, had at least a college degree - 24 per cent compared with 20 per cent - but almost twice as many recent immigrants had less than a high school degree - 42 per cent compared with 23 per cent.

2.2. March 1994 snapshot

In March 1995, the US Department of Labour released a new report that tabulates employment data on foreign- and native-born adults in the US in March 1994. There were 22 million foreign-born adults and 179 million native-born adults, so that foreign-born persons were 11 per cent of the US adult population.

Foreign-born adults were less likely to be in the labour force than native-born adults (13 of 22 million or 59 per cent of the foreign born, and 117 of 179 million or 65 per cent of the native born); the gap for foreign-born women was especially large. Foreign-born adults were also more likely to be unemployed than the native-born (9.2 per cent for the foreign-born in March 1994, and 6.8 per cent for the native-born).

2.3. Industry and occupation

About 83 per cent of all employed workers in 1993 were employed in four broad industries: manufacturing (18 million employees, or 16 per cent of the nation's 110 million wage and salary earners in 1993); trade, including all types of stores and restaurants (25 million or 23 per cent); services from hotels to business services such as consulting (30 million or 27 per cent), and government (19 million or 17 per cent). Foreign-born workers are distributed differently - there are relatively more immigrants in agriculture and construction, for example, and relatively few in government; but the major differences between immigrants and natives are within these four sectors.

¹ The Census of Population included in 1990 an estimated 2 million unauthorized aliens.

Most native-born manufacturing workers, for example, make so-called consumer durables, from airplanes to cars, while foreign-born workers tend to be employed to make non-durable goods from garments to food processing to shoes. Within the trade sector, native-born workers are concentrated in grocery, department and auto dealer stores, while immigrants are more likely to work in eating and drinking establishments (restaurants).

The distribution of US and foreign-born workers by occupation tells a similar story. The big four occupational categories in 1993 were managers and professionals (32 million or 27 per cent of the 119 million persons with an occupation reported in 1993); technical, sales and support staff (37 million or 31 per cent), services (17 million or 14 per cent), and skilled and unskilled blue-collar operatives (30 million or 25 per cent) - 97 per cent of all workers were in these four broad occupational categories.

Immigrants were disproportionately in agriculture and in the operatives category rather than in the managers and professionals category. Detailed occupational data reveal that there were in 1993 only three major occupations - those with one million or more employees - in which a majority of the work force was arguably foreign born:

- janitors and other cleaning personnel, including hotel maids, with a 1993 employment of about three million;
- farm workers employed on farms for wages, about 2.5 million;
- private household helpers, such as maids and nannies, numbering about one million.

The contrast between foreign- and native-born adults is sharpest in agriculture - only 5 per cent of the self-employed farmers are foreign-born, compared with 26 per cent of the wage and salary farm workers, according to the March 1994 CPS. Most of the foreign-born adult farm workers were Hispanics from Mexico. Hispanics were 50 per cent of the foreign-born adults in the US, and 86 per cent of the foreign-born farm workers. About 72 per cent of the foreign-born farm workers, compared with eight per cent of the native born farm workers, had less than nine years of schooling.

Over half of the foreign-born farm workers were in California, compared with six per cent of the native-born farm workers. The CPS, which asks about employment in March, does not include most of the foreign-born farm workers - many are not employed in March, and others arrive in April and May and stay in the US only until September or October.

About five per cent of the foreign-born workers were employed by federal, state or local governments, compared with almost 20 per cent of the native-born labour force. About 10 per cent of both the foreign-born and the native-born were self-employed.

2.4. Families

There are almost 100 million "families" in the US, and about nine million are headed by foreign-born persons. There are significantly more husband-wife households among the foreign born (70 per cent) than among the native born (53 per cent), but the foreign-born husband-wife families had much lower 1993 incomes, \$32,000 compared with \$43,000 for native-born husband-wife families.

In the states with the most foreign-born persons, one-fourth of all foreign-born families had incomes in 1993 that were below the poverty line.

3. Economic theory of labour shortages

Economic theory has little to say about the "why-labour-shortages question" and the "what- to-do-about-labour" shortages question, because economics rests on the assumption that changing prices or wages will eliminate any job avoidance and labour shortages. For example, neither of the 1994 review articles by Borjas and Greenwood mention labour shortages or native avoidance of "immigrant" jobs. In other words, the reasons why and the solution for job avoidance by nationals are one and the same - raise wages.

This section reviews the simple analytics of labour market adjustment, and discusses arguments about the nature of the demand for labour curve that could lead to unemployment among nationals if the immigrant workers currently employed in labour markets that nationals avoid, were suddenly removed.

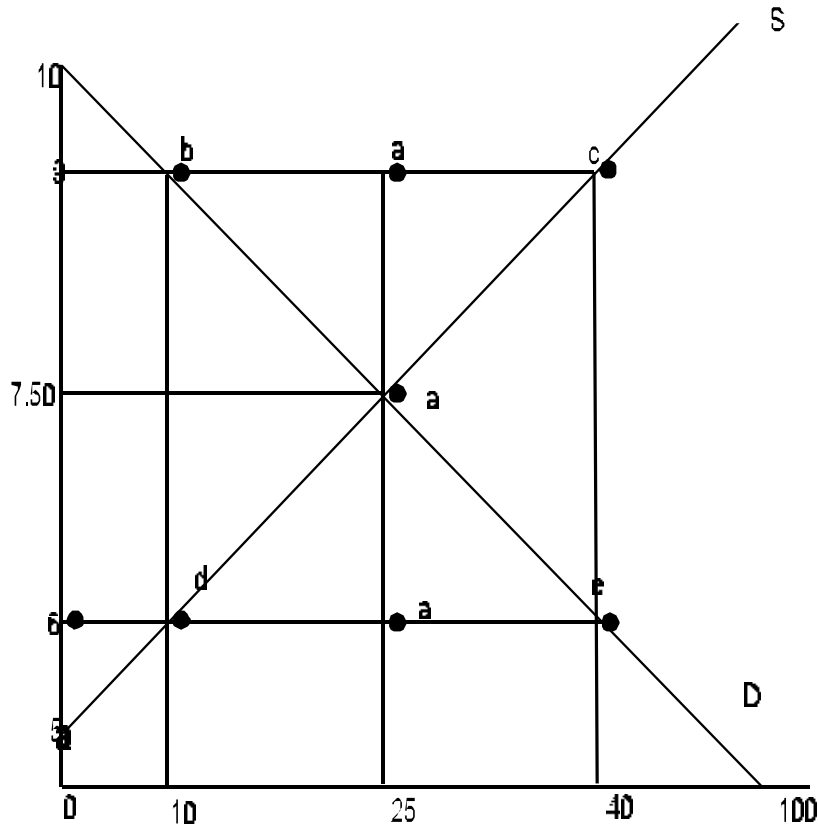
Most labour economics textbooks note that the labour market is peculiar for several reasons. First, a worker cannot be separated from his work, so that the wage is only one indicator of the cost of labour services - there is also continuous bargaining over the level of effort on the job. Second, workers are members of societies that also have non-economic goals, so that equity considerations play a larger role in the labour market than in most goods markets. Minimum wages, health and safety laws, and collective bargaining rights give workers an opportunity to alter labour market outcomes. Third, the normal state of labour markets is to be "out of equilibrium," which means that there are normally more unemployed persons than vacant jobs. Fourth, most labour economics research is concerned with why the labour market is out of equilibrium and what can be done to reduce unemployment.

Labour shortages and job avoidance are not covered in most economics textbooks. In the familiar supply-demand cross, labour markets reach equilibrium - when all workers who want to work find jobs - as a result of wage adjustments. In the usual diagram, the supply curve ranks workers by their willingness to work in a specific industry or occupation, so that, as exemplified in Figure 1, workers require at least \$5 per hour to work, and more workers offer to work as wages rise.

Similarly, the demand curve by definition presents a schedule of how many workers will be employed at each wage; at \$10 per hour, there will be no one employed, while at a 0 wage, employment will be 100 persons. The equilibrium, in this example, occurs at a wage of \$7.50 per hour, when 25 workers are employed.

The familiar supply-demand cross can be used to illustrate labour shortages and surpluses, and the wage adjustments necessary to eliminate them. If wages are "too high," say \$9 per hour, then the supply of workers exceeds the demand for workers. If wages are "too low," say \$6 per hour, then demand exceeds supply, producing labour shortages. The solution to both out-of-equilibrium situations is to permit wages to adjust so that labour market equilibrium is restored.

Figure 1. Labour shortages and surpluses

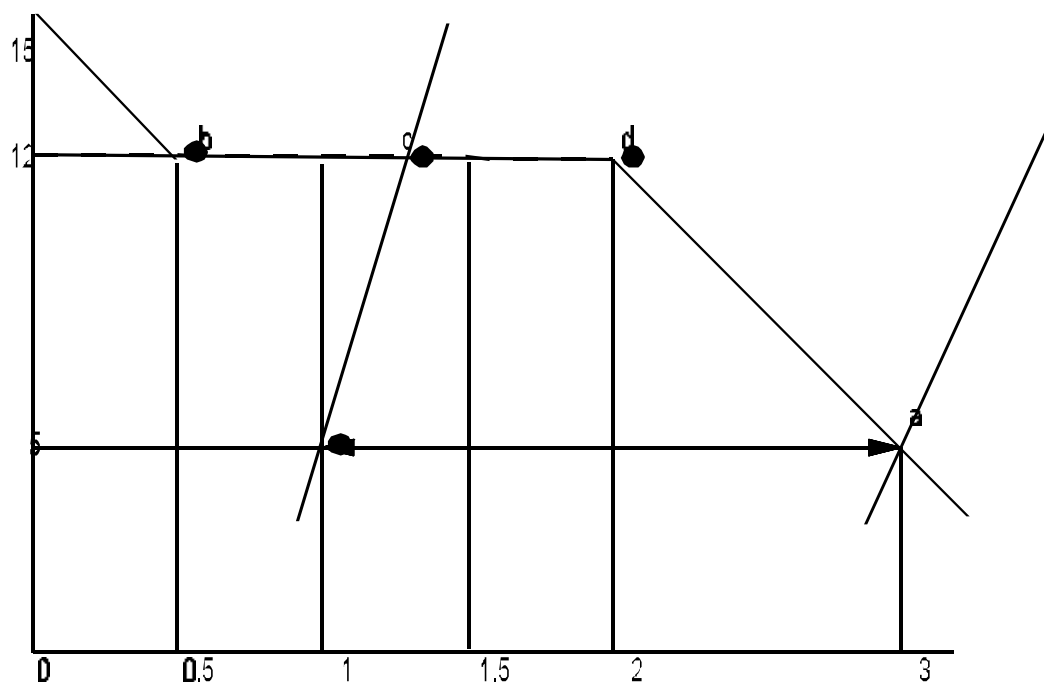


Given $D_L = 100 - 10w$ and $S_L = -50 + 10w$, the equilibrium in this labour market is reached at **a**, where 25 persons are employed at a wage of \$7.50. If the wage is too high, say \$9, then $D=100-90=10$, while $S=-50+90=40$. There are 30 unemployed workers; 15 were laid off as a result of the wage increase—**ab**—and 15 sought work in this labour market as a result of the wage increase—**ac**. Similarly, if the wage is too low, say \$6, then $D=100-60=40$, while $S=-50+60=10$. There is a labour shortage of 30 workers; 15 because workers are discouraged from entering this labour market by low wages—**ad**—and 15 extra are demanded—**ae**—because, at the low wage, employers want more workers.

