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Disequilibrium on the Canada-Mexico Labour Markets: A case for expanding Canada's
Temporary foreign workers Program?

Don J. DeVoretz
Co-Director RIIM
Simon Fraser University
Burnaby, British Columbia
Canada

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*“The Canadian Construction Association is lobbying the federal government to make it
easier for constructions workers to come to Canada... (since) between now and 2014
about 150,000 people will be needed to meet impending retirements”*

Wallace Immen **Call to open door wider to construction workers** **Globe and Mail**
August 23, 2006.

I. Introduction

Canada's immigration policy is motivated by diverse social and economic forces including an explicit recognition of the demographic forces which underlay the emerging labour market disequilibrium. Foot and Stoffman (1998) argued that Canada's baby boom and subsequent baby bust created both supply and demand forces which would shape the demand for key commodities in the 21st century. They have been largely proved correct as the demand for demographically driven skills (teachers, professors, long term care givers, physicians, nurses, etc) has waxed and waned over the last twenty years. As Canada's population ages the demand for health related workers has risen beyond the domestic supply in the 21st. On the other hand, the so called "baby bust" and echo generations have decreased and then increased the demand for educators. In addition, the decline in the supply of Canadian-born labour in both the semi-skilled occupations in general has left gaps in Canada's agricultural labour force. These demographically induced shifts in Canada's labour supply and demand conditions have not gone unnoticed or anticipated. Immigration policies- both temporary and permanent-have been adapted to the changing Canadian labour market conditions over the past decade.



Source: Special tabulations provided by Citizenship and Immigration Canada.

Figure 1 demonstrates how Canada has responded to market forces with respect to temporary worker visa issuances over the 1996-2006 period for technical and professional occupations. A gradual increase in temporary visas occurred until 2001 when the Canadian IT sector went into a substantial recession and the visa issuance in these occupations fell by over 30% in the 2000-2003 period.

Temporary visa admissions to Canada in the skilled occupational categories are quite minor. However the substantial rise in 2005 reflects the high level growth rates in Alberta and British Columbia economies which were generated by the labour intensive resource extraction industries. Since Canada's permanent immigrant admission system currently excludes most skilled worker admissions temporary visa issuances to skilled



Source: Special tabulations provided by Citizenship and Immigration Canada.

workers were expanded to overcome this bottleneck in the permanent immigration program.¹

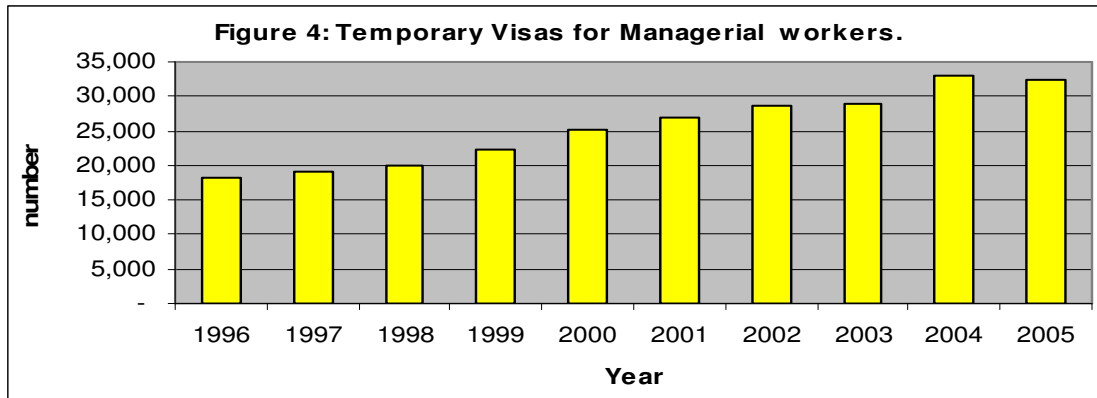
Figure 3 reflects the steady growth in unskilled temporary migrants to Canada which are largely concentrated in Ontario’s agricultural sector. The expansion of high valued wine and fresh vegetable crops in British Columbia has continued to refresh the demand for agricultural workers, as temporary visa issuances rose by over 60% for the 1996-2003 period.



Source: Special tabulations provided by Citizenship and Immigration Canada

Again, growth in the demand for unskilled temporary workers could not directly be met by Canada’s permanent immigration program. In other words, short-run disequilibrium in unskilled occupations must be addressed with the issuance of temporary worker’s visas.

¹ Canada’s permanent immigration program admits workers on the basis of a points system which heavily favors professional occupations and advanced tertiary education. See DeVoretz (2006) for a complete description of Canada’s points system.



