

January 2010

ARE IMMIGRANT EARNINGS AFFECTED BY THE SIZE OF THEIR EMPLOYER?

By

Tony Fang, Nina Damsbaek, Philip Kelly, Maryse Lemoine,
Lucia Lo, Valerie Preston, John Shields, Steven Tufts

Inside this report:

Introduction to TIEDI	2
Research question	3
Background	3
The Data	4
Results	6
Conclusions	8
Appendix	10
Bibliography	11

KEY POINTS:

- Firm size determines average hourly wages. Immigrants working in larger firms have higher average hourly wages, regardless of gender.
- When comparing firm size, immigrant men and women earn similar wages to their Canadian-born counterparts. Recent immigrants however earn consistently lower hourly wages.
- Canadian-born and immigrant women consistently earn lower hourly wages compared to men, even when men earn relatively low wages.
- Immigrants who arrived between 1991 and 2000 have lower hourly wages than immigrants who arrived before 1991 or after 2000.

INTRODUCTION TO TIEDI

The Toronto Immigrant Employment Data Initiative (TIEDI) seeks to assist organizations whose mandate includes the better integration of immigrants into Toronto's labour force. Such partner organizations include immigrant service agencies and advocacy groups, labour organizations, regulatory bodies, professional associations, training organizations, and credential assessment agencies.

The purpose of the project is to provide organizations with free access to statistical data and analysis on various aspects of immigrant labour market integration. The goal is to help organizations access the quantitative data they need in order to: identify priorities, develop programs and services, compose proposals and reports, and carrying out advocacy and public education endeavours.

TIEDI provides a unique service in which community organizations' data needs are met by a team of academic researchers and student analysts. Our partners define the data that they need - the project is thus driven by their agendas and not by academic research priorities.

TIEDI is based at York University, with a team of academic researchers drawn from York, the University of Toronto, and Ryerson University. Core members of the project team also include representatives of the Ontario Council of Agencies Serving Immigrants (OCASI), the Toronto Region Immigrant Employment Council (TRIEC) and World Education Services. The project is funded by the Social Sciences and Humanities Research Council of Canada under its Knowledge Impact in Society program, and by York University.

The datasets used by the project include a range of large-scale surveys such as the Census, the Longitudinal Survey of Immigrants to Canada, the Ethnic Diversity Survey, the Workplace and Employee Survey, the Survey of Labour and Income Dynamics, the Labour Force Survey and the Permanent Residents Data System.

TIEDI Analytical Reports provide tabulations of data, some brief analysis and contextualization, and some necessary caveats about the limitations of the data and analysis. Since the data presented have not been treated to detailed statistical analysis, any conclusions must be seen as preliminary and as starting points for further, more detailed, research.

For further information, contact the TIEDI Principal Investigator, Dr Philip Kelly (pfkelly@yorku.ca), or the TIEDI Project Coordinator, Maryse Lemoine (mlemoine@yorku.ca).

While the research and analysis are based on data from Statistics Canada, the opinions expressed do not represent the views of Statistics Canada.

RESEARCH QUESTION

What are the labour market outcomes – in this case, defined by earnings – for immigrants, according to the number of employees in their workplace?

BACKGROUND

It is well documented that there is a firm-size effect on wages. In fact, the wage gap due to firm size is comparable to the gender wage gap. For reasons such as large firms demanding a higher quality of labour, paying efficiency wages, and setting a higher performance standard, labour productivity increases as does compensation, which produces wage differences (Oi and Idson, 1999). Alternatively, smaller firms “rely less on pecuniary incentives [and] have a significantly more hostile attitude towards incentive schemes based on competition and relative rewards” (Agnell, 2004: 437). Some would argue that individuals’ characteristics – such as their skills and personalities – are more important than firm size (Abowd, Kramarz and Margolis, 1999). Then again, others would argue that “there remains a significant [firm] size–earnings premium” even after “controlling for various worker- and establishment-specific factors and introducing measures of institutional involvement (union density) and monitoring ability” (Agnell, 2004: 441).