There can be no persisting labour shortages or job avoidance by nationals in this usual economic analysis, since a sufficient wage adjustment will restore labour market equilibrium. However, beginning from a situation in which there is already some job avoidance and immigrant employment, there could be discontinuities in labour supply or demand that might produce unemployment during transitions to a completely national labour force.

3.1. Demand discontinuities

Employers might argue that the demand for labour is discontinuous, perhaps because, at particular "threshold wages," there is a sudden change in technology or trade patterns and thus a change in the demand for labour. American farmers, for example, have argued that the demand for hand labour to harvest crops is segmented as pictured in Figure 2, so that removing immigrant workers might leave US workers unemployed.

Figure 2. Segmented demand for labour

Farm employers assert that the supply of American workers is inflexible over the range of wages (\$4 to \$6 per hour) they can reasonably pay, so that marginal increases in wages will not produce many more American farm workers. However, at a \$5 wage, farmers demand more labour than there are Americans available to be farm workers, so farmers say that they fill the labour vacuum with immigrants.

Removing the immigrants, farmers predict, would hurt both US farmers and American farm workers. Removing the immigrants would cause wages to rise sharply, they assert, and at a threshold wage of, in this example, \$12 per hour, the demand for labour shrinks sharply, leaving American workers unemployed.

US agriculture typically employs 2.5 million persons on farms for wages sometime during the year, at wages that average about \$5 hourly. According to most surveys, about two-thirds of these farm workers are immigrants, so that the farm labour market is currently in equilibrium at **a**.

The supply of American workers is drawn to be inelastic - not many more nationals would make themselves available for seasonal farm jobs even if wages more than doubled from \$5 per hour to

\$12 hourly¹ (Griffith and Kissam, 1995). But the novelty of this supply-demand cross is the dashed portion of the demand curve **bd**. Because of:

the sharp reduction in the demand for labour at a wage of \$12 per hour, the demand for labour drops from 2 million to 500,000; and

the assumption in the diagram that nationals are hired first, even though the supply of both American and immigrant workers combines to determine the \$5 wage that both receive at **a**,

farmers can argue that removing the immigrant workers would leave American workers unemployed. The higher wages attracted, in this example, about 250,000 additional Americans to seek farm jobs, but the sharp jump in wages caused by the removal of immigrants led to the layoff of 500,000 Americans. This is the reasoning that allows farmers who depend on immigrant workers to argue that, for example, removing immigrants would hurt both US farmers and American farm workers.

3.2. Elastic demand

Another representation of the farm labour market, and many other labour markets that offer jobs avoided by nationals, agrees that the supply of nationals is relatively inelastic or inflexible over a fairly broad range of wages, but the alternative argues that the demand for labour, especially if considered over several years to allow employers and consumers to adjust, is far more elastic or responsive to changing wages.

In Figure 3, the labour market has the same current starting point of 3 million persons employed at \$5 per hour, with 1 million Americans at **c**, and 2 million immigrants — **ac**. But instead of a discontinuous demand curve, in this case, removing the immigrants produces a new equilibrium at **b**, a larger and an all-American work force earning higher wages.

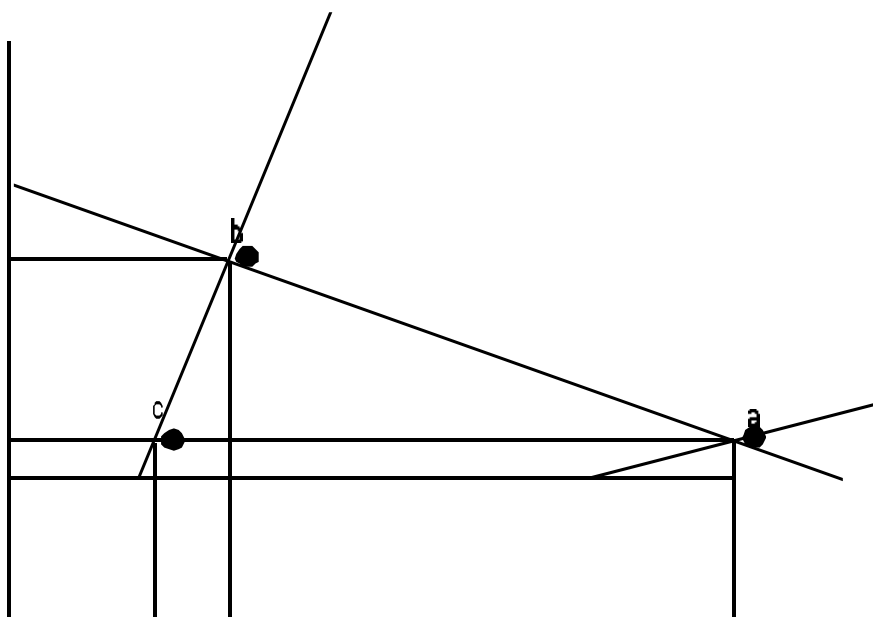
The adjustment to the removal of immigrant workers, in this example, comes from reducing the demand for labour through, for example, labour-saving mechanization, farmers switching to less labour-intensive crops, changes in how crops are harvested, such as harvesting less often, or simply not producing the crops that require hand labour. Since total employment fell from 3 to 1.2 million, some farmers undoubtedly went out of the business of producing labour-intensive crops.

¹ A non-marginal increase in wages may be needed to induce natives to develop the institutions to find farm labour jobs -for example, labour contractors to organize and supervise crews of US citizen workers. The all-or-nothing nature of packing and processing many commodities once they leave the field may also make the demand for labour discontinuous: there must either be many hand-workers or, if all farmers switch to machine harvesting, a few equipment operators.

3.3. Adjustment examples

What are the likely adjustment processes in immigrant-dominated labour markets? There have been few empirical tests of labour market adjustments to labour shortages and rising real wages because the supply of immigrant workers has been rising in most industrial countries over the past several decades.

One of the clearest US examples of how a labour market adjusts to the absence of immigrant workers and rising wages occurred in California in the 1960s, when the US unilaterally terminated the Bracero programme that had brought almost 5 million Mexican farm workers to US fields for the previous 22 years (Craig, 1971). In 1960, a peak 45,000 workers (80 per cent Braceros) were employed to hand-pick 168,000 acres of the processing tomatoes used

Figure 3. Elastic demand for labour

At \$5 per hour, employers demand or need 3 million workers, but only 1 million Americans are available at this wage. Beginning from **a**, if the immigrant workers disappeared, wages would rise, and the demand for labour would decrease sharply. Total wages paid to American workers rise sharply in this example, from 1 million workers earning \$5 per hour or \$5 million each hour to 1.2 million workers earning \$12 per hour, or \$14 million each hour.

to make ketchup in California, and it was widely asserted that the use of Braceros is absolutely essential to the survival of the tomato industry, since Americans refuse such seasonal jobs. In 1990, about 5,500 workers were employed to sort four times more tomatoes harvested from 330,000 acres; production quadrupled to 10 million tons between 1960 and 1990 (Martin and Olmstead, 1985).

The tomato labour market was transformed by technology. A uniformly-ripening tomato and a mechanical harvester permitted machines to replace about 80 per cent of the labour needed to hand-pick processing tomatoes. In addition, the tomato harvester changed the work force and the wage system: women who were paid hourly wages to ride on machines and sort machine-picked tomatoes replaced Bracero men who earned piece rate wages to hand-pick tomatoes into lugs or baskets.

The mechanization of the tomato harvest proved to be the exceptional type of labour-saving change in US agriculture, not the rule. Agricultural engineers assert that machines are available to harvest practically every fruit and vegetable grown in the United States, but that machines replace hand-pickers only when it is economically rational to make the switch or when the cost of machine-harvesting is cheaper than the cost of hand-harvesting (Brown, 1984). The cost of machine-harvesting falls as technological improvements make machines more efficient, science makes crops more amenable to machine harvesting, and packing and processing facilities become capable of efficiently handling machine-harvested produce. Since the technology of hand-harvesting tends to

be static, the ratio of farm wages to the cost of machinery can provide a crude guide to the relative cost of hand-harvesting.

Figure 4 shows that there was little economic rationale to mechanize during the late 1940s, as the Bracero programme expanded, and throughout the 1950s, when nonfarm wages rose sharply. However, after the Bracero programme ended in 1964, wages rose faster than machinery prices, explaining the 1960s expectation that virtually all hand-harvesting jobs in US agriculture would soon be eliminated by machines or trade.

Mechanization continued to be a priority for fruit and vegetable growers in the early 1970s, and they supported so many mechanization projects at land-grant universities that the universities were accused of being virtually private research labs for them (Hightower, 1978). However, just as these complaints about growers manipulating university researchers to find machines that would replace troublesome unionized workers reached their peak in the late 1970s, growers lost interest in mechanization. The reason is clear; by the late 1970s, enough unauthorized alien workers were arriving so that using hand-workers was preferred to adopting machines.

Immigration reform in the mid-1980s temporarily increased the incentive to mechanize, but, once it became clear that there would be no steady increase in farm wages relative to machinery prices, interest in mechanization waned. Instead, reports of labour market developments in US agriculture stress that crops are being planted in a manner that assumes immigrant workers willing to harvest them will continue to be available at roughly current real wages (Commission on Agricultural Workers, 1992; Martin *et al.*, 1995).

Figure 4. The incentive to mechanize, 1945-1990

4. Immigrant networks

Inadequate wages are a relatively simple and powerful explanation for why nationals avoid certain jobs in industrial country labour markets. But employer attitudes and worker networks help to explain how immigrants gain a foothold in a particular labour market and, once the network is established, why it is very hard to substitute natives for a continued influx of immigrants.

Most jobs at the bottom of the labour market are found by word-of-mouth and, after one or more immigrants is hired, an immigrant network is often established to provide additional workers as vacancies appear. The employer of low-wage and unskilled workers - a restaurant or hotel, a shoe or furniture manufacturer, or a farmer - typically experiences a high turnover of American workers because the Americans are dissatisfied with the low wages, hard work and few benefits of these jobs.

The immigrants, by contrast, tend to report diligently every day, offer to bring their friends and relatives to fill vacant jobs, and even to train newly-hired workers. The loyalty and dependability of immigrants soon makes them, in the eyes of employers, a preferred workforce.

Employers eager to avoid worrying about the recruitment and retention of unskilled workers often permit and encourage immigrants to "take over" particular workplaces. Using immigrant networks to find new workers offers employers several advantages: current workers know exactly what the job requires; current workers have an incentive to recruit only good workers; current workers transfer existing friendships etc. into the workplace; and networks are a cheap and efficient way to obtain new workers.

Case studies of immigration networks demonstrate how quickly certain jobs become the preserve of non-nationals. In Los Angeles, unionized Black janitors who cleaned high-rise buildings were displaced by non-union Mexican immigrants over a five year period in the early 1980s. This displacement occurred quickly and indirectly: according to a GAO report, the number of unionized Black janitors in Los Angeles county fell from 2,500 in 1977 to 600 in 1985, even though janitorial employment rose 50 per cent in the county as a result of a building boom (General Accounting Office, 1988, pp. 40-1).

The reason for the displacement of unionized Black janitors in an expanding service industry is that the structure of the cleaning industry changed. Instead of hiring janitors directly, janitorial service firms that specialized in cleaning buildings developed. They tended to employ recently-arrived immigrants to clean buildings for 25 to 35 per cent less, in part because they paid lower wages and in part because they offered fewer benefits. In the case of Los Angeles janitors, cleaning firms paid their immigrant workers up to two-thirds less than prevailing union wages.