Source: Special tabulations provided by Citizenship and Immigration Canada

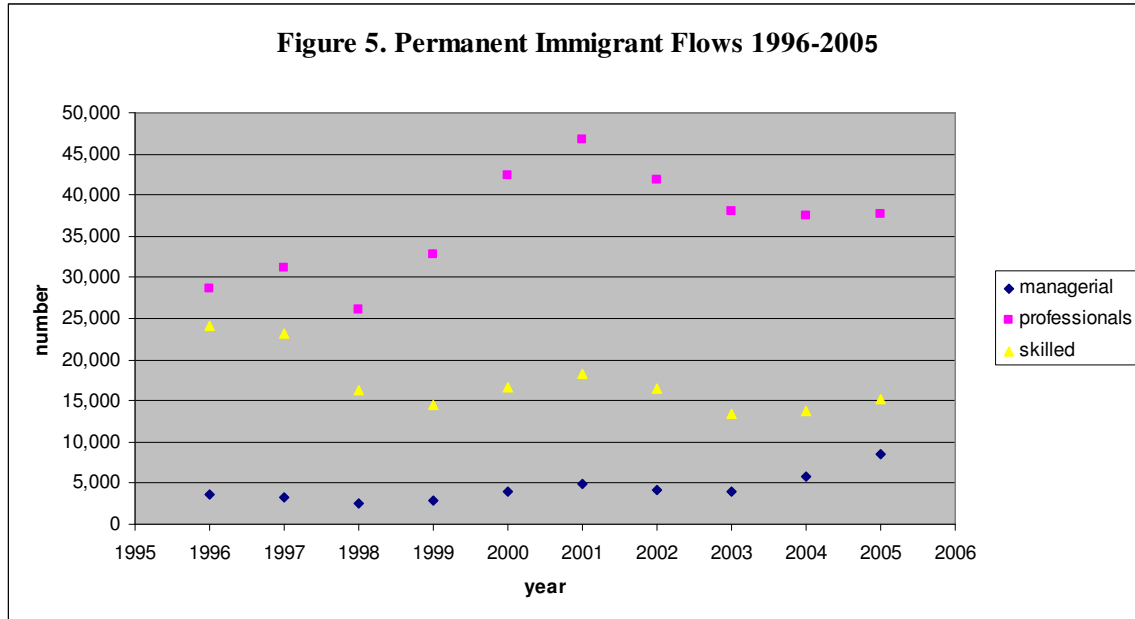
Finally, Canada admits substantial numbers of managers with temporary visas (Figure 4). On the surface this doubling of temporary visa issuance in the managerial category is puzzling since the permanent admissions program is designed to admit these type of workers. However, time considerations are often important for managers and the two to three year processing time for permanent admission is too long when compared to the relatively swift issuance of temporary visas to managers. Thus, there appears to be ready substitution between permanent and temporary visas in this managerial category.

In sum, what this brief survey of temporary immigrant admissions reveals is that Canada has a small temporary admissions program focused on the highly skilled (Managers) and unskilled (agricultural workers). In addition, there has been a modest increase in the skilled temporary worker category as regional resource based demand in western Canada has required skilled workers which Canada's permanent program is unable to supply in a timely manner. However, it is important to note that with the exception of Canada's temporary "Live In" care giver program none of these temporary worker visa issuances is explicitly predicated on meeting excess labour demand induced by Canadian demographic changes.

Given the experiences of other demographically challenged countries such as Japan or Switzerland it is surprising that Canada has been reluctant to explore using temporary visas as a way of meeting short-term excess labour demand shortages. There are two over-riding reasons for this reluctance. First, Canada's permanent immigration program is enormous compared to the small temporary worker program (Table A-1) and is thus seen as the primary policy lever for labour movement. Moreover, this permanent immigration flow consists of only a small portion (10-20%) of professionals or managers (Table A-2). Hence the dominant portion of this permanent flow consists of semi-skilled workers who have indirectly met Canada's demographic challenges as they have appeared.² Next, the current modest temporary worker program is judged to have worked well from an administrative viewpoint (DeVoretz, 2007). One central pre-condition for this positive judgment is that administrative costs have been largely borne by employers and

² For example, the family class has provided unskilled or semi-skilled workers in British Columbia's agricultural sector and as caregivers in seniors' homes.

enforcement costs to the Canadian government are low owing to the small size of the temporary worker program.



Source: Facts and Figures 2005 Immigration Overview for Permanent Residents, provided by Citizenship and Immigration Canada.
<http://www.cic.gc.ca/english/pub/facts2005/permanent/29.html>

A review of Canada’s permanent immigrant flows indicates the strengths and limitations of this program in meeting demographical driven labour demand. Figure 5 depicts the dominance of Canada’s permanent immigration program in the admissions of professionals over the decade 1995-2005 with 362,394 professionals admitted permanently during that period. In addition to the record number of admissions of professionals the time trend for admissions indicates that the peak entry point (2001) corresponded with the peak in Canada’s IT business cycle. As for managers admitted through Canada’s permanent immigration program they have grown slightly over the decade however, a comparison of figures 4 and 5 clearly indicate that Canada’s preferred entry gate for managers is the temporary worker category. This clearly reflects the ease in obtaining entry via a NAFTA based TN visa coupled with the fact that most of the managers emanate from the United States and plan to return home after a short period of time in Canada. One inexplicable trend emerges in Figure 5 in the skilled labour category. The decade of 1995-2005 witnessed a substantial drop in permanent skilled immigrant admissions from almost 25,000 in 1995 to around 15,000 in 2005 which is inconsistent with the growing demand for these workers especially in the latter part of the study period. Moreover, this modest level of skilled admissions in the permanent category is not being offset by temporary admissions of skilled workers since the latter admissions averaged only 2,000 per annum.

In sum, a comparison of Figures 1-4 to Figure 5 indicates that the temporary and permanent immigration program sometimes are substitutes for one another (managerial

category) and sometimes complementary (professionals) and sometimes bear no relationship (skilled). In the unskilled category, it is difficult to judge the relationship of the temporary worker admissions program and Canada's permanent admissions. If I inspect Table B-1 and look to the category of permanent admissions in skill level D (laborers) it would appear that the permanent admission program is dwarfed by the temporary foreign worker program in the unskilled category. However if I look to the ambiguous definition in Table B-1 of admissions who intended to enter the labour market-in the category unstated skill levels-these admissions exceed 100,000 per annum and no doubt contain unskilled family and refugee category admissions. Beiser, Pivnenko and DeVoretz (2004) clearly identify the family and refugee groups as largely unskilled. Hence, Canada has admitted unskilled workers historically through the permanent entry gate and these unskilled workers both dominate the permanent flows each year which in turn dominate the smaller temporary flows of unskilled workers. In fact for the decade 1995-2005 those immigrants who declared themselves to be "intending to work" with no stated skill level represented approximately 1.2 million labour force entrants. Clearly, Canada's permanent immigration program is an unskilled admission program and not as claimed a highly skilled magnet. As I will note below, this observation makes it easier to understand why the Canadian policy makers would like to increase the flow of temporary highly skilled workers and not the unskilled temporary inflow.