Further explanations for the firm-size effect on wages are briefly summarized here (Reilly, 1995):

1. Large employers are the most capital intensive. The firm-size effect is therefore a proxy for differentials in human capital of the labour forces across firms. Large employers must have a higher quality labour force.
2. The source of the firm-size effect could be explained by the uncertainty as to the true productivities of individuals – stemming from their education and native ability. It is expensive for firms to discover employees’ true ability, and the marginal cost of monitoring is assumed to be positive and increasing according to the number of individuals employed.
3. Similarly, the positive correlation between wages and firm size arises because of the heterogeneity in individuals’ abilities and the inability of firms to detect this. A firm can reveal workers’ abilities by imposing a hiring standard.
4. Informational problems could be another cause of the firm-size wage effect. The costs of increasing the probability of detecting shirking behaviour – behaviour that is not related to the individual’s position or the firm’s operation – increase according to the size of the firm. Larger firms can afford to spend more resources on monitoring.

An alternative but related hypothesis is that the firm size effect is a result of large firms having a mixed workplace structure, consisting of both low and high skilled workers. By contrast, small and middle-sized firms generally have a homogenous workplace: either skilled or unskilled. This leads to “a smaller difference between the highest and the lowest wage”, and usually a lower average (Hübler and Meyer, 2000: 10). This is supplemented by a study from Germany that reports wage gaps to be “significantly increased for employees in small- or medium-sized relative to larger firms” (Lang,

2005: 21). Therefore firm size “may be the factual driving force of the observed differences in wage differentials” (Hübler and Meyer, 2000: 10).

The wage difference is also attributed to the more sophisticated industrial relations and human resources practices in larger firm sizes – such as unions or methods of employee promotion (Hübler and Meyer, 2000). The relationship between firm size and the presence of industrial relations institutions is well documented in the literature. It is a repeated finding in many case studies (and here, evidence is pulled from Cyprus) that “small organizations are more likely to rely on informal methods of recruitment” (Tanova, 2003: 112). For these same reasons there is a correlation between unionization rates and firm size (Fang and Verma, 2002). The positive association between firm size and unionization is also associated with higher wages (Miller and Mulvey, 1996).

However, while firm size is certainly a dominant factor in wage level, firms are not identical; there are significant differences among otherwise similar firms (Kostiuk, 1990).

When looking at immigrants, limited human capital, especially skills in English, recognised educational credentials, and work experience, can limit the employment opportunities available (Nee, Sanders and Serneau, 1994). Another factor may be the “need for immediate income” (Bailey, 1985). This can sometimes result in a reliance on the ethnic economy – which can also limit opportunities. Ethnic economies generally comprise small enterprises, largely catering to the immigrant community (Portes, Guarnizo and Haller, 2002), in which the “mobilization of family, ethnic and social ties within the immigrant community is a fundamental aspect” (Bailey, 1985: 214). The smaller firm sizes (sometimes of family orientation) of most businesses in the ethnic economy limit career mobility and therefore wages (Nee, Sanders and Serneau, 1994). Evidence from Denmark suggests that “most immigrant businesses (...) are tiny self-employment units in which profits are low” and yet immigrants find employment in these businesses “more than the majority population” (Bager, 2001: 3).

THE DATA: THE WORKPLACE AND EMPLOYEE SURVEY

The Workplace and Employee Survey (WES), conducted by Statistics Canada, is designed to explore a broad range of issues relating to employers and their employees. The survey is unique in that employers and employees are linked at the microdata level; employees are selected from within sampled workplaces.

The WES offers potential users several unique innovations: chief among these is the link between events occurring in workplaces and the outcomes for workers. In addition, being longitudinal, it allows for a clearer understanding of changes over time. The WES permits the examination of the effect of workplace characteristics, in addition to industry and firm size effects (Statistics Canada, 2009).