A subsequent study reported that inflation-adjusted janitorial wages fell 36 per cent to \$4.50 per hour between 1983 and 1988, and that the share of each rental dollar going to janitorial services fell from six per cent to three per cent (other estimates put the cost of cleaning at 10 to 12 per cent of the cost of operating a building, when including costs from electricity and taxes to security).

The most recent study of network hiring was directed by Waldinger (1994). It described how employers in Los Angeles asked current immigrant workers to bring friends and relatives to fill job vacancies. These immigrants can draw from a seemingly endless pool of friends and relatives in the US and abroad. Waldinger found that network hiring tended to exclude, for example, native-born Blacks and Whites, in part, because they did not learn about job vacancies and in part because their reservation wages - the minimum wage they demanded to accept a job - were often 50 per cent more than prevailing wages.

Why don't employers who are hiring large numbers of new workers encourage the establishment of a network of Black or white workers? Many employers believe that immigrants work harder, complain less and in general have the "right attitude" toward their jobs and managers; they also "get along" with co-workers, in many cases friends and relatives who found them jobs. Interestingly, the "right attitude" was considered more important for many jobs than education or English.¹

4.1. Cumulative causation

Surveys of employers who hire new workers through immigrant networks support the hypothesis that immigrants often get into certain jobs by accident or design, and then a process of cumulative causation is set in motion that ensures that nationals will not be recruited or attracted to "immigrant" jobs. Nationals then do not learn about many job openings at the bottom of the labour market because the immigrant network assures that job vacancies are filled by immigrant friends and relatives, including those still abroad.

Cumulative causation represents an evolution of views of immigrant-native worker competition. In the 1970s, former Labor Secretary Ray Marshall, among others, argued that employers have separate queues of immigrant and national workers, and that competition for jobs was direct and personal. In the theory of direct competition, employers select from the immigrant queue because they believe that the immigrants will work "hard and scared."

¹ Some surveys indicate that employers prefer immigrants because their "right attitude"

includes a tendency not to complain about labour law violations. Enforcement experience suggests that a majority of garment and agricultural employers inspected by labour law authorities are violating *some* labour law, but it is often very difficult to quickly prove the violation. For this reason, labor inspection records indicate that many violations are "technical," such as failing to post safety notices, because such violations are clear, while others take time to prove. For example, it can take hours of investigative time to determine whether workers paid piece rate wages are earning the minimum hourly wage of \$4.25 to which they are entitled. Rather than go through incomplete records, the inspector may simply issue a citation for a missing poster and move on. For a review of enforcement practices in immigrant labour markets, see Martin 1994.

Direct competition for jobs has given way to indirect competition, as occurs when immigrant networks become exclusive suppliers of new workers for vacant jobs. Immigrant networks, in turn, can be professionalized, as occurs when labour contractors make it their full time job to recruit a particular type of worker for one or more employers. This has long been the case in the farm labour market, and is increasingly the case in the nonfarm labour market for temporary workers of all types.¹ Such "cumulative causation" makes it hard to re-insert natives into immigrant jobs.

Cumulative causation has many features that make it hard to re-attract nationals into "immigrant" jobs. At some point, ethnic supervisors take over, and they may favour workers who speak a particular language - in Californian agriculture, for example, first-level supervision is almost exclusively in Spanish, and it is hard to find required safety training materials in English or some of the Asian languages spoken by immigrants who were farmers or farm workers in their countries of origin.

The few Americans who show up and are hired often feel out of place in such workplaces and soon quit, reinforcing the employer's belief that "Americans don't want low-wage jobs". The jobs become less and less attractive because the isolated immigrants do not demand and employers do not offer the wage and working condition improvements that are occurring in other labour markets.

The isolation processes set in motion by immigrant networks often cut the bridge between disadvantaged Americans and low-wage jobs that was once the first step up the economic ladder, creating the so-called missing bridge between disadvantaged youth and jobs. This has prompted a dispute in the United States over how to restore the bridge between jobs and workers at the bottom of the labour market: whether low-wage jobs should be made more attractive by raising minimum wages, whether welfare programmes should be scaled back or whether penalties for crime - reportedly an alternative to work - should be increased, or whether the education system should be reformed to favour apprenticeship training for manual jobs rather than preparation for university.

4.2. Ending dependence

What can be done about "immigrant" jobs? There are three elements at work:

- (i) supply considerations, or how to induce nationals to look for and accept immigrant jobs;
- (ii) demand factors, or how to reduce the number of jobs that are shunned by nationals; and
- (iii) network considerations, or how to re-link nationals and jobs.

¹ One comparative question is the extent to which the labour market deregulation being urged on the Europeans by the OECD will, in a time of high immigration, also promote network recruiting and labour contracting in a manner that takes some jobs out of the public employment system. In Germany, for example, the public employment service normally effects 30 to 40 per cent of annual job placements compared with three to four per cent in the US.

Policies can be developed to deal with each type of factor. Most political discussions of re-attracting nationals into "immigrant" jobs deal with the motivations of workers - what type of *pull* in the form of increased wages and benefits, or what kind of *push* in the form of reduced welfare payments, could induce nationals to compete more aggressively for immigrant jobs.

In the United States, Democrats have typically advocated higher wages to attract nationals to immigrant jobs, and this was one of the reasons cited by President Clinton on February 3, 1995, when he proposed that the federal minimum wage, now \$4.25 per hour, be raised by \$0.45 per hour over two years to \$5.15 per hour.¹ In addition, the United States has for at least five years offered low earners an Earned Income Tax Credit - a maximum \$1,300 in 1992 - to encourage employment at low wages.

There are relatively few examples of higher wages alone inducing nationals to seek "immigrant" jobs - in part because immigration has been rising over the past three decades, so that immigrant workers have usually been available.

In the United States, for example, the most frequently cited examples of making "bad" jobs attractive to natives involve public sector jobs. The rise of public sector unions has raised pay significantly for some jobs, such as sanitation and cleaning jobs, prompting long queues of applicants in cities such as San Francisco. However, with cities "privatizing" more public services in the 1990s, such examples promise to become more difficult to find.

Republicans have traditionally tried to motivate US workers to accept low wage jobs by reducing the attractiveness of alternative means-tested welfare benefits. A major part of the Congressional

¹ With payroll taxes adding about eight to 15 percent to hourly wages, the hourly costs of minimum wage workers would be \$5.55 to \$5.90. In Europe, minimum wages, plus mandatory payroll taxes, put minimum wages at about \$10 per hour. About 2.5 million US workers earn the minimum wage. Most are young - almost 40 per cent are 16 to 19, and 60 per cent are women. About two-thirds of all minimum wage earners work part time, and almost half work in the food service and sales. About 1.7 million Americans earn less than the minimum wage because of tips etc., another 5.5 million US workers earn \$4.25 to \$4.75 per hour, and a total of 11 million - about 10 per cent of wage and salary workers - earn \$2.25 to \$5.15 per hour.

The most likely scenario for re-attracting nationals into immigrant jobs is to change the job, not just raise the wages.

Republicans' Contract with America in 1995 was to reduce the benefits available, especially to teen-aged mothers, and to restrict the duration of welfare benefits. In addition, welfare reforms approved by the House of Representatives in March 1995 would deny most legal immigrants means-tested welfare assistance.

Instead of trying to get workers to be more flexible, policy makers could try to change the jobs that nationals shun. This was a liberal Democratic position in the mid-1960s, when Democrats in California, for example, approved government subsidies to speed up mechanization research so that fruits and vegetables that had been picked by Mexican Bracero workers could be harvested by machines.

However, subsidizing the development of machines that replace workers is difficult if mechanization is imagined as a process in which the machine must replicate the actions of workers. In practice, labour shortages and rising wages change the nature of the production process - in the case of harvesting tomatoes in California, the switch was from re-picking a field several times to picking all the tomatoes at once, and then re-engineering processing facilities to handle 25 ton truckloads instead of 25 pound baskets of tomatoes.

New ways also had to be developed to handle inherent production risks. Under the hand-harvest system, a single basket of tomatoes could be accepted or rejected at minimal cost to the producer or cannery. Under the mass system, a random sample was drawn and it determined whether an entire load was accepted or rejected.

Efforts to develop technologies so that machines simply replace immigrant workers usually fail because no machine is as sophisticated as an unskilled worker. Some speculate that this is the reason why efforts to, for example, develop machines to harvest oranges or apples have largely failed. If the goal is to harvest only ripe fruit, sophisticated cameras and hydraulic machinery is required to imitate the activity of brains and hands.

If there were a real farm labour shortage, many speculate that the solution would be to shake off the trees all of the fruit when most of it is ripe and then sort it at high speed in processing facilities. The goal in agricultural systems should be to get the most final product at the least cost, not necessarily to maximize the yield per acre or hectare, but agricultural policies often put the emphasis on yield per hectare.

In many cases, the demand for immigrant labour is far more elastic than is often believed, meaning that relatively small increases in wages would reduce the number of immigrant jobs significantly. Live-in household help is a good example. In relatively egalitarian Europe and North America, as live-in household help got more expensive, there was a wave of new technologies that made work in the home easier; there were also smaller families and the development of a child care industry. In many fast-growing developing nations marked by income inequality, such as Mexico, middle-class families continue to employ a girl from rural areas as live-in help.

Self-service is another example of an adjustment to rising labour costs. Pumping gasoline is nowhere a pleasant job; in the United States, it has become the norm for drivers to pump their own gasoline, eliminating attendants.

The third and final option is to develop policies to re-establish bridges between national workers and immigrant jobs. In the United States, the public Employment Service matches fewer than 5 per cent of the 60 million new hires annually with jobs; and it plays a declining role in immigrant-dominated jobs, in part because it is too "inflexible." Unlike private contractors, who can discriminate by race or language in recruitment and placement, the Employment Service does not discriminate, and the Employment Service is required to determine that the job to which workers are referred offers at least minimum wages and abides by safety rules. Making the Employment

Service flexible enough to compete effectively with private labour contractors may, in the US, require undoing decades of effort to establish and maintain an open and non-discriminatory job-matching system.

5. Conclusions

Why do industrial democracies have a set of jobs that are hard to fill with nationals, and what can be done to re-attract nationals into "immigrant" jobs? This paper suggests that prevention is the best policy - it is far easier to prevent certain jobs from being labelled immigrant jobs than to re-attract nationals into them after they have earned the "immigrant" appellation.

Once immigrants gain a foothold in certain jobs and labour markets, it is very hard to change the characteristics and desires of national workers so that they are drawn into successful competition with the immigrant workers. Pulls such as wage subsidies have the desirable effect of keeping unskilled national workers attached to the labour market, but the undesirable side-effect of subsidizing jobs that perhaps should disappear in a mature economy. Pushes such as reducing welfare benefits so that nationals are compelled to compete with immigrants have not yet been fully implemented in the US, but they would seem to work against the integration of immigrants.

5.1. Historic changes

During the 19th century, countries in North and South America and Australia welcomed immigrants in order to meet general labour shortages - immigrants were generally moving from what was considered more-developed European nations to colonies and frontiers. In the 1960s in western Europe, sustained economic growth permitted native workers to move up the job ladder, leaving jobs for immigrants from poorer countries to fill. When economic growth slowed in the 1970s, many "guest workers" had settled, producing in western Europe a non-national population that reproduces itself in many countries because of rules and procedures that do not encourage naturalization. Labour market data thus compare nationals and non-nationals. In the US, by contrast, mobility markers usually focus on race and ethnicity; the foreign-born-native distinction in the US is not comparable to the national-non-national distinction in Europe since about one-third of the foreign-born in the US are naturalized citizens. Many US-born and thus citizen residents would be considered non-nationals in Europe.