II. Expanding Canada's Temporary Foreign Worker Program

Canada's policy makers have not ignored Canada's temporary foreign worker program (Pascoe, B. and B. Davis, 2000). In fact, Herb Grubel (2005) argued that all further Canadian immigration should in the first instance be under the temporary workers program. However, this scheme to convert the permanent program to a temporary program which would screen applicants for possible permanent admission was deemed too radical. Instead current Canadian policy makers have posed several questions as a possible precursor to modestly expand the current temporary foreign worker program.³ These questions include:

- *Should Canada expand its Seasonal Agriculture Workers Program (SAWP) to include more sectors, occupations and/or regions?*
- *Should Canada expand its low-skilled temporary foreign worker policy to sectors, occupations and/or regions?*
- *Should Canada expand its high skilled temporary foreign worker policy?*

The answers to these questions are filled with caveats and a complex set of rationales. I list a few of these hesitations in Appendix B to give the reader a flavor of the caution that surrounds any contemplated changes to Canada's temporary foreign worker program.⁴ One point is apparent from an inspection of conditions outlined in Appendix B.

³ See Chabot, M. Qui, H. and C. Fishlock (2006).

⁴ For example,

Temporary foreign workers are treated differentially by skill level. The agricultural worker program is restrictive in many essential elements whilst the highly skilled worker program is essentially employer driven with no substantial restrictions. A careful reading of the literature on Canada's temporary foreign worker program indicates that Canada is pre-occupied by administrative costs and possible labour market impacts (DeVoretz, 1999). Thus, for agricultural workers the geographical source countries are limited to Mexico and the Commonwealth Caribbean with the duration of the permit of only 8 months. On the other hand, the highly skilled temporary worker may or may not require labour market authorization (LMO). Also, the issuance of highly skilled visas has no numerical cap (it is employer driven) and provides a clear avenue to permanent immigrant status for the temporary worker. Thus, one preliminary conclusion is that Canada's policy makers believe there are minor labour market impacts from skilled workers with no associated administrative costs while the opposite apparently holds for unskilled workers. Given Canada's current pre-occupation with administrative costs and mitigating labour market impacts the policy options supplied by policy makers is self evident. In fact, Chabot, M. Qui, H. and C. Fishlock (2006) argue to both expand the highly skilled worker program and encourage the retention of these workers. They further argue that there should be no expansion of the temporary unskilled worker program because:

“Overall, expansion of the Temporary Foreign Worker program seems to create serious distortions in the labour market and its shortcomings seem to overshadow the advantages that it could bring.”⁵

Nonetheless, there exists no econometric evidence to support this latter assertion and furthermore there exists some evidence that highly skilled workers displace native born workers in Canada (Akbari and DeVoretz, 1992).

III. An Economic Analysis of Temporary Foreign Worker Expansion and Canada's Policy Issues

A careful reading of Chabot *et al.* (2006) documents the range of concern with an expanded temporary foreign worker expansion. In addition to the above noted administrative costs, they are focussed on the possible labour substitution, security issues and the possibility of overstaying temporary workers. The central question they do not pose or answer is: What is the goal of Canada's temporary foreign worker program? Is the program structured to provide cheap labour for capitalists or to act as foreign aid to workers from selected poor countries or enhance Canada's net wealth through positive tax contributions? Unless Canada can decide what the goal(s) of the temporary foreign worker program is (are) it is not possible to decide on what the optimal number of

⁵ They actually have a more extensive rationale including that an expansion of the *temporary foreign worker (program)* represent(s) a short term quick fix that works against adjustment process. It creates disincentives to innovate, to train or to improve employability of vulnerable groups, including immigrants, and contributes to keep wages low. In addition, dependence towards TFW is a documented fact, which allows unprofitable businesses to benefit from public fund. Chabot, M. Qui, H. and C. Fishlock (2006) p. 69.

temporary foreign worker immigrants admissions are and to what sectors these migrants should be devoted to.

DeVoretz (2007) argues that there are several goals for a temporary foreign worker program which are consistent with a potentially Pareto-improving outcome.⁶ As a general rule DeVoretz proposes a variant of the Rawls' criterion for the admission of one more temporary foreign worker to Canada.

The intuition of the Rawlsian rule is that the admission of the marginal foreign worker under normal conditions will increase the welfare of all the principal agents in the migration process with no penalties inflicted on poorer Canadian-born workers. The redistributive income effects for admitting a temporary foreign worker are clear. The migrant earns a higher wage than at home while the Canadian capitalist pays a lower wage and the Canadian government enjoys increased net public revenues. The only possible agent who may lose from the presence of a temporary foreign worker is the Canadian-born worker who may be displaced by the migrant.⁷ Thus, the challenge to the Canadian policy maker who contemplates increasing the number of temporary foreign workers is to perform the calculus which insures that the admission of one more foreign worker increases the net economic benefit to Canada whilst not harming the lower quarter (or half) of its native-born wage earners. Akbari and DeVoretz (1992) have outlined the technical conditions which would insure this outcome. At this point, it is sufficient to note that only under a special set of conditions which vary by industry can the net economic benefit to Canada criterion be satisfied. The implication of this finding is that regardless of the niche area that requires temporary foreign workers in the Canadian economy (petro-chemical sector, medical care, agriculture) only if a version of the net economic benefit to Canada rule is satisfied will Canadian policy makers admit more workers to these sectors.