This report uses survey data collected in 2005. The time period leading up to the WES data collection in 2005 was marked by economic growth, strong employment gains, and earnings growth in Canada (Lin, 2008: 5). Existing economic conditions (see Table 1 for basic economic data) and government

policies may affect the trajectories of respondents. The outcomes of the respondents presented in this report may not therefore be comparable to the experiences of all employed immigrants.

Table 1: Economic Performance Indicators, Canada, 2001-2005

	2001	2002	2003	2004	2005	Overall average
Growth in Real GNP	1.8 %	2.9 %	1.9 %	3.1 %	3.1 %	2.6 %
Unemployment Rate	7.2 %	7.6 %	7.6 %	7.2 %	6.8 %	7.3 %

Source: Maslove, 2008: 228

The sample design for workplaces is based on a fixed panel of workplaces; this means that the panel is subject to attrition over time. A second concern with the use of a fixed panel design is the deterioration in the efficiency of the stratification over time as the business universe changes – surveyed workplaces may become less representative of the overall business environment.

There are limitations in using the WES data. The most important of which – for this report – is that the sample size restricts the use of local data. When cases are selected to limit the data to respondents in Toronto, the cell counts become too small for meaningful results. For this reason, the results in this report are for Canada as a whole. The sample moreover excludes most government employees and is thus not directly comparable to other surveys such as the Census.

Table 2 shows the sample distribution of Canadian-born and immigrant employees by firm size. A larger percentage of Canadian-born and immigrants work in smaller firms, with less than 100 employees. Conversely, fewer Canadian-born and immigrants work in larger firms. Canadian-born and immigrants are both most concentrated in firms with 20-99 employees. They are both least concentrated in firms with 100-499 employees. Canadian-born and immigrants are otherwise distributed similarly across firm size. Overall, there is no dramatic pattern of differential distribution by firm size according to immigrant status (which would seem to refute the expectation in the existing literature that immigrants are disproportionately represented in smaller firms).

Table 2: Percentage of Canadian-born (as a percentage of all Canadian-born employees) and percentage of immigrants (as a percentage of all immigrant employees) per firm size, Canada

	CANADIAN-BORN	ALL IMMIGRANTS
0-19 employees	27.4 %	24.5 %
20-99 employees	32.8 %	35.8 %
100-499 employees	19.1 %	19.8 %
500 or more employees	20.7 %	20.0 %

Table 3 shows the distribution of Canadian-born and immigrant employees by firm size and gender. The sample includes more Canadian-born and immigrant women than men in the smallest firm size (less than 20 employees), while men (both Canadian-born and immigrants) are slightly more numerous in firms with 100 to 499 employees.

Table 3: Percentage of Canadian-born men and women (as a percentage of all Canadian-born employees) and percentage of immigrant men and women (as a percentage of all immigrant employees) per firm size, Canada

	MALE		FEMALE	
	CANADIAN-BORN	ALL IMMIGRANTS	CANADIAN-BORN	ALL IMMIGRANTS
0-19 employees	26.7 %	20.7 %	28.0 %	28.1 %
20-99 employees	33.6 %	37.2 %	32.2 %	34.4 %
100-499 employees	20.7 %	21.4 %	17.7 %	18.2 %
500 or more employees	19.0 %	20.6 %	22.2 %	19.3 %

Definition: Immigrants are defined as permanent residents, naturalized Canadian citizens, visa holders and temporary foreign workers. In other words, in this instance any respondents who are not Canadian-born are included in the ‘immigrant’ category.

RESULTS

a) Average hourly wages by firm size

Table 4 shows the average hourly earnings of Canadian-born and immigrants. This is a “converted” hourly wage, which includes extra earnings (such as overtime payment, tips, commission, piecework, bonuses, profit sharing, etc) in the 2005 calendar year.