5.2. Economic theory

Economic and labour market theory is clear: there are no theories of why nationals refuse certain jobs because economics rests on the assumption that wage and benefit adjustments will eliminate labour shortages for "bad" jobs. In practice, higher wages and benefits often unleash technological and other adjustments that eliminate or change jobs significantly.

Economics allows for temporary labour shortages, but no systematic refusal of nationals to avoid certain jobs. Job search theories, for example, explore why employers offering jobs and workers seeking jobs may not know about each other, or why either party may find it rational to wait rather

than fill/take the job.¹ Immobility theories are a variation of job search reasons for why some jobs remain unfilled: unemployed workers may be unable or unwilling to move to where the jobs are and fill the vacancies. Finally, segmentation and discrimination theories argue that employer behaviour or the job structure may limit the access of (certain types of) workers to particular jobs.

Reasons for the existence of "immigrant" jobs fall into three major categories:

First are *economic* variables: wages, benefits, conditions of work and prospects for advancement - what economists view as the likely total compensation from a particular job.

Second are *attitude and information* variables: opinions of employers about who will be the best worker, worker perceptions of what jobs have the highest status, and networks through which employers find workers and workers find jobs.

Third are *legal* variables: rules on whether non-nationals can hold certain jobs, or whether employers are encouraged to hire particular percentages of defined types of workers.

5.3. Remedies

The unifying thread of this paper is that, rather than explaining why nationals avoid certain jobs, it is perhaps more important to explain why, once certain jobs are shunned, a self-feeding process can be set in motion that isolates "immigrant" jobs from the rest of the labour market. After processes that allow immigrants to replace natives are set in motion, they seem to take on a life of their own, so that, once a labour market becomes dependent on immigrant workers, *non-marginal* changes may be required to reinduce nationals into such jobs. This means that, if the goal of a country is labour autarky, or having nationals in all jobs, *prevention is best* - it is much better to prevent immigrant workers from gaining a foothold in labour markets than to convert immigrant-dominated labour markets into native-dominated labour markets.

In the US context, where employers have a relatively free hand in hiring, and both public labour market institutions such as Employment Services as well as unions are relatively weak, the key to understanding job avoidance by US natives/citizens is that immigrants create job-supplying networks that tend to restrict certain jobs and labour markets to particular networks of immigrants. Once the network takes over, native workers are not likely to learn about these jobs and, as language and supervision styles change, less likely to want them.

In the most typical case, immigrants are hired by accident or design in what are admittedly some of the least attractive jobs, such as seasonal farm jobs. The native workers in such jobs tend to see them as way-stations rather than careers because of their low wages, hard work and few benefits. Newly-arrived immigrants, by contrast, report diligently every day and offer to bring their friends and relatives to the work place and train them. The loyalty and dependability of immigrants soon makes them a preferred workforce. Employers eager to avoid dealing with unskilled workers are happy to turn recruitment and hiring over to the immigrant network.

¹ Waiting rather than filling a vacant job would cover, for example, the situation in which a person receiving cash assistance payments (welfare or Unemployment Insurance benefits) decided that it was preferable to rely on payments rather than accept a vacant job.

Once the immigrant network is established, supply and demand factors tend to exclude native workers. Many employers turn to ethnic foremen, accelerating the language shift in the workplace. More important, employers often get more distant from the work place and, with immigrants not demanding wage and benefit improvements, the jobs may become even less attractive, and there is often little pressure for technological improvements. In other words, immigrant networks can lead to a job-wage-technology stasis that isolates them from trends in the overall economy and labour market.

Reducing or eliminating "immigrant" jobs can often be accomplished most efficiently with non-labour market measures, such as liberalizing trade to eliminate agricultural jobs, subsidizing labour-saving automation or self-service means of performing the work, taxing reliance on immigrant workers or encouraging investment abroad.

C. LABOUR MARKET AND FISCAL IMPACTS OF IMMIGRATION

by

J.E. Taylor

1. Introduction

This paper presents a critical review of economic research on the labour-market and fiscal impacts of immigration in North America, with particular focus on the United States. It focuses on three major questions:

First, do immigrants adversely affect the wages or employment of native-born workers? If so, to what extent?

Second, what are the tax revenues generated by immigrants and what use do they make of public services? What is the distribution of costs and benefits across different levels of government?

Third, do immigration policies that seek to select immigrants according to their skills influence both the fiscal and labour-market impacts of immigration?

2. Labour market impacts of immigration: Theory and evidence

Immigrants are, in a strict economic sense, a factor import, and the impacts of immigrants on incomes in destination countries are inextricably linked with trade. *Neoclassical trade theory* offers clear predictions about the impacts of immigration on destination-country workers. In general, it predicts that immigration has negative effects on workers for whom immigrants are substitutes in production. The neoclassical view's main competitor in the economics literature is the *dual labour market perspective* that immigrants do not compete with native workers for the same jobs and immigration, therefore, does not have adverse wage and employment effects on destination-country workers. Empirical studies in the 1980s generally support the dual labour-market view. However, in recent years, detailed econometric studies offer growing support for the neoclassical position that immigrants adversely affect wages and/or employment for some segments of the North American workforce, while possibly benefiting others.

2.1. Neoclassical trade theory

Most aggregate, neoclassical trade models (Heckscher, 1949; Ohlin, 1933; Mundell, 1957; and Stolper and Samuelson, 1949) predict that trade in goods and trade in people (migration) are substitutes. That is, if there is free trade between countries, there will be no incentive for migration. Migration is a response to international wage disparities created by trade barriers.

Consider two countries with different factor endowments. For example, a country in the North (Country US) is capital rich, and a country in the South (Country MEX) is capital poor but has an abundance of labour. Assume that the two countries share the same technologies (production functions) and that the same two factors of production, capital and labour, are used in each country to produce the two goods. If the two countries engage in free trade, each country will export (import) the good more intensive in the factor that is relatively more (less) abundant in that country. That is, US will import labour-intensive goods from MEX, and MEX will import capital-intensive goods from US.

Stolper and Samuelson considered the effect on factor prices (wages and the return on capital) of an import tariff that increases the domestic price of the import-competing good relative to that of the export good. Under the Heckscher-Ohlin assumptions and the assumption that the basic trade pattern is not altered by the tariff, an import tariff increases the price of the relatively scarce factor relative to the prices of the other factor and both goods. Thus, a tariff levied against labour-intensive imports in US will increase US wages relative to other factor and goods prices, compared with the free-trade case.

Both Stolper-Samuelson and the Heckscher-Ohlin theorem on which it is based rule out international factor movements, including migration. However, if migration responds positively to international wage differentials, then protectionism in US should increase migration from MEX. The same migration result should follow from protectionism (of capital-intensive industries) in MEX. Even if trade in goods is restricted, labour will flow across borders to equalize wages, at which time economically-motivated migration between the two countries will cease. According to this theory, "labour mobility [can] fully compensate for the non-traded good," for example, the good for which barriers to trade exist (Krauss 1976, p. 474).

In this admittedly simple scenario, trade permits the capital-rich and labour-rich countries to specialize in producing the goods in which they have a comparative advantage and to satisfy their demand for other goods through trade. Trade barriers increase wages in capital-rich relative to labour-rich countries, triggering more migration. The arrival of immigrants depresses wages in the labour-scarce country, while the departure of emigrants raises wages in the labour-abundant country. Trade liberalization (for example, through NAFTA) has the same effect. In the presence of trade barriers, migration continues until wage differences across borders equal the cost (economic and psychic) of migrating. In short, according to trade theory, *only in the presence of trade distortions that inflate wages in destination countries relative to migrant-sending countries will international migration take place, and this migration will cause the wage gap to revert back towards its free-trade level.* Immigration increases the total income of the two countries. However, it adversely affects wages in the labour-scarce country (US), by increasing the supply of labour there.

2.2. The case against worker displacement: Evidence from the 1980s

The 1980s produced a flurry of studies providing statistical evidence that immigrants do not have a negative impact, and in some cases have positive impacts, on employment and wages in local labour markets in the United States (i.e., US Census Standard Metropolitan Statistical Areas, or SMSAs). The general research method these studies employ involves regressing wages and employment (weeks worked) for different native-worker groups on the number of immigrants in local labour markets (SMSAs). More detailed studies decompose the total number of immigrants in the local labour market into different immigrant groups, for example, recent (last five years) versus earlier immigrants (DeFreitas, 1988) and legal versus undocumented immigrants (Bean, Lowell and Taylor, 1988). All of these studies represent an effort to carry out a statistical experiment in which immigrants are randomly injected into a number of closed labour markets. The impacts of these immigrants on native-worker earnings reflect the degree of substitutability or complementarity between immigrants and natives in local labour markets. A negative estimated coefficient on the immigrant-stock variable in an equation for native-worker earnings implies that immigrants and native workers are substitutes. A positive coefficient implies that the two groups are complements.

Borjas (1984), using 1970 and 1980 public use samples from the US Census, finds that male immigrants and native-born workers are complements in production. That is, immigrants have a small *positive* effect on the earnings of native-born males. Nevertheless, different *types* of immigrants appear to have different impacts on US worker wages. In particular, non-Hispanic

immigrants have a strong positive effect on native-worker wages, while Hispanic immigrants have neither a positive nor a negative effect.

A limitation of the Borjas (1984) study is that it does not disaggregate by skill level. Thus, it offers little insight into how, for example, the immigration of low-skilled workers affects wages of low-skill native-born workers. DeFritas (1988) uses a simultaneous-equation approach to control for the endogeneity of immigration variables and estimates separately the effects of Hispanic immigrants on the wages of low-skilled and high-skilled workers. He finds that Hispanic immigration had no significant negative effects on the wage levels of low-skilled native men. In fact, the effect on Anglo male earnings is positive. This, he claims, provides support for Michael Piore's (1979) argument that most recent immigrants are concentrated in distinct labour-market segments. According to Piore,

The jobs [immigrants take] tend to be low-skilled, generally but not always low paying, and to carry or connote inferior social status; they often involve hard or unpleasant working conditions and considerable insecurity; they seldom offer chances of advancement toward better-paying, more attractive job opportunities (p. 17).

Because of this, migrants and native workers are complements, not substitutes. DeFritas finds that for no racial/ethnic group, male or female, does illegal immigrant labour have a negative effect on employment. In most cases, the employment effect is positive.

Studies using a similar methodology find that immigrants have a negligible effect on wages and/or earnings of less skilled natives (Altonji and Card, 1991), on native Hispanic, Mexican and black men (Bean, Lowell and Taylor, 1988; LaLonde and Topel, 1991; Borjas, 1990), and on all natives (Grossman, 1982) in local labour markets. Reported elasticities of wage rates for native workers with respect to the number of immigrants in the labour market are only of the order of -0.01 to -0.02 in these studies.¹ Estimated impacts on native employment rates are also small (Altonji and Card, 1991; Borjas, 1990; Muller and Espenshade, 1985; Winegarden and Khor, 1991; Simon, More and Sullivan, 1993).