Figure 6: No Labor Displacement: Neutral Case;

⁶ A Pareto improving situation would be one in which the three principal actors, migrants, capitalists and Canadian-born workers improve their welfare (or are not harmed) with the addition of one more foreign worker.

⁷ In reality migrants may increase the demand for Canadian-born labour if they are complements. This is rare in the Canadian context. See Akbari and DeVoretz (1992).

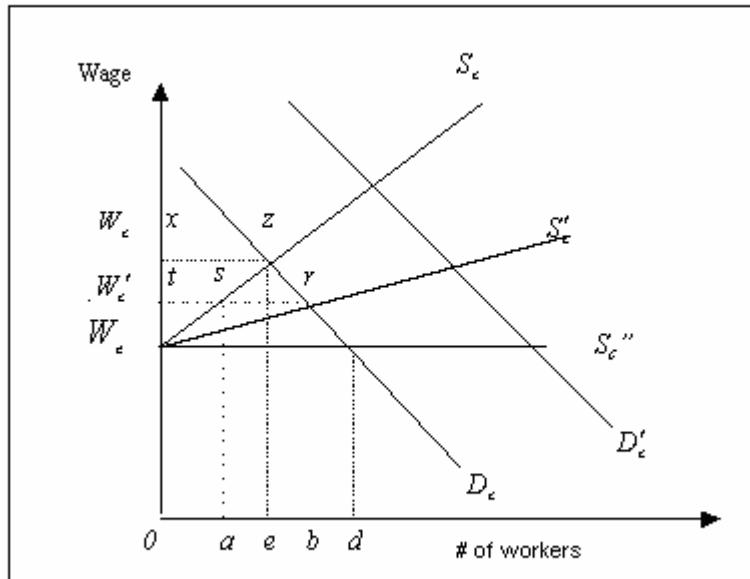


Figure 6 provides the analytical construct to illustrate how difficult it is to satisfy the Net Benefit rule to insure the admission of a temporary foreign worker to any sector.

As noted above, one primary concern of policy makers is that immigrants will not replace Canadian labour. Under the most naive analysis native-born job loss is predicated on the fallacious concept of “a lump of jobs”, i.e., there exist a fixed number of jobs in the immigrant-receiving country. If immigrants are employed, then, by definition, someone must lose their job. In fact, as Figure 6 illustrates, in a dynamic setting it is possible that immigrants may prove complements and not substitutes to home labour. In Figure 6, the receiving country has initially no immigrants, and the equilibrium is at (oe), or full employment of nationals with a wage of ($O - W_c$).

Opening the labour market to immigrants causes the supply curve of labour to shift everywhere to the right to (S'_c) given an entry quota of (a-b) foreigner workers.⁸ This introduction of (a-b) foreign labour initially lowers the home country's wage and displaces (a-e) domestic workers.

We note two further effects. First, total GDP **rise and subsequently generating taxes to Canadian the Canadian treasury** as more labour (b-d) is employed in Canada.⁹ Moreover, if workers bring with them complementary human or financial capital, then the labour demand curve will shift out to the right to (D'_c), and this in turn will raise the wage rate and increase the demand for resident labour.

⁸ In the extreme, (S_c'') would be the new supply curve with no immigration quota. Here the displacement of home labour will be complete with (O-d) foreign labour in figure 4.

⁹ This is the so-called Harberger triangle.

In sum, in this particular optimistic or neutral case, the number of jobs created by the presence of immigrants just offsets the displacement of jobs in the aggregate if we incorporate favorable dynamic effects. Thus, the Rawlsian criterion for the admission of a temporary foreign worker in this sector has been met. We must however be careful to recognize that, even in this neutral case, there is a “churning effect”. This effect arises since (a-b) native-born workers were initially displaced as immigrants entered the host country’s labour force, and only the long-run demand effects offset the initial job displacement of (a-e).¹⁰ Moreover, the (a-b) workers who initially lost their jobs may not be employed as a result of the later labour demand curve shift.¹¹ We return to this concept of churning costs later when discussing the political economy dimension of immigration policy formulation.

¹⁰ See Akbari and DeVoretz (1992) for an illustration of this case.

¹¹ The (a-b) workers may be of a different skill level and never receive their jobs back. Instead new native-born workers receive the created jobs.