Table 4: Average hourly wage (2005 dollars) for Canadian-born & immigrants by period of immigration and firm size, Canada

	CANADIAN-BORN	IMMIGRANT				
		ALL IMMIGRANTS	BEFORE 1981	1981-1990	1991-2000	2001-2003
0-19 employees	\$ 18.50	\$ 17.80	\$ 19.90	\$ 16.90	\$ 15.20	\$ 16.10
20-99 employees	\$ 19.90	\$ 20.10	\$ 23.80	\$ 19.50	\$ 16.80	\$ 17.30
100-499 employees	\$ 23.60	\$ 24.20	\$ 27.60	\$ 21.80	\$ 20.10	\$ 24.90
500 or more employees	\$ 28.10	\$ 29.30	\$ 30.90	\$ 28.00	\$ 26.90	\$ 21.00**

** : Potential reliability issues. Use with caution

Hourly wages are directly related to firm size. For both Canadian-born and immigrants, the lowest wages are consistently found in firm sizes of 0-19 employees (\$18.50 for Canadian-born and \$17.80 for immigrants). On the other hand, for both Canadian-born and immigrants, the highest wages are almost consistently found in firm sizes of 500 employees or more (\$28.10 for Canadian-born and \$29.30 for immigrants).

When comparing all immigrants with Canadian-born, immigrants earn slightly more on an hourly basis in every firm size (except for the smallest firm size). This highlights the fact that the average hourly wages of immigrants may be influenced by the overrepresentation of immigrants who immigrated before 1981, and who perform better than Canadian-born in terms of earnings (which

may in turn partly reflect the fact that on average they consist of an older age cohort, and therefore with greater seniority in their respective occupations).

When looking across periods of immigration, immigrants who landed between 1991 and 2000 have the lowest hourly wage in all firm sizes. In firms with less than 500 employees, recent immigrants (who arrived between 2001 and 2005) actually earn more than immigrants who arrived in the 1990s. One explanation may be the lingering impact of immigrants trying to enter the labour market during the early 1990s recession (Aydemir and Skuderud, 2004).

The wage difference between Canadian-born and immigrants who immigrated in the 1980s is barely discernible, ranging from a few pennies (in large firm sizes) to approximately two dollars per hour (in small firm sizes). Immigrants from the 1990s experience the most pronounced wage difference in comparison to Canadian born, ranging from \$1.20 (in firms with 500 employees or more) to \$3.50 (in firms with 100-499 employees). Recent immigrants working in firms with less than 100 employees earn \$2.40 to \$2.60 less than Canadian-born, while those working in firms of 100-499 employees earn \$1.30 more on average than Canadian-born.

b) Average hourly wages by firm size and gender

Table 5 shows the different average hourly earnings for male and female Canadian-born and immigrants. This is a “converted” hourly wage, which includes extra earnings (such as overtime payment, tips, commission, piecework, bonuses, profit sharing, etc) in the 2005 calendar year.

Table 5: Average hourly wage (2005 dollars) for Canadian-born & immigrants by period of immigration, gender and firm size, Canada

	MALE						FEMALE					
	CANADIAN-BORN	IMMIGRANT					CANADIAN-BORN	IMMIGRANT				
		ALL IMMIGRANTS	BEFORE 1981	1981-1990	1991-2000	2001-2003		ALL IMMIGRANTS	BEFORE 1981	1981-1990	1991-2000	2001-2003
0-19 employees	\$ 21.80	\$ 20.50	\$ 23.60	\$ 17.30	\$ 18.60	\$ 19.80	\$ 15.60	\$ 15.90	\$ 17.70	\$ 16.60	\$ 12.70	\$ 12.10
20-99 employees	\$ 22.40	\$ 23.20	\$ 27.80	\$ 21.50	\$ 20.70	\$ 18.50	\$ 17.50	\$ 16.80	\$ 19.80	\$ 17.40	\$ 13.10	\$ 14.90
100-499 employees	\$ 26.50	\$ 27.50	\$ 31.20	\$ 23.60	\$ 21.80	\$ 27.50	\$ 20.50	\$ 20.50	\$ 22.10	\$ 20.20	\$ 18.80	\$ 20.30
500 or more employees	\$ 30.80	\$ 32.00	\$ 34.30	\$ 32.30	\$ 26.80	n/a	\$ 26.10	\$ 26.40	\$ 27.20	\$ 24.40	\$ 27.00	n/a