Muller and Espenshade (1985) argue that the Los Angeles, California, economy was able to expand dramatically during the 1970s in part because it had access to inexpensive, low-skilled immigrant labour. By contrast, economies in metropolitan areas that did not have as much access to immigrant workers did not fare as well (for example, in the "Rustbelt" of the Northeast and Midwest). In the southern and southwestern United States, immigrant labour fuelled the expansion of light industries, including garments and electronics, and of services that might otherwise have not taken place (or else might have been established offshore). The experience of specific production sectors echoes this conclusion. For example, during the 1980s, shoe manufacturing shifted from Guadalajara, Mexico to Los Angeles, *apparently with the same workers*. Employers discovered that a third-world workforce combined with a first-world infrastructure yields maximum profits in certain industries.

Negative impacts of immigration on native-worker wages and employment are difficult to uncover even in the most heavily immigrant-impacted labour markets. Card (1990) provides an informative

¹ That is, a 10-percent increase in the number of immigrants in the local workforce is

associated with only a one-to-two tenths of a percentage point decrease in native-worker wages.

and influential case-study counterpart to the statistical analyses above. Between April and September 1980, approximately 125,000 Cubans, mostly unskilled, entered the United States after Fidel Castro announced that Cuban nationals wishing to emigrate could do so from the port of Mariel. Miami's labour force grew by seven per cent almost overnight. Card found that the time-series trend in wages and employment in Miami, including for black workers, was nearly unaffected by this exogenous immigration shock. Perhaps the biggest reason to expect immigrants to have small impacts in local labour markets is that typically a large share of native-born workers in metropolitan areas are in sectors that are completely separate from those in which most immigrants are employed. Wages of school teachers, postal employees, government bureaucrats and corporate managers have little to do with local labour market conditions. This minimizes the measured correlation between immigration and wages. To find negative impacts of immigration on wages, one usually must look at the lower end of the wage distribution, where wages are more likely to vary with local labour market conditions.

2.3. Economic and employment linkages from immigration

The argument that immigrants complement, rather than displace, native workers rests primarily on two considerations. The first is that immigrants and native workers do not compete for the same jobs; that is, they are complements in production, as explained above. The second is that immigrants create employment for native workers, both because they are complements in production and through their demand for goods and services in the host economy. Immigrants are bound to influence demand patterns and thus generate second-round impacts on host-country economies. This is true regardless of whether they complement or compete with native workers. Linkages are more likely to be large and positive if immigrants and natives are complements, however.

Immigrants create second-round income effects on local economies through the expenditure of their income on goods and services supplied by the host economy. The importance of consumption linkages in generating economic growth is well documented, especially in the economic development (for example, Mellor) and economy-wide modelling literatures (for example, Taylor and Adelman, forthcoming). If immigrant workers merely displaced low-skilled native workers, they would influence consumption linkages to the extent that their demand patterns differed from the demand patterns of displaced native workers. In a welfare state in which displaced workers receive public assistance, part of the costs of displacement shift over to the public sector, and the effect of displaced native workers' demand continues, although in a different form that reflects their lower (public assistance) income and their change (from private to public) in income source. In both these cases, immigrants tend to change the structure of demand linkages in the host economy more than they add significantly to them.

On the other hand, if immigrants and native workers are complements, the demand linkages created by immigrants in the host economy may be large. Consider, for example, an immigrant who occupies a factory job that would not exist or else would move offshore in the absence of inexpensive, low-skilled immigrant labour. Suppose the immigrant worker receives \$250 per week (roughly the minimum wage), remits \$50 back to the country of origin and spends the rest on consumption goods supplied locally by native workers who consume all of their income. Suppose furthermore that the host-country value-added content (import share) of consumption goods is 75 per cent. Then, assuming that the supply of consumption goods is elastic, the immigrant's weekly \$250 paycheck results in a total increase in host-country income equal to \$800.¹ In other words,

¹ That is, $(\$250 - \$50) * 1 / (1 - .75) = \$800$.

the "immigrant income multiplier" is equal to \$3.20.¹ If native workers occupy other (for example, supervisory) positions in the factory, these jobs may owe their existence to the availability of immigrant labour. Their incomes then add to the employment and income multipliers created by immigration. Finally, if immigrants bring capital (physical, financial or human, i.e., skills) with them, these may loosen capital constraints on growth in destination economies.

In a standard labour supply and demand diagram, the addition of new immigrant workers to the host-country workforce is depicted as an outward shift in labour supply. This *reduces* host-country wages. The employment linkages created by the arrival of these new immigrants are depicted by an outward shift in the host-country labour demand curve. This *pushes up* host-country wages. The outward shift in labour demand mitigates and may counteract the downward effect of the labour-supply shift on host-country wages.

To my knowledge, there has not been an effort to estimate host-country income multipliers from immigration. Clearly, these depend not only on whether immigrants displace or complement native workers in the host economy, but also on demand patterns of both immigrants and natives and on the host-country content of the goods these groups consume. Because of the openness of local economies, local (i.e., SMSA-level) multiplier estimates would understate the effects of immigrant paychecks on the host economy. The income and employment multiplier effects of expenditures by immigrants in Los Angeles may show up partly in other regions of the US as an increased demand for, say, Fresno grapes, Idaho beef or South Carolina textiles.

Although multiplier analyses of immigration are not available, studies of US internal migration offer some statistical evidence that interregional migrants create jobs in destination labour markets. Greenwood and Hunt (1984) find that, for two-thirds of the nation's major metropolitan areas, an additional employed in-migrant results in one additional job, and for 30 per cent of US metropolitan centres, a new in-migrant creates an average of 1.26 jobs - one for himself and 0.26 for others in the locality. These findings are slightly more optimistic than Muth's (1971) finding that net in-migration causes a direct increase in employment that is roughly proportional to the increase in the labour force caused by migration. However, they are for internal, not international, migrants.

It might be argued that the employment-multiplier effects of (foreign) immigrants, most of whom are low-skilled, occupy relatively low value-added positions and bring little capital along with them, are smaller than the ones reported for internal migrants. Nevertheless, it must be emphasized that these are *local* employment multipliers, which for immigrants may significantly understate *global* host-country multipliers because of the openness of local economies in the United States. Illustrations of local demand linkages abound in immigrant-impacted economies: Little Havana in Miami; Little Vietnams and Chinatowns in Los Angeles, San Francisco, New York, and Montreal; and Mexican "central markets" and *street* vendors throughout the American Southwest. Immigrants, through their demand patterns, tend to restructure economies around them.

2.4. Immigration and displacement: The emerging view

¹ In real life, the supply of consumption goods in the host country is likely to be less than perfectly elastic, and part of the increased demand for these goods will be manifested in higher prices or else satisfied through increased imports.

Recently the weight of evidence has begun to shift in favour of the trade-theory view that immigrants compete with at least some groups of workers in the North American economy, while possibly benefiting others. This new position is based on a fundamental critique of the research methods utilized by studies cited above.

The model used in the 1980s research cited above assumes that immigrants are injected into a closed local labour market, so that the shift in labour supply after immigration roughly equals the number of new workers migration adds to the destination labour market. If native workers respond to the arrival of immigrants by moving to less immigrant-impacted labour markets, the labour-supply shift will be reduced. Studies by White and Hunter (1993) and Filer (1992) find less native-worker in-migration and more native out-migration from metropolitan areas where immigrants cluster. A study using 1990 census data found that less-skilled workers in states experiencing heavy immigrant flows in the 1980s had a high probability of out-migration. As Borjas (1994) notes, "native mobility...dissipates the impact of immigration over the entire economy." Because of this, studies that focus on immigration impacts on *local* economies (SMSAs) may mask the *macro* effect of immigration on wages and employment.

Borjas, Freeman and Katz (1992), using time-series data from the US Census Current Population Survey (CPS), provide evidence that, viewed from a macro perspective, immigration and trade have a negative impact on wages of low-skilled workers in the United States. Specifically, they find that: (1) both trade and immigration increased the US supply of less-skilled workers in the 1980s; (2) the weekly wage of high school dropouts relative to more-skilled workers declined by approximately 10 per cent over this period; and (3) trade and immigration explain 30 to 50 per cent of this decline. Unfortunately, the study does not separate out the effect of immigration (as opposed to trade) on native-worker wages. Its findings have been questioned by Simon and Akbari (1995), who argue: "The impression held widely about trends in the education levels of recent immigrants, deriving from the writings of Borjas, is entirely incorrect. The amounts of education of immigrant cohorts has continued to rise; all the series show a tendency for increasing education." In fact, both these views may be correct, because the immigrant skill level is bimodal; immigrants tend to be concentrated at both the top and bottom of the US skill distribution.

Borjas *et al.*'s findings stand in striking contrast to other post-1990 studies of state and local impacts of immigration. Butcher and Card (1991) find that local wage growth for both skilled and unskilled workers is unaffected by immigration. Vroman and Worden (1992) report the same finding at the state level. Urban Institute researchers found that increasing the immigrant share of a local labour market from 10 to 20 per cent results in less than 1 per cent displacement of native workers (Fix and Passell, 1994).

2.5. Differential impacts of immigration across workers

The Borjas *et al.* findings neatly fit the predictions of the theoretical trade models outlined above. They sharply contrast with the optimistic findings of studies focusing on local labour market impacts of immigration. They also highlight the uneven impacts of immigration on the workforce.

New evidence also indicates that the impacts of immigration are strikingly different for different groups of workers, and these differences are qualitative as well as quantitative. Labour markets are extraordinarily complex, and workers are rewarded for their labour as well as for their human capital. Intuitively, one would expect workers who are most like immigrants to find themselves in competition with immigrant workers and to be adversely affected by immigration. That is, when trade theory predicts an adverse wage effect, it refers to the wages of those workers for whom immigrants are substitutes in the destination labour market - not workers for whom immigrants may be complements. The major characteristic that can make native workers complements rather than

competing substitutes for immigrants is human capital - specialized skills and education - which immigrants in North America, it appears, increasingly lack relative to native workers.

Immigrants to the United States are overrepresented at the low end of the skill distribution. This is especially true for Mexican immigrants, who constitute the largest single immigrant group. More than 80 per cent of the Mexican-born labour force entering the United States between 1975 and 1980, for example, had less than a high school education. In 1988, 36 per cent of immigrant men (compared with 15.3 per cent of US-born men) in the US labour force lacked a high school diploma. The average education of Mexican immigrant workers in California agriculture is around four years.

Low-skilled US workers appear to bear the brunt of any adverse impacts of immigration on US wages. By contrast, skilled-worker wages are not adversely affected by immigration, and they may benefit from immigration and trade. Borjas *et al.* find that immigration adversely affects wages for less-skilled workers *relative to* more skilled workers. Earnings of college graduates relative to both high school dropouts and high school graduates *increased* during the 1980s. Thus, while some workers (high school dropouts) are adversely affected by immigration and trade, others (more skilled workers) benefit. The benefits immigration and trade bestow on skilled-worker wages represent a return to capital - in this case, human capital - in the destination country. An increase in the returns to (human) capital relative to labour is predicted by the neoclassical trade model. Immigration, like trade liberalization, should depress the returns to the scarce factor (labour) while increasing the returns to the abundant factor (capital) in migrant-destination countries.

In response to the growing wage gap between high- and low-skilled workers in the United States, the native-born US workforce appears to be investing in skills. The share of native US workers with less than a high school degree decreased sharply during the 1980s - by more than 5.6 million between 1980 and 1988 (Borjas *et al.*, 1992). This trend toward human capital accumulation by native US workers makes immigration an even greater source of low-skilled workers relative to the native-born workforce than it otherwise would be. It can be argued that investment in education reflects an evolution of the American workforce consistent with the US economy's comparative advantage in capital and, increasingly, human-capital intensive production. Wage differences between skilled and low-skilled workers encourage this trend. So does immigration, if it contributes to the overall wage gap between skilled and unskilled workers in the United States.