Figure 7: Extreme Case: No short run displacement

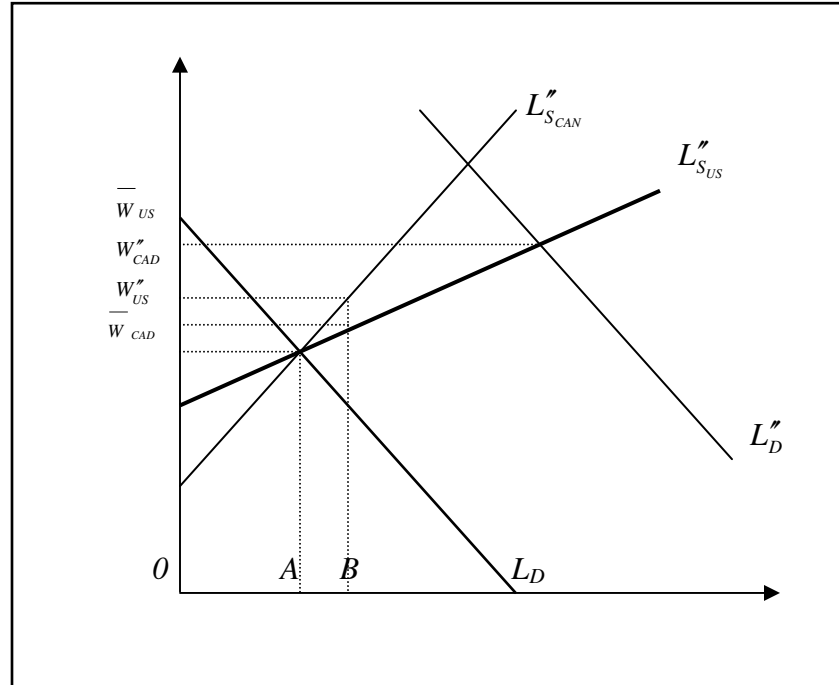


Figure 7 represents another typical case in which the temporary foreign worker can be admitted and the Rawlsian criterion appears to be satisfied. This sector represents the extreme case of near total displacement under which (OA) native-born workers initially work for \bar{W}_{CAD} prior to the arrival of any immigrants. However, given a growing demand for labour from L_D to L_D'' , only foreign workers are hired since they will supply their labour at a lower wage than the domestic workers. Figure 7 is often the case cited when unskilled workers legally or illegally enter and work for a lower wage than the marginal native-born worker in the service sector (Chiswick, 2000). Native-born workers are not displaced but the sector is eventually dominated by foreign low-cost labour.¹²

The challenge now is to use this theory to characterize potential sectors in Canada which conform to figures 6 and 7 and would allow the admission of temporary foreign workers and not violate Rawl's rule. I would argue that figure 6 represents the case of highly skilled workers whilst figure 7 represents a variety of unskilled sectors. A few facts should support this position. In figure 7 the basic proposition is that the opportunity cost of domestic workers lies everywhere above equilibrium wage demanded by OA Canadian-born unskilled workers. Beyond the supply of OA Canadian-born workers any additional Canadian-born workers would demand a wage greater than both the

¹² [We could have eliminated all domestic labour](#) in this sector and cause domestic labour displacement [just by lowering the foreign-born wage rate. Given minimum wage laws, this is an unlikely case.](#)

equilibrium wage \bar{w}_{CAD} at OA since the “reservation wage” of these additional Canadian workers is rising due to a growing opportunity cost. In order to induce any migrant labour the equilibrium wage at OA \bar{w}_{CAD} must be paid to foreign workers since this is mandated by Canadian policy for unskilled temporary foreign workers. Note however, that each additional temporary foreign worker induced to work also demands a higher wage, however this wage lies everywhere below the marginal wage demanded by potential Canadian-born employees. In other words, additional workers represented by A-B could be drawn from Canada’s domestic unskilled workers or from the temporary foreign worker labour pool. One point is clear however. Canadian-born workers lose the opportunity to work at w'_{US} when temporary foreign workers enter Canada to work at \bar{w}_{CAD} . The difference between these two wage rates represents a gain to Canadian capitalists. The question is how can Canada compensate these Canadian-born workers to insure that the Rawlsian condition is met while admitting a temporary foreign worker in these wage sectors? A near identical problem arises in figure 6 which in fact represents the highly skilled occupational case. I offer an auction model below which insures that for both polar occupational groups represented by figures 6 and 7 that the Canadian-born workers are compensated for their wage or job losses. In addition, this auction model places the Canadian-born worker as the key arbitrator who determines the number of temporary foreign worker admissions and reduces the role of the Canadian federal government to a minimum which insures their long sought goal of minimizing administrative costs.

A Canadian Auction Model for Temporary Foreign Worker Visas

Current Canadian Memoranda Of Understanding (MOU) with temporary immigrant-sending countries reflect the myopic managerial model that has served Canada well in the past, with its limited non-permanent foreign-worker programs. These MOU arrangements reflect the apparent policy imperative of setting standards and conditions in the relevant labor markets to satisfy the net economic benefit criterion. For example, wage floors (i.e., minimum wages), housing standards, food provision, and maximum deductions for employer-provided benefits are all incorporated in the MOU. These conditions in turn are presumed operational equivalents to insulating Canadian residents from wage or (un)employment effects, and mitigating any impacts on the publicly-financed health and social benefits. However, two crucial questions are begged in this managerial approach. First, what is the optimum number of temporary immigrants in any sector? Secondly, who do we compensate, and by how much, when substantial labour market impacts arise?

The market offers an alternative to the current Canadian management model for temporary immigration admission to answer these questions. I argue that an auction market should be legally created to ascertain the value of Canadian jobs that are offered to foreigners. In turn, equilibrium in the auction market will allow us to determine the optimal number of temporary immigrant visas allocated. Under the current temporary admission system, three of the four agents in the temporary worker market (i.e., the Canadian employer, a broker, and the foreign worker) clearly gain. However, if a foreign

worker arrives under the supply conditions in figure 6, the Canadian worker incurs a loss that equals either:

- a. The difference between his¹³ marginal product and the minimum wage paid to a temporary migrant worker if the Canadian worker absorbs the wage compression outlined in figure 6 or where the Canadian-born worker suffers a wage loss.
- b. The loss of his job (*ae* in figure 6).