n/a: Data suppressed due to reliability and/or confidentiality issues

The effect of firm size is still present when taking gender into consideration. For both Canadian-born and immigrant men, the lowest wages are found in the smallest firm size and the highest wages in larger companies. In firm sizes of 0-19 employees, immigrants experience the lowest wages (\$17.80). In firm sizes of more than 500 employees, immigrant men experience the highest wages (\$32.00). There is an exception: recent male immigrants who arrived between 2001 and 2003 experience their lowest wages in firm sizes of 20-99 employees (\$18.50) and not in the smallest firms.

Canadian-born and immigrant women also earn the highest hourly wages in larger firms. Their lowest wages are found in the smallest firm size (\$15.00 and \$15.90, respectively) and their highest wages are found in the largest firm size (\$26.10 and \$26.40, respectively).

Canadian-born and immigrant women experience lower wages than men, even when men earn relatively low wages.

The firm-size effect does not only play a role in the determination of wages for both Canadian-born and immigrants, but it affects both men and women as well (although to different degrees). Immigrant men and women generally earn less than their Canadian-born counterparts.

The differences between Canadian-born and immigrants are marginal when looking at firm size. On average, immigrant men earned \$1.30 less than Canadian-born in the smallest firm size (less than 20 employees). Immigrant men earned more at all other firm sizes. Immigrant and Canadian-born women earn similar average hourly wages (with differences ranging between 30¢ and 70¢ per hour).¹

Recent immigrants working in firms with 100 to 499 employees earned high hourly wages. Both recent immigrant men and women earned higher hourly wages than immigrants who had immigrated in the 1980s and 1990s. Recent immigrants, moreover, earned similar or higher hourly wages than Canadian-born in firms of 100 to 499 employees. Recent immigrant men earn a dollar more than Canadian-born working in such firm sizes, while recent immigrant women earn 20¢ less than Canadian-born women.

CONCLUSIONS

Clearly only tentative conclusions can be reached from the data compiled in this report. In part this is because the firm size is only one of many factors that might contribute to labour market outcomes.

It is also worth bearing in mind that the data presented here represent a relatively small sample of permanent employed immigrants, and the ‘immigrant’ category does not differentiate between permanent residents, naturalized Canadian citizens and visa holders.

In terms of the specific labour market outcomes that we examined, the following conclusions emerge:

- Hourly wages are relative to firm size: Canadian-born and immigrants working in large firms earn higher hourly wages;

¹ The average hourly wage of immigrants is increased by the higher salaries of immigrants who immigrated to Canada three or more decades ago. When separate periods of immigration are collapsed into a single category for immigrants, it appears that immigrant men and women are on par with – or exceeding – the Canadian-born average hourly wage. The average wage of immigrants is not representative of the experiences of recent immigrants. It is critical that the data presented in this report is interpreted with this in mind.

- Immigrants earn similar hourly wages to Canadian-born across firm size. In some case, immigrants even earn higher wages than Canadian-born. Recent immigrants however earn consistently lower hourly wages, especially those who immigrated between 1991 and 2000.
- Immigrants who arrived in the 1990s earn lower hourly wages than more recent immigrants, possibly due to the difficult labour market (recession) when they immigrated;
- Canadian-born and immigrant women earn less than their male counterparts, regardless of firm size;
- Contrary to expectations in some of the existing literature, immigrants do not appear to be over-represented in small firms.