3. Fiscal impacts

Recent years have witnessed rising anti-immigrant sentiment in North America due partly to the perception that immigrants impose a strain on public resources. Perhaps the most visible evidence of this perception is in the United States, where the governors of California, Florida and Texas have sued the federal government to recover the cost of federally mandated services for illegal immigrants, including education, health and law enforcement. Proposition 187, recently passed overwhelmingly by California voters, would deny most public services to illegal immigrants. What is the fiscal impact of immigration?

3.1. Revenue and cost controversies

The research record on fiscal impacts of immigrants is both thin and controversial, due in no small part to the complexity of accounting for these impacts, especially with regard to illegal immigrants. The data needed to obtain direct estimates of economic costs and benefits of immigration at the

local, state and federal level are generally not available. Because of this, researchers have to fill in the gaps with assumptions. Much existing research on fiscal impacts of immigration is also political, sponsored or carried out by government agencies interested in recovering the costs of immigrants.

Influential studies by Los Angeles County (1992), San Diego County (Rea and Parker, 1992 and 1993) and Donald Huddle (1993) illustrate the politics, complexity and assumptions of research on immigrants' fiscal impacts. All three conclude that immigrants have a significant negative fiscal impact. For example, the Los Angeles County study concluded that recent legal immigrants, immigrants granted legal status under the 1986 Immigration Reform and Control Act (IRCA), and illegal immigrants and their US-born children cost the county \$947 million in services but paid only \$139 million in taxes. The San Diego County study also finds that immigrants are a drain on local public coffers. Huddle concludes that the fiscal effects of immigration at all levels of government add up to a net loss of \$42.5 billion.

These pessimistic findings have been disputed by researchers at The Urban Institute (Fix and Passel, 1994). They contend that all three studies, but especially Huddle, grossly overstate costs and understate benefits of immigrants. Huddle, they claim, generalizes from the wrong immigrant population. His \$9,700 estimate of immigrants' average annual income is projected from Los Angeles County data on legal immigrants who entered the US during the 1980s. Data from the 1990 US Census, however, indicate an average income for legal immigrants entering the country between 1970 and 1990 of \$14,000 annually. Using US Census data, Passell (1994) concludes that immigrants paid more than 3.5 times more taxes than Huddle estimates. This amounts to a discrepancy of around \$50 billion, more than enough to offset Huddle's estimated fiscal loss of \$42.5 billion from immigration.

The Urban Institute studies also conclude that Huddle overstates the fiscal costs of immigrants by more than \$10 billion, by overstating immigrant use of public services and by projecting Los Angeles County's inflated cost estimates to all US immigrants. Finally, they point out that the pessimistic studies all ignore indirect fiscal impacts of immigrants, which may be significant. These indirect impacts include the cost of providing public primary and secondary education to immigrants' children - about \$11 billion annually - which represent income to teachers, administrators, maintenance staffs, and others involved in running and constructing schools. Most of these individuals are native-born. Moreover, educational expenditures, the largest single fiscal cost of immigrants, are an investment in human capital that produces benefits for the country in the future.

3.2. Local versus federal impacts

The most problematic aspect of immigrants' fiscal impact is its unequal distribution across levels of government. Fix and Passel find that Huddle's post-1970 immigrants actually generate a surplus of fiscal revenues over costs of more than \$25 billion at all levels of government. However, immigrants, like native-born Americans, represent a net drain on local government resources. The Los Angeles County study notes that only 3.2 per cent of the taxes paid by its immigrant population went to the local government. The Urban Institute researchers find that the share of taxes accruing to local governments is small but is *larger* for immigrants than for natives.

Most national studies suggest that immigrants are not an overall fiscal burden on the native population. For example, the US Social Security system is subsidized by immigrants, especially illegal immigrants, many of whom will never recover their Social Security tax contributions. Researchers who have conducted field interviews in Mexican villages are rich with anecdotes about villagers who worked as illegal immigrants in the United States for many years and now wonder whether they are entitled to Social Security checks in their old age.

State-level studies produce mixed findings, due in part to differences in fiscal responsibilities among states. At the local level, studies invariably find that immigrants are a net fiscal burden. They find the same for native populations (Rothman and Espenshade, 1992). Financially-strapped local governments pressure state governments to fill their cost-revenue gap. In light of this, it is predictable that governments of immigrant-impacted states would attempt to recover some of the fiscal costs of immigration from the federal government, which is in charge of regulating legal and illegal immigration.

In short, it appears that the problem of immigrants' fiscal impacts is more one of distribution of impacts across governments than of negative global impacts.

3.3. Fiscal impacts and selectivity of immigrants

Some researchers, like politicians and the public at large, place undue emphasis on immigrant demand for welfare when assessing the fiscal impacts of immigrants. As noted above, education is the largest single cost component of immigrants. Yet much of the economic research on immigrants' fiscal impacts focuses on welfare and other forms of public assistance. Past research concludes that immigrant households have roughly the same probability of participating in public assistance programmes as natives. This is remarkable when one considers that the characteristics of many recent immigrants - for example, low education and skills - suggest that immigrants should be relatively heavy users of welfare and other forms of public assistance. When one controls for these and other individual characteristics, immigrants have lower rates of participation in public services than natives (for example, see Blau, 1984; Jensen, 1988). Research from Canada also finds that the typical immigrant has a lower probability of participating in welfare programmes than the typical native. Baker and Benjamin (1993) report welfare participation rates of 9.4 per cent for the typical native household and 7.4 per cent for the typical immigrant household in Canada.

Recent US studies suggest that there may be an increasing trend of public service demand by immigrants over time. They also indicate that immigration policies may influence the extent to which those who are allowed to immigrate demand public services once they are in the country.

Borjas and Trejo (1991) use data from the 1970, 1980 and 1990 censuses to analyse trends in immigrant welfare participation in the United States. This fiscal-impacts study mirrors the approach used by Borjas (1985, 1987) in his labour-market impacts research. It concludes that, although immigrants were slightly less likely to receive cash benefits from welfare programmes in 1970, by 1990 the percentage of immigrant households on welfare was 1.7 per cent higher than that of native households. Borjas and Trejo find both that recent immigrant waves are more likely to demand welfare than earlier waves (i.e., cohort effects) and that welfare participation rates increase over time for specific immigrant waves. Cohort effects are examined by comparing different immigrant groups, for example, recent immigrants in 1970 and 1990.¹

Changes in welfare use for specific immigrant groups are examined by comparing the *same* groups of immigrants over time, for example, immigrants who had been in the United States fewer than five years in the 1980 census are compared with immigrants who had been in the country between 10 and 15 years in the 1990 census.

¹ Most recent immigrant households are defined as households that have been in the

United States fewer than five years.

In 1970, only 5.5 per cent of the most recent immigrant households received welfare, compared with 6.0 per cent of native households. In 1990, the welfare participation rates were 8.3 per cent for recent immigrant households, compared with 7.4 per cent for native households. Although the welfare participation rate of recent immigrants (in the United States less than five years) was 5.5 per cent in 1970, the rate for this same group in 1990 (i.e., foreign-born persons in the 1990 Census who had resided in the United States 20-25 years) rose to 10 per cent. Borjas and Trejo conclude that immigrant households in the United States assimilate into welfare.

Studies also find large differences in welfare participation rates among immigrant groups. For example, 1990 welfare participation rates were two to four per cent for households originating in South Africa, Taiwan or the UK, 11 to 12 per cent for Ecuador or Mexico and nearly 50 per cent for Laos and Cambodia. These numbers reveal that refugee groups exhibit much higher rates of welfare participation than nonrefugee groups. The participation rate for refugee groups both starts out high and remains high over time. For example, despite their economic success in the United States, pre-1980 Cuban immigrants had a 15 per cent welfare participation rate in 1990. Borjas and Trejo conclude that the early introduction of refugees into public assistance programmes has a major long-term impact on public-service usage. High public assistance to refugees raises the average reported usage of public services by all immigrants in the studies cited above.

Nonrefugee immigration policies may also have a profound impact on public-service use. A low welfare-participation rate for Canadian immigrants relative to both native Canadians and recent US immigrants may be attributable to "screen filters" in Canada's point system that hinder the entry of low-skilled immigrants (see Part 4, below). Low-skilled households and individuals are significantly greater demanders of public services (and smaller sources of tax revenue) than high-skilled households and individuals.

4. Immigration policy, selectivity of immigrants and sectoral impacts

International labour migration is shaped by three sets of factors: "push" factors in migration-staging areas; "pull" factors at migrant destinations; and "migration networks" or contacts between prospective migrants and individuals (usually kin) at migrant destinations (Martin, 1993). Economic and policy variables in each of these factors interact in complex ways to influence the characteristics of immigrants (i.e., the kinds of individuals who immigrate) and the impacts of immigration on the host-country economy.

4.1. Push vs. pull vs. network determinants

The supply of migrants, or viewed a different way, the demand for entry into the host country, is shaped by all three sets of factors. In migrant-sending areas, low expected incomes (Todaro, 1969; Harris and Todaro, 1970) and imperfect credit and insurance markets that force families to self-finance their income activities and self-insure against income risks (Stark, 1991) are conditions that push individuals into adopting a strategy of migration.

The supply of migrants is determined by these push factors, but it also depends upon pull factors, including the demand for immigrant labour in host countries and host-country immigration policies that heavily regulate the "market for immigrants" (Borjas, 1994). A combination of private-sector demand for immigrant labour and immigration policies of host-country governments shape the expected economic returns and risks associated with international migration. Immigration policies, for example, determine whether a low-skilled Mexican worker will have to enter the United States

legally or illegally and, if illegally, the migrant's chances for success. This, in turn, is likely to affect the kind of employer a new immigrant has, the remuneration and benefits the worker receives, and the worker's employment and income risk in the host country, including the risk of apprehension and deportation if the worker is an unauthorized immigrant.

Immigration policies also may influence the private demand for immigrant labour. Indeed, fines and, in extreme cases, imprisonment of employers who knowingly hire illegal immigrants, as mandated by the 1986 US Immigration Reform and Control Act (IRCA), attempt explicitly to discourage both the demand and supply of illegal immigrant workers.

Migration networks, which provide prospective migrants with information, financial assistance and job placement in destination labour markets, primarily influence the supply of immigrant workers. However, it can be argued that by ensuring an availability of low-skilled immigrant labour, migration networks are a recruitment mechanism that encourages the expansion of immigrant-intensive industries, thus also affecting immigrant labour demand. Migration networks tend to make international migration a self-perpetuating process, reinforcing immigrant selectivity. For example, the Bracero Program (1942-1964), which recruited mostly low-skilled rural Mexicans to work in US fields and factories, created an infrastructure of family networks that has continued to channel low-skilled, rural Mexican men and women into the United States to the present day (Massey and Liang, 1989).

The combination of push, pull and network effects makes unauthorized international migration extraordinarily difficult to control. Deteriorating terms of trade, limited credit and income insurance options, and scarce employment in Mexico, for example, create intense pressures for rural Mexican households to send family members to the United States. Recently, currency devaluations and an uncertain economic future in Mexico have added to emigration pressures. Expansion of labour-intensive agriculture, manufacturing and services on a base of low-skilled immigrant labour in the United States ensures that there will be gainful employment for new immigrants. Family members already in the United States provide new migrants with information about how to enter the country; contacts with trusted *coyotes* or labour smugglers; financing for the border crossing; job-search information; and economic support until new migrants are established in the US job market. Often, new immigrants have jobs waiting for them in the United States before they leave their village.