How can this potential loss to the resident worker by the admission of a temporary migrant be measured and compensated for? How large should this compensation be, and how many Canadian resident workers should be compensated? Furthermore, how many unskilled temporary workers should be admitted and in what occupations or industries? These are complex questions which existing management agreements attempt to answer in an *ad hoc* manner by proposing an orderly management system under existing MOU arrangements. However, the proposed auction market in this paper offers us an alternative method to yield internally-consistent answers to these questions.

Below I present a stylized version of the auction model which highlights its resulting equity and efficiency gains. Under the proposed Canadian auction scheme, all previously-employed or currently unemployed (un)skilled Canadian resident workers are issued a voucher by Revenue Canada as part of their tax statement; this voucher entitles them to auction off the job(s) that they held in the preceding year to an approved list of foreign workers.¹⁴ The implicit trade-off facing the Canadian worker is the yearly value of his current job, or leisure, plus benefits and job security, compared to the gain from a prospective new job, plus the voucher auction price.¹⁵ Thus, the Canadian worker can offer his voucher on an Internet site to see if his “reservation auction price” is met. The voucher that is sold entitles the foreign worker to apply for the existing Canadian job but does not guarantee that this person will be hired. In fact the voucher only allows the prospective temporary immigrant the right to apply for a temporary position in Canada for which the employer has the ultimate right of hire. The actual conditions of the auction, legal statements, any bonding or vetting are under the control of Revenue Canada and/or Citizenship and Immigration Canada. A small processing fee is charged to the person who places the offer. Any potential broker or foreign worker also pays a fee to Revenue Canada to use the service. These fees are adjusted to insure that the auction board is cost-free to Canadian taxpayers, such that enforcement costs are absorbed by auction-market participants to insure an orderly market. Furthermore, the fee is set to provide an actuarially-sound insurance fund to compensate for any malfeasance arising

¹³ The masculine is used throughout to facilitate reading.

¹⁴ Foreign candidates for this programme must provide health certification and be security screened. The candidates must pay for this screening as they currently do in the permanent admissions system by paying a “landings fee”. This approved list could be simplified and minimize government intrusion if a pedigree list is developed under which previous entry and exit histories would automatically place one on the approved lists. This is in fact what Canada does in the agricultural workers programme.

¹⁵ Since a positive price for a voucher acts as a subsidy for the price of leisure (i.e. the wage rate) any worker will consume more leisure (sell a voucher) if the income effect resulting from a loss in one hour or more of work is less than the price effect. Note that the demand for foreign workers (*ab*) exceeds the number of displaced Canadian workers (*ae*) which insures an excess demand for vouchers. This excess demand is closed by a rising price for vouchers and a greater willingness of Canadian workers to give up their jobs at this higher price. As noted this higher voucher price is in fact a subsidy to the price of leisure and more leisure will be consumed by the Canadian worker whose utility in turn will rise.

from fraud on the auction board, and to insure validation of both job offers and the *bona fides* of the foreign bidder. Furthermore, full information on the terms and conditions of any successful based job sale auction is supplied daily to any registered Canadian who has a job offer on the job website. This information consists of the terms of successful auction transactions, i.e., number of hours sold, where, when, in what industry, and at what price. Thus, a Canadian worker can re-offer the voucher obtained from Revenue Canada daily if there has been no previous taker. He can also remove it from the website and continue to work if the voucher price offered for his job falls below his reservation price. Given that the voucher is only valid for a maximum of 365 days annually, the value of the voucher fluctuates over a calendar year, if the offered job is seasonal and as the number of calendar days declines. This possible rise or fall in the voucher price may permit a futures market in vouchers to appear. For example, with a futures market brokers buy vouchers from Canadian workers early in the calendar year, and assume all the downside risk as they search the world for temporary foreign workers that employers will hire at a wage below the auction price. If these brokers are unsuccessful, they pay more to the Canadian jobholder for a one-year job than they obtain on the auction market. Finally, in both the spot and futures market, the optimal solution on web based auction market arises daily, as both forward and spot contracts appear under various job matches.

At this point the motivation of the employer must be made clear to participate in this auction scheme. There are two explicit motivations underlying the employers willingness to hire offshore. First, if domestic workers have a relatively high reservation wage rate (above W') then paying the foreign temporary work (W_c) leads to an added profit of (XTSZ) in figure 1. More importantly if the Canadian workers reservation wage exceeds (W_c) then no domestic labour would be forthcoming¹⁶. Thus, in the absence of foreign labour willing to work for a wage below (W') this employer would move offshore if possible or go out of business¹⁷. Again, it must be remembered that the employer does not have to employ any one worker that has obtained a job permit to work. The permit is an option which allows the foreign worker to enter the labour market and does not guaranteed a job¹⁸.

In spite of this sophisticated auction market, short-run disequilibria could still arise, for example, if there are mismatches in the offer-bid process between foreign workers and Canadian skilled or unskilled voucher-holders. If no transaction takes place between foreign migrants and Canadian voucher-holders, then a longer-run optimal solution could be achieved by actions of the Canadian employer. Continuous short-run

¹⁶ In the Canadian context this would include most caregiver services, the wine industries in British Columbia and Ontario, agricultural workers in general in Ontario, British Columbia and Quebec and low skilled service workers in Alberta, to name a few sectors.

¹⁷ Circa 2006 the spread between the Atlantic provinces reservation wage and the high wages in the oil sectors have induced a few migrants and immigrants to northern Alberta and British Columbia. According to news accounts the difference between the real wages in the Atlantic provinces and western Canada for service workers exceeds 100 percent. Clearly a large potential gain exists for Atlantic province workers to sell off their job search rights in Alberta to a foreign worker in exchange for their actual job in the Atlantic provinces.