APPENDIX

RELEVANT QUESTIONS FROM WES SURVEY QUESTIONNAIRE :

1. **35 (c)** – What is your wage or salary, before taxes and other deductions?
2. **36 (b)** – Did you receive overtime payments in the past twelve months/since you started this job? What were your total earnings from overtime payments for that period?
3. **36 (c)** – Did you receive any tips, commissions or piecework payments in the past twelve months/since you started this job? What were your total earnings from tips, commissions or piecework payments for that period?
4. **36 (d)** – Did you receive any productivity-related bonuses, profit-sharing or profit-related bonuses in the past twelve months/since you started this job? What were your total earnings from productivity-related bonuses, profit-sharing or profit-related bonuses for that period?
5. **36 (e)** – Did you receive any other bonuses in the past twelve months/since you started this job? What were your total earnings from other bonuses for that period?
6. **44** – Gender
7. **46** – Were you born in Canada?
8. **46 (a)** – In what year did you immigrate to Canada?

Questionnaire (employee): http://www.statcan.gc.ca/imdb-bmdi/instrument/2615_Q1_V7-eng.pdf

BIBLIOGRAPHY

Abowd, John M., Francis Kramarz, David N. Margolis. "High Wage Workers and High Wage Firms." *Econometrica*, 67:2, 251-333 (1999).

Agell, Jonas. "Why are Small Firms Different? Managers' Views." *Scandinavian Journal of Economics* 106:3, 437-452 (2004).

Aydemir, Abdurrahman and Mikal Skuterud. "Explaining the Deteriorating Entry Earnings of Canada's Immigrant Cohorts: 1966-2000." *Analytical Studies Branch Research Paper Series*. no. 225 (2004).

Bager, Torben. *Immigrant businesses in Denmark: Captured in marginal business fields?* Centre for Small Business Research CESFO. University of Southern Denmark Working Paper (2001).

Bailey, Thomas. "A Case Study of Immigrants in the Restaurant Industry." *Industrial Relations*, 24:2, 205-221 (1985).

Fang, Tony and Anil Verma. "Union wage premium." *Perspectives*. Statistics Canada Perspectives September (2002).

Hübler, Olaf and Wolfgang Meyer. "Industrial Relations and the Wage Differentials between Skilled and Unskilled Blue-Collar Workers within Establishments: An Empirical Analysis with Data of Manufacturing Firms." The Institute for the Study of Labor (IZA), The Future of Work, Discussion Paper No. 176 (2000).

Kostiuk, Peter F. "Firm Size and Executive Compensation." *The Journal of Human Resources*, 25:1, 90-105 (1990).

Lang, Günter. "The difference between wages and wage potentials: Earnings disadvantages of immigrants in Germany." *Journal of Economic Inequality*, 3: 21-42 (2005).

Lin, Jane. 2008. "Trends in employment and wages, 2002 to 2007." *Perspectives on Labour and Income*, September, pp. 5-15.

Maslove, Allan M. ed. 2008. "Appendix B Fiscal Facts and Trends". *How Ottawa Spends, 2008-2009 A More Orderly Federalism?* (Montreal: McGill-Queen's University Press), pp. 211-228.

Miller, Paul and Charles Mulvey. Unions, Firm Size and Wages. *The Economic Record*, 71:217, 138-153 (1996).

Nee, Victor, Jimmy M. Sanders, Scott Sernau. "Job Transitions in an Immigrant Metropolis: Ethnic Boundaries and the Mixed Economy." *The American Sociological Review*, 59:6, 849-872 (1994).

Oi, Walter Y. *Handbooks in Economics*, vol. 5. Elsevier Science: Amsterdam; New York and Oxford: (1999).

Portes, Alejandro, Luis Eduardo Guarnizo and William J. Haller. "Transnational Entrepreneurs: An Alternative Form of Immigrant Economic Adaptation." *The American Sociological Review*, 67:2, 278-298 (2002).

Reilly, Kevin T. "Human Capital and Information: The Employer Size-Wage Effect." *The Journal of Human Resources*, 30:1 1-18 (1995).

Statistics Canada, 2009. "Workplace and Employee Survey (WES)". November 23, 2009. <www.statcan.gc.ca/imdb-bmdi/2615-eng.htm>.

Tanova, Cem. "Firm size and recruitment: Staffing practices in small and large organizations." *Career Development International*, 8:2, 107-114 (2003).