4.2. Immigration policy and immigrant selectivity

Despite the difficulty of controlling unauthorized immigration, immigration policies may have some influence on the characteristics of new immigrant flows and the extent to which the selectivity of these flows is self-perpetuating. For example, family reunification policies tend to reinforce the selectivity of past migration, by ensuring that many new immigrants are drawn from the same families (hence national, socioeconomic and skill groups) as past immigrants. Point systems (as, for example, in the case of Canada) represent an effort to manipulate the characteristics of immigrants to reflect specific policy goals.

Recent research on the impacts of immigration policies on the skill distribution of immigrants suggests that such policies can be influential. Sector-specific immigrant-admission policies tend to reinforce the characteristics of sectoral workforces in immigrant flows. For example, the Special Agricultural Worker (SAW) programme, which legalized workers who allegedly performed 90 days or more of farm work in the United States between May 1985 and May 1986, granted permanent resident status to more than 1.3 million workers, most of whom were low-skilled, Mexican men. When these men are joined by family members from Mexico, an immigration multiplier will add more low-skilled, mostly rural-origin Mexican immigrants to the US workforce.

The Canadian experience has been a focus of research on immigration policy, both because of the selectivity of Canadian immigration policy and because of the importance of Canadian immigration.

¹ Prior to 1961, Canada's immigration policy permitted entry of persons from only a few countries (for example, the UK) or dependents of Canadian residents. In 1962 and 1967, it began to select immigrants increasingly on the basis of skills. Current applications for immigration to Canada fall into three categories: family (close relatives of Canadian residents and assisted relatives, including more distant relatives of Canadian residents), independent (including business immigrants) and refugees. The second category is screened using a "point system," which awards points according to applicants' education, age and occupation.

Canada appears to attract more skilled immigrants than the United States. Immigrants in Canada had less schooling on average than US immigrants in the early 1960s but almost one year more schooling by the late 1970s. Since the late 1940s, Canada's immigrants have almost always had more schooling than the Canadian population at large. For example, in 1961, of immigrants who entered Canada after 1946, 4.3 per cent had university degrees, compared with 2.9 per cent of all Canadians, and 5.1 per cent had at least some university education, compared with 3.6 per cent of all Canadians. At the other end of the education spectrum, 1.3 per cent had no schooling, compared with 1.5 per cent of all Canadians, and 41.9 per cent had no schooling beyond primary (grades 1-6), compared with 42.6 per cent of all Canadians. Secondary school completion rates for immigrants and all Canadians were 21.5 per cent and 16.7 per cent, respectively. In short, the gap in completion rates between immigrants and all Canadians increases with schooling level. US immigrants in the 1970s averaged 28 per cent less schooling than US-born workers. If anything, new immigrants and Canadian born have become more similar in terms of educational attainment since the mid-1970s. The share of new immigrants with secondary education or less actually exceeded that of Canadian born in 1980 and again beginning in 1991. Nevertheless, a significantly larger share of immigrants than Canadian born continued to have university degrees throughout the 1970s, 1980s and early 1990s (Akbari, 1995).

Studies by Borjas (1993) and Duleep and Regets (1992) find that average skill levels for immigrants of a given national origin do not differ significantly between Canada and the United States. However, the national-origin mix of Canada's immigrants is substantially different from that of US immigrants. These studies suggest that Canada's point system influences the skill level of immigrants by selecting immigrants from countries with relatively high-skilled workforces. They conclude that immigration policies using skill filters attract a relatively more skilled immigrant population (Borjas, 1994). Research in Australia (Beggs and Chapman, 1991), which has a point system similar to Canada's, appears to support this conclusion: immigrants in Australia have high relative wages. By contrast, immigrants in Germany, mostly Turkish guest workers admitted in the 1960s, have low wages relative to Germans, and their wages do not converge to German-worker levels over time (Pischke, 1993).

4.3. Selectivity and the economic performance of immigrants

In the United States, Barry Chiswick's (1978) seminal work offers evidence that, although immigrants initially have lower earnings than native workers, their earnings trajectory is steeper. After 30 years in the United States, the typical immigrant earns 11 per cent more than a comparable native worker. Chiswick cites this finding as evidence that immigrants are positively selected from their countries of origin; that is, they are "more able and more highly motivated" than native

¹ In the early 1990s, Canada had an annual flow of immigrants equal to around one per cent of its population.

workers. Initially, however, immigrants lack US-specific skills that are rewarded in the US labour market (for example, English proficiency).

Borjas (1985) counters this conclusion by arguing that Chiswick's optimistic cross-section findings conceal cohort effects. That is, in the cross section, immigrants having more experience in the US labour market are actually part of different immigrant waves or cohorts than immigrants with less US experience. If earlier cohorts of immigrants are more productive than recent cohorts, this would explain Chiswick's findings. That is, we cannot use the current labour-market experience of workers who arrived in the United States 20 years ago to project the future earnings of immigrants arriving today.

Using data on multiple cohorts of immigrants from the 1990, 1970 and 1950 population censuses, Borjas (1994) finds that the wage gap between US native workers and recent immigrants is increasing over time: from 16.6 per cent in 1970 to 31.7 per cent in 1990. If differences in wages reflect differences in skills, this means that more recent immigrants are less skilled than earlier waves. Moreover, wage growth for immigrants is actually only half the rate of convergence estimated by Chiswick.

Borjas' finding may reflect structural changes in the US economy, rather than a decline in immigrant skills. The wage gap between high- and low-skilled workers widened during the 1980s. Immigrants, on average, are less skilled than native workers. This means that, even if recent immigrants' skills were the same in 1990 as in 1980, their wages would have fallen relative to wages of native workers.

Borjas (1994) counters this argument by pointing out that, relative to native workers, immigrants are now more than twice as likely to be high school dropouts, compared with only 22 per cent more likely in 1970. Moreover, adjusting for native-workers' wage trends by skill level, Borjas still finds that immigrant wages were 29 to 30 per cent lower than native-worker wages in 1990, compared with 16.6 per cent in 1970. In short, it appears that there is a divergence in skills between natives and immigrants that is increasing over time.

The United States is confronted by unique historical and geographic conditions which appear to make skill-filtering of immigrants problematic, except at the margins. Unlike Canada, Australia and Germany, the United States shares a common border and history with Mexico, which has an elastic supply of low-skilled emigrant workers and also is a gateway for low-skilled immigrants from Central America. Push, pull and network factors make it difficult administratively to screen out low-skilled immigrants from Mexico and South. The will to do so is minimized by economic demands (expansion of immigrant-based production), political concerns (for example, democratic values, resistance to a national identity card) and social priorities (for example, reducing discrimination, family reunification). In this political, economic and social environment, US immigration policy could select more immigrants on the basis of skill, but it is unlikely that it could ever do so on a scale comparable with Canadian policy or that it could significantly close the average skill gap between immigrants and native workers.

5. Immigration reform and US agriculture:

Policy gone awry¹

The impact of the 1986 US Immigration Reform and Control Act (IRCA) on agriculture provides a unique illustration of the political-economic challenges confronting immigration policy in the United States. US fruit and vegetable agriculture - especially in California and the Southwest - has been associated with immigrant workers for over a century. In the early 1980s, immigration reforms threatened to eliminate easy access to the foreign workers to which many farm employers had become accustomed. Farmers were the only major group of employers who acknowledged their dependence on illegal alien workers and asserted that, without them, it would be difficult and costly to produce fruits, vegetables and labour-intensive horticultural commodities in the United States. They threatened to block reforms aimed at reducing the entry and employment of unauthorized workers unless they were assured that replacement immigrant workers would be readily available after fines were imposed on US employers who knowingly hired illegal aliens.

Findings from a comprehensive study involving 25 social scientists offer evidence from around the United States that IRCA did not discourage the expansion of labour-intensive agriculture, improve wages, employment and working conditions for US farmworkers or create labour shortages. However, it did accelerate a trend already under way to shift hiring and recruitment from farmers to labour contractors, the new facilitators of expansion for immigrant-intensive agriculture (Martin *et al.*, 1995). This will make enforcement of immigration and labour laws more difficult in the future.

IRCA included three major provisions that potentially impact agriculture through enforcement, legalization and the opening of the border for legal farmworkers.

5.1. Enforcement

Until IRCA was enacted, Immigration and Naturalization Service (INS) enforcement of immigration laws in agriculture usually involved the Border Patrol driving into fields and apprehending aliens who tried to run away. Harvest time INS raids could be disruptive. Pre-IRCA studies found that farmers avoided illegal alien workers in time-sensitive activities, such as harvesting strawberries, and that they were more apt to use unauthorized workers to pick less time-sensitive crops, such as citrus.

During the debate preceding IRCA, farmers pointed out that the INS was required to obtain search warrants before inspecting factories for illegal alien workers. They argued that the INS should similarly be obliged to persuade a judge that illegal aliens were likely to be employed on a farm before raiding it. IRCA extended the requirement that the INS have a search warrant before raiding a workplace for illegal aliens from nonfarm to agricultural workplaces.

5.2. Legalization

IRCA created two legalization programmes. The general programme granted illegal immigrants legal status if they could show they had resided continuously in the United States as an illegal

¹ **This section draws heavily from Martin** *et al.*, 1995, and from Taylor and

Martin, 1995.

immigrant since 1982. The farm worker or SAW programme granted legal status to illegal aliens who performed at least 90 days of qualifying farm work in the 12 months ending May 1, 1986.

Applicants for the general legalization programme scrambled to find employment records, rent receipts and other evidence that they had been residing continuously in the US since 1982. Most farmworkers applying for legalization simply submitted a short letter from a US employer which said, for example, "I, Labor Contractor Juan Martinez, hereby certify that Jose Carlos picked tomatoes for 92 days for me between June and October 1985." The farmworker legalization programme was designed so that, once Jose Carlos submitted his application, the INS had to accept it unless the agency could prove that the applicant did not do the qualifying work as claimed.

The "easy" SAW programme was an open invitation to fraud, and the fraud was so massive the *New York Times* (November 12, 1989, A1) called the farmworker legalization "one of the most extensive immigration frauds ever perpetrated against the US government." Over 1.3 million illegal aliens claimed to have done at least 90 days of farmwork in 1985-86, even though US Department of Agriculture analysis of Current Population Survey data found that there were only 1.1 million persons who performed 75 or more days of farmwork for wages in 1985 and that there were, at most, 200,000 such Hispanic workers.¹ Estimates based on pre-IRCA surveys of workers and the hours of work needed to produce fruits, vegetables and other labour-intensive crops reinforced a US Department of Agriculture estimate that there may have been 350,000 illegal aliens employed in US agriculture in the mid-1980s.

5.3. Safety valves

¹ SAW applicants came from over 100 countries. Almost 87 percent were from Mexico, Haiti, and El Salvador, as expected, but there were also 1,700 Portuguese who claimed to have done more than 90 days of farmwork as illegal aliens in 1985-86, 750 Taiwanese, and 4,800 Nigerians. Few farm labour researchers believed that there were 35,000 illegal aliens from India and Pakistan employed in US agriculture in 1985-86. To confirm their suspicions, some of the 47,000 aliens who applied for SAW status in New York City made comical assertions, as when they claimed to have picked strawberries from ladders, or harvested peaches in the middle of winter. Some of these false applications were rejected, but in the end, the burden of proof and manpower limitations permitted over 1 million aliens to become legal US immigrants through the SAW programme.