¹⁸ Presumably the foreign worker who purchases the entitlement to work will incorporate this uncertainty in his/her bid.

disequilibria will lead the Canadian firm to relocate to where the foreign temporary workers reside (i.e. outsourcing). This result is a corner optimal solution with no temporary workers entering Canada.

What of industries or sectors previously 100 percent dependent on foreign temporary immigrants as in figure 7? One example of figure 7 in Canada is the case of temporary foreign workers as caregivers. Here the service firm cannot relocate abroad since the service provided by the temporary worker is tied to Canada. In this case with no history of past Canadians with a reservation wage above the minimum wage in the job market, the auction market could still be used. Vouchers would be issued to existing Canadian firms that have provided these services with foreign workers, since they have already diverted Canadian unskilled workers from the industry. At this point, a two-stage market would appear. The first stage of the auction would be reserved for Canadian workers with a previous attachment to this portion of the labour market. The evidence for the latter would be a two year old or less employment-earnings stub, or T-4 slip. In the first stage the employer would offer a job and/or voucher to a Canadian in the form of an hourly wage and number of hours offer for one year. The Canadian worker can either accept this job offer or buy the equivalent voucher from the firm, and offer it on auction board to a foreign temporary worker. Thus the Canadian worker still has the option to take this previously unfilled job, and/or usurp a portion of the rent that would normally accrue to the employer. If no offers were made for the available vouchers by previously unemployed Canadian workers then the firm would lower its voucher price such that the net gain to the unemployed Canadian after the resale of the voucher to a foreigner is sufficient to induce a job trade with a temporary foreign worker. In the extreme, the Canadian firm would pay the previously-unemployed Canadian worker to take the voucher to complete the job match for the firm. In effect, the previously-unemployed worker would act as a broker and search for the foreign worker with the prospect of earning a rent between the cost of the voucher and the lower-contracted wage for the temporary foreign worker.

V. Conclusion

In sum, this paper offers a new policy option for deciding on the size and conditions of admissions for temporary Canadian workers. In short the auction market offered in this paper simultaneously provides a daily temporary wage rate for a specific job by a prospective temporary foreign worker, and the yearly number of temporary visas offered (from zero to 100 percent) for all jobs previously held by Canadians. It also determines the location (i.e., in Canada or offshore) of the unskilled intensive Canadian-owned firm that depends on temporary foreign workers. All these transactions arise without the necessity of a government official trying to calculate an ephemeral net benefit value for a particular number (*ab*) of temporary workers entering in a particular occupation. Moreover, in a world of free exchange, all agents gain as Simon (1998) predicted. Employers reap a surplus by paying a lower wage, foreigners earn a higher wage than their opportunity cost and Canadian workers receive partially compensated leisure time in addition to any employment benefits they collect. Thus, the Rawlsian imperative of welfare improvement with no harm inflicted on low-income earners would be satisfied. Many administrative issues: types of visas, conversion rights, and

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employment authorizations still remain and must be resolved and placed in any contracted offer posted auction website. In addition as Simon (1998) notes there exist ethical questions surrounding an auction system which he alleges rewards the rich. This paper clearly reverses that result since it is the Canadian workers who gain under this scheme.

Appendix A

Table 1-A. Immigrant Arrivals by Class: 1980-2001

Year of Landing	Total (1)	Immigrant Class			%
		Refugee (2)	Family (3)	Economic (4)	Economic (4)/(1)= (5)
1980	143,134	43,860	49,180	36,670	0.256692
1981	128,641	18,588	50,204	42,977	0.334944
1982	121,177	17,518	49,859	40,048	0.332029
1983	89,188	13,998	48,701	19,408	0.21901
1984	88,273	15,377	43,818	18,605	0.213272
1985	84,333	16,770	38,528	19,532	0.235831
1986	99,329	19,198	42,236	30,169	0.309397
1987	152,002	21,468	53,568	62,018	0.414795
1988	161,502	26,737	51,165	64,922	0.409605
1989	191,502	36,857	60,630	69,011	0.366791
1990	216,402	40,233	74,069	72,903	0.342253
1991	232,750	54,053	86,894	65,247	0.284062
1992	254,816	52,350	100,668	76,225	0.304231
1993	256,728	30,632	112,579	79,725	0.316126
1994	224,373	20,455	94,093	69,908	0.317043
1995	212,866	28,544	77,325	71,914	0.342895
1996	226,050	32,193	68,296	91,543	0.411008
1997	216,030	27,662	59,893	100,162	0.480204
1998	174,172	25,375	50,799	80,162	0.490449
1999	189,921	25,415	55,248	90,733	0.494976
2000	227,312	30,532	60,541	113,801	0.511806
2001	250,346	28,104	66,641	130,034	0.526684

Source: Landed Immigrant Data System (LIDS), Citizenship and Immigration Canada.

Notes: *Refugee Class* includes: Convention Refugee Class, Designated Class, Nominated (Old Act 1952), PDRCC Class, Dependants of a CR8 Refugee, DROC Class, Source Country, Asylum Country; *Economic Class* includes: Entrepreneur Class, Self-Employed Class, Independents and Entrepreneurs (Old Act 1952), Other Independent Class (Skilled Workers), Investor Class; *Other* (not shown in the table) classes include: Retired Class, Assisted Relative Class, Live-In Caregiver Class, Child to be Adopted, Sponsored (Old Act 1952).

**Table A-2 . Trends in Canadian Immigration
1980-2001 (absolute numbers in 000s)**

Year	(1) Total Immigration	Immigrants Professionals*	
		(2) Total	(3) as % of All
1980	142,856	11,067	7.75%
1981	128,311	13,369	10.42%
1982	120,616	14,404	11.94%
1983	88,617	7,766	8.76%
1984	87,236	6,560	7.52%
1985	82,822	6,643	8.02%
1986	97,509	8,245	8.46%
1987	149,515	15,290	10.23%
1988	158,499	16,503	10.41%
1989	188,148	18,154	9.65%
1990	213,009	19,517	9.16%
1991	229,693	16,870	7.34%
1992	250,550	15,868	6.33%
1993	252,194	18,836	7.47%
1994	220,500	20,945	9.50%
1995	209,726	24,646	11.75%
1996	222,728	31,099	13.96%
1997	208,582	33,507	16.06%
1998	163,446	27,770	16.99%
1999	183,308	34,870	19.02%
2000	222,352	45,282	20.37%
2001	246,892	50,206	20.34%

*All managerial and professional occupations

Source: LIDS

Appendix B: Canada's Temporary foreign worker Programs

Features of Canada's Seasonal Agricultural Worker Program (SAWP)

- **Number:** 20,390 workers authorized in 2004.
- **Skills Requirements and sectors:** Low skilled occupation and restricted to agricultural sector.
- **Nationalities restrictions:** Restricted to nationals of Mexico and the Commonwealth Caribbean.
- **Permit duration/renewal:** Maximum of 8 months. No renewal.
- **Employers' responsibilities:** Free seasonal housing provided by employer. Airfare fees to and from Canada and immigration visa cost recovery fee are covered by employer but a portion of these costs may be recovered through payroll deductions. Employer has the right to repatriate employee at any time, for 'non-compliance', refusal to work, or 'any other sufficient reason'.
- **Employer transfer:** Transfer to another employer must be pre-approved by HRSDC.
- **Social security benefits:** Employer must ensure worker is covered by workers' compensation, and a private or provincial health insurance plan. There is no appeal process. Workers pay into both EI and CPP. Workers are not eligible for EI benefits, but some are eligible for CPP. Workers may claim maternity or parental benefits.
- **Access to permanent residency and family reunion:** The program does not facilitate access to any of these.

Features of Canada's Highly Skilled TFW Program

- **Programs:** High skilled workers come from three streams:
- **Arranged employment:** labour market opinion from HRSDC.
- **International Agreements:** No labour market opinion from HRSDC before work permit.
- **Provincial Nominee Program:** No labour market opinion from HRSDC before work permit.
- **Number:** Total high skilled authorized: 33,915
- **Skills requirements and sectors:** Skilled occupations (NOC levels O, A and B). Applicants for regulated occupations must meet requirements as per regulatory body (i.e. engineers, medical practitioners). Some sectors have specific hiring procedures.
- **Permit duration/renewal:** Duration of work permit is contingent on employment offer.
- **Employers' responsibilities:** Specific guidelines for employer responsibilities normally accompany temporary employment contracts (i.e. Oil sands or Exotic dancers).
- **Social security benefits:** Workers are eligible for social benefits as per permanent residency status.
- **Access to permanent residency and family reunion:** A skilled worker may apply for permanent residency with a LMO, work permit, and an offer of employment. A spouse, common law partner or dependent children may accompany a skilled worker. In most cases, applicants apply for an open work permit, which allows the individual to accept any job in Canada that does not require a medical exam.

Source: Chabot, M. Qui, H. and C. Fishlock (2006)

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Table A-3 Canada – Permanent Residents by Labour Market Intention and Occupational Skill Level

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Number										
Skill level 0 - managerial	3,626	3,305	2,592	2,865	3,915	4,873	4,142	3,923	5,793	8,451
Skill level A - professionals	28,569	31,224	26,010	32,780	42,345	46,705	41,775	37,967	37,422	37,551
Skill level B - skilled and technical	24,102	23,214	16,255	14,497	16,710	18,248	16,526	13,391	13,823	15,151
Skill level C - intermediate and clerical	7,828	7,096	5,234	5,065	6,622	6,931	5,862	5,682	5,751	6,171
Skill level D - elemental and labourers	1,109	1,037	759	880	1,118	1,152	905	772	648	801
Occupational skill level identified	65,234	65,876	50,850	56,087	70,710	77,909	69,210	61,735	63,437	68,185
New workers - 15 years of age or older	50,130	42,587	37,964	42,757	48,262	51,849	47,522	54,444	59,811	67,971
Industrial codes - 15 years of age or older	3,283	2,864	1,794	1,709	1,698	1,631	1,229	1,142	1,156	1,411
Intending to work	118,647	111,327	90,608	100,553	120,670	131,389	117,961	117,321	124,404	137,511
Children under 15 years of age	52,139	50,967	40,018	42,567	51,178	57,285	50,967	46,636	50,916	57,601
Students 15 years of age or older	21,475	19,823	15,899	16,465	19,560	21,879	20,284	19,835	22,598	27,441
Retirees 15 years of age or older	7,378	6,682	4,671	4,777	6,546	7,207	7,878	7,577	6,053	3,601
Other non-workers 15 years of age or older	26,402	27,216	22,960	25,590	29,503	32,864	31,943	29,926	31,799	35,851
Labour market intention not stated	31	23	42	9	6	16	14	57	54	151
Total	226,072	216,038	174,198	189,961	227,463	250,640	229,047	221,352	235,824	262,231

Source: Facts and Figures 2005 Immigration Overview for Permanent Residents provided by Citizenship and Immigration Canada.

<http://www.cic.gc.ca/english/pub/facts2005/permanent/29.html>