IRCA included two major types of temporary worker programmes through which farmers could obtain legal foreign workers if labour shortages developed. One is contractual, the other noncontractual. Contractual programmes tie a foreign worker to a particular job vacancy, and noncontractual programmes admit foreign workers and give them work permits to hunt for jobs. The Bracero Program was a contractual programme: Farmers had to convince the DOL that American workers would not fill the almost 5 million farm jobs filled by Mexican farmworkers. The US and most other countries avoid non-contractual programmes.

Contractual programmes require planning. Under the H-2 foreign worker programme, for example, farmemployers must develop job descriptions, determine the number of workers needed, guarantee a minimum wage, arrange for free housing, and then attempt to recruit Americans. Only after they convince the DOL that they cannot find sufficient American workers can they receive permission to bring in foreign workers for specific jobs. IRCA introduced a more streamlined, H2-A programme.

Western growers, however, argued that ever-changing weather and crop conditions made such planning impossible. For them and most other crop farmers who found the H-2A programme cumbersome, IRCA included a noncontractual Replenishment Agricultural Worker (RAW) programme that could have admitted up to 1 million probationary immigrants between October 1, 1989 and September 30, 1993, to avert labour shortages due to SAWs leaving farm jobs. The number of RAWs was to be determined by the Secretaries of Agriculture and Labor according to a complex formula. No RAW workers were admitted during the four-year life of the programme, because it was determined that IRCA did not create farm labour shortages, and the number of H-2A farm workers has shrunk since 1986.

6. IRCA's impacts on US agriculture

Despite a diversity of research approaches and data sources used to test for IRCA impacts and farmer adjustments, researchers across the United States have reached a common conclusion - that IRCA did not legalize the farm workforce except in the short run, through an overly successful SAW programme, and only rarely did it set in motion adjustments that could be interpreted as farm employer responses to the prospect that only legal workers would be available in the future. However, it may have altered the structure of farm labour markets for years to come.

6.1. Employment, wages and working conditions

Real wages in agriculture and other immigrant-dominated labour markets began slipping in the early 1980s. This was a major reason why unions and others concerned about the working poor argued that illegal immigration must be reduced. One mirror of illegal immigration was the number of United Farm Workers contracts, which fell from 108 in 1978 to 28 in 1984-85.¹ Minimum hourly wages in union contracts stagnated at \$5 to \$6, and piecerate wages - \$0.12 cents for cutting 25 pounds of raisin grapes and putting them on a paper tray to dry in the sun - remained unchanged for most of the 1980s.

¹ Declining UFW contracts reflect the difficulty of organizing a revolving-door workforce

fed by new arrivals from abroad; see Martin and Miller, 1990.

Findings by post-IRCA studies¹ confirm that IRCA did not create labour shortages or counteract falling real wages in agriculture. US farm wages rose slightly from 1985-1988 but then fell (Figure 1). There is no statistical evidence that hired employment or wage trends in any US region or in the aggregate were altered by IRCA. In California, real farm wages deteriorated. IRCA had no significant impact on employment, remuneration and working conditions in a wide range of commodities, including Florida nurseries, New York apples, Florida citrus and California table grapes.

There was an expansion of labour-intensive fruit, vegetable and horticultural (FVH) production after IRCA. Studies of agricultural labour markets in California, Oregon, New Mexico and Washington document an increase in FVH production after 1986. Nationally, the area planted in fresh vegetables increased 15 per cent between 1970 and 1992, with nearly all of this increase occurring in the 1980s. This is despite the fact that the labour cost share of total production value on FVH farms is more than three times the average for all farms. Had IRCA limited the supply of labour, this expansion would not have been feasible.

6.2. IRCA and labour contractors

Labour gluts in the late 1980s went hand-in-hand with another unexpected development - the spread of farmlabour contractors (FLCs). FLCs are playing a historically unprecedented role in the farm labour market. Farmers' delegation of recruitment and hiring to labour contractors is pervasive. In California, the data show a dramatic upsurge in FLC employment and a drop in vegetable employment in the growing vegetable sector (Figure 2). Similar trends are documented for Florida, Oregon and New Mexico; for apple production in New York and Pennsylvania; and for tomatoes in Florida. A rising trend in FLC use was already under way, but IRCA accelerated this trend by creating new incentives for farmers to use FLCs.

For decades, FLCs promised to make seasonal farm labour markets more efficient. With a comparative advantage in recruiting seasonal workers, FLCs can quickly mobilize harvest crews. Seasonal workers can benefit from the FLCs' ability to arrange for them a series of harvest jobs on different farms. But FLCs typically are in an inferior bargaining position vis-a-vis farmers and in a superior position vis-a-vis workers. Labour contractors are routinely accused of violating immigration and labour laws and of abusing vulnerable workers.

IRCA's employer sanctions were interpreted in a manner that made most FLCs solely liable for immigration law violations, so they gave farmers an unexpected incentive to turn to FLCs. Many legalized workers became FLCs. Competition among FLCs made the cost of using a FLC to recruit a seasonal workforce as low or lower than the costs of hiring workers directly. In many cases, hiring immigrant workers indirectly through FLCs has turned the "people issue" of dealing with seasonal workers into an impersonal transaction equivalent to securing farming inputs such as fertilizer. The separation of farm operators and farmworkers and an ample supply of workers through FLCs has moved labour far down the list of priorities for many growers of labour-intensive commodities.

6.3. A downward convergence among regional labour markets?

¹ The studies referred to below appear in Martin *et al.*, 1995.

There is some evidence that variations in wages and piece rates, working conditions and recruitment practices are narrowing across commodities and regions, as formal recruitment wanes and as informal migration networks and FLC recruitment tapping into these networks expand. Post-IRCA research reveals not only flat or decreasing real wages and piece rates, but also deteriorating housing and other conditions in areas and commodities that traditionally offered these services to seasonal workers.

Why did IRCA not produce the expected upsurge in wages and benefits? The answer in study after study is that there was such an ample supply of labour that farmers did not need to raise wages to attract workers. Indeed, the opposite was often the case. Farmers reported that in 1988-89, some workers simply joined a crew in the fields and hoped to be paid.

6.4. IRCA and illegal immigration

Most pre-IRCA studies concluded that illegal immigrants filled 20 to 25 per cent of seasonal farm jobs in labour-intensive commodities in California. The percentage of illegal aliens was generally lower in other states, both because legal H-2 workers were employed along the East Coast and Hispanic workers often aroused the suspicion of enforcement authorities in states such as North Carolina, New York and Kentucky.

The SAW programme had the anticipated consequence of increasing the share of Hispanic immigrant workers in states such as California, where they were traditionally employed. But it also legitimized the presence of Latinos throughout rural America. Most of the Hispanic workers now common in rural communities have work authorization documents, but in many cases these documents were purchased from labour contractors or at flea markets, not issued by the US government.

A consensus that emerges from post-IRCA research is that IRCA's SAW programme was a stimulus to illegal immigration, because it was easy to defraud and because it held out hopes for another round of legalization. For example, IRCA did not affect employment or wage trends in Florida agriculture because of lax enforcement of employer sanctions and the entry of "documented illegals" after IRCA.

Legalization taught even poor and unsophisticated rural residents in Mexico and Central America that they could purchase the documents needed to work in the US. Researchers tried to ascertain the legal status of the workers in the areas and commodities they studied, and they found that illegal aliens were typically 25 to 35 per cent of peak seasonal employment, and rising. After the legalization of over 1 million farmworkers, this is clear evidence that illegal immigration is continuing.

6.5. Farmworkers: The poorest of the poor

Huffman (1995) attributes the deterioration of the farm labour market after IRCA to (a) legalization, which increased the supply of unskilled labour in US agriculture; (b) low schooling (less than 6 years) and poor English skills, which trapped SAWs and their families in seasonal farm labour markets; and (c) an ensuing oversupply of farm workers which lowered real farm wages.

A highly elastic supply of foreign labour ensures that there will be a readily available supply of low-skill farmworkers for the rest of this century. Declining real wages increase the comparative advantage of US farmers in supplying the rising quantities of fruits and vegetables that US consumers are demanding. Although consumer demands have been shifting towards easy-to-mechanize vegetables, falling real wages are likely to retard mechanization in coming years. The

result is that farmworkers will remain the "poorest of the working poor," and rural poverty may increase - exacerbated by immigration reform efforts.

7. Summary and conclusions

This critical review of economic research on the labour-market and fiscal impacts of immigration in North America, with particular focus on the United States, yields three major conclusions:

First, research findings on impacts of immigrants in destination labour markets have begun to turn pessimistic in the 1990s.

Trade models predict that, when barriers to trade in goods exist, international migration will reduce wages in destination countries while pushing up wages in migrant-sending countries. Nevertheless, research in the 1980s found little evidence that immigrants adversely affected wages or employment of native-born workers. Econometric and case studies of the impacts of immigration in local (metropolitan) labour markets found little evidence that immigrants and US-born workers compete for the same kinds of jobs. Wages for native-born workers generally were not lower in metropolitan areas with large inflows of immigrants, and in some cases they were higher, suggesting that immigrants and native workers may be complementary.

Studies in the 1990s question both the methods and findings of this local labour-market research, arguing that the movement of displaced workers out of immigrant-impacted metropolitan areas masks negative wage and employment effects of immigration. They report some negative, though generally small, global impacts of immigration on employment and wages. Recent findings come from studies that use longitudinal data, including data from the 1990 US Census, and question the methods employed by past studies.

Despite this changing view on immigration's labour-market impacts, wages and employment for a large share of the North American workforce have little to do with local labour market conditions that may be impacted by immigration. Even where immigration is found to have adverse effects on native workers' wages or employment, these effects tend to be small - on the order of one per cent.

Second, controversy in the United States over the fiscal impacts of immigration appears to be due primarily to the uneven distribution of costs and benefits across levels of government.

Estimation of fiscal impacts of immigration is complicated and controversial, largely because of data deficiencies and the assumptions used to calculate tax revenues and public-service usage by immigrants. The consensus that emerges from most research is that the fiscal problems created by immigrants have less to do with *total* costs and benefits than with the *distribution* of these costs and benefits across different levels of government. Local governments appear to be "fiscal losers" from immigration: immigrants, like natives, demand more in benefits than they pay in taxes at the local level. Research on impacts of immigration at the state level produces mixed findings. Immigrants appear to have a positive fiscal impact at the federal level, particularly on the Social Security system. All in all, immigrants' demand for public services appears to be lower than the demand by otherwise similar native households. Refugee households are the exception: their use of public assistance is high and appears to remain high over time.

Third, immigration policies that "filter" immigrants may influence the fiscal and labour-market impacts of legal (but not of illegal) immigration.

There is some evidence, primarily from Canada, that the "filtering" of a large portion of immigrants may result in a more highly skilled immigrant workforce and enhance the economic prospects of

immigrants in destination countries. However, there appear to be historical differences between Canada and the United States with respect to the skill mix of immigrants that are unrelated to skill filtering. In the United States, international push, pull and network effects make illegal immigration extraordinarily difficult to control, and immigration policies may produce unexpected results. For example, the 1986 Immigration Reform and Control Act (IRCA) intended, in part, to remove the allegedly negative impacts of illegal immigrants from US labour markets. However, it failed to improve wages, benefits and working conditions in agriculture, a sector where illegal immigrants are concentrated, and it accelerated a shift to labour contracting that promises to make enforcement of immigration and labour laws more difficult in the future. IRCA leaves a legacy of structural changes in rural labour markets that will affect agricultural employment and earnings for years to come. The case of immigration reform and agriculture illustrates the political-economic challenges to crafting and implementing new immigration policies.

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