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Immigration's Impact, Immigrants' Outcomes: New Data, New Findings



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Conference synthesis // **Victor Piché**

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« The success of the next generation of research studies by economist on the labour market outcomes of immigrants will depend in large part on data developments. » ¹

Introduction

There is a long history of research on the economic impact of immigration, especially in English-speaking countries such as Australia, New Zealand, Great Britain, the United States and Canada. The social and political importance of this field of study are obvious, since much of the debate surrounding immigration focuses on the impacts of the phenomenon on the host societies.

In order to study the economic impact of immigration, analytical frameworks are usually based on two types of interrogations, each necessitating a particular level of analysis.

The first set of questions looks at the part played by individual attributes: how do immigrants manage to integrate into the labour market? Do they have the same opportunities as non-immigrant populations, or do they face specific obstacles that place them at a disadvantage in the labour market? This framework dominated research on immigration for a long while, since it was historically associated with an anti-immigrant discourse that put forth the idea that immigration had a negative effect on the earnings of non-immigrants. Until now, answers to that question have sometimes been contradictory, as demonstrated by the exchanges between the two most cited American economists on the economic aspects of immigration, George Borjas and David Card (1). We will come back to this point later.

The second analytical framework goes beyond the individual level, and looks at the economy as a whole. Going beyond individual circumstances, we ask ourselves what effect immigration has on a series of indicators like productivity, trade, profits, and unemployment rates.

In October 2018, the Québec inter-University Centre for Social Statistics (QICSS) organized an international conference entitled Immigration's Impact, Immigrants' Outcomes: New Results Using Social and Business Data. In this paper, we will ask to what extent the conference was able to go off the beaten path and propose new findings.

The role of individual attributes in the economic integration of immigrants

In his keynote speech, David Card (1) referred to the now-classic debate regarding the effect of immigration on natives' wages. This question has been — and still is — at the heart of debates on the impacts of immigration. Findings from work in this area are highly political. From a strictly economic standpoint, if immigrants really do have a negative effect on the salaries of natives, then pressure to reduce, or even halt, immigration would find greater support.

The substitution effect

In general, the abundant literature on this issue is fairly unanimous in concluding that the arrival of immigrants into the labour market does not create a downward pressure on natives' salaries.²

The findings are a bit more complex when we examine subgroups of non-immigrant workers. For example, negative effects have been discovered for less qualified workers and for recent immigrants. This work gave rise to a very targeted debate between the above-mentioned great American immigration economists, George Borjas and David Card.

Their differences stem essentially from the underlying hypotheses in their econometric models. Borjas postulates that immigrants and natives are perfectly substitutable while Card (1) postulates that substitution is not perfect. Card also finds that immigration has negligible impacts on natives' salaries. According to him, these effects would remain minimal even if perfect substitution were assumed, as is the case with Borjas.

¹Green & Worswick (22). The numbers in parentheses correspond to references found in the Appendix.

²See for instance references (22) and (24).

The specific case of qualified immigrants

Research that attempts to measure the impact of immigration on natives' salaries is focusing more and more on specific categories of workers. Jie Ma (16), for example, studies the impact of immigration by highly qualified workers on native workers in the United States. This is a novel approach, since most American work on this issue has looked at immigration by less qualified individuals. The explanatory variable selected relates to occupational choices associated with jobs requiring highly qualified labour in the sciences, technology, engineering and mathematics (the "STEM" disciplines). The main objective of this research is to quantify the effects of immigration by qualified individuals on positions in the STEM fields. The idea is to find out the extent to which native workers adjust to competition created by labour from abroad by modifying their choices of occupations, entering new professions or trades.

The U.S. data used by the authors to test this hypothesis are drawn from three sources: (i) *Current Population Survey* (CPS); (ii) *American Community Survey* (ACS); and (iii) *Panel Study of Income Dynamics* (PSID).

Qualified immigrants mainly enter the United States through the program for temporary workers created by the Immigration Act of 1990. Notwithstanding fears to the contrary among the general public, findings show that a major influx of qualified immigrants has only a limited impact on natives with the same qualifications and working in the same professions. In some cases, there is even a certain complementarity, so that the labour supplied by immigrants has positive effects on the natives' well-being. These positive effects appear to mainly stem from an optimization in the choice of professions, with professional mobility acting as a safety valve that lessens the impact of the arrival of qualified immigrants.

The impact of literacy

Vézina and Bélanger's (3) work tackles a crucial question: how to best measure workers' qualifications and competencies, that is to say their *human capital*? Traditionally, the "educational level" variable is the indicator used to measure human capital.

Thanks, however, to the innovative nature of data in the *Programme for the International Assessment of Adult Competencies* (PIAAC) we can now take into account a key component of integration into the labour market, that is, the foundational information processing skills — or *literacy* — required to participate in the social and economic life of advanced economies in the 21st century. PIAAC is a survey steered by the OECD that examines, among other factors, skills in literacy among adults between the ages of 16 and 65 in more than 40 countries and sub-national regions, including all of Canada's provinces and territories.

Basing themselves on a variety of research, the authors' starting point is the observation that "the most advanced degree obtained by immigrants is not as effective an indicator of competencies as it is for natives". Projections of labour needs based solely on the level of education would lead to an overestimation of the supply of qualified workers. Even when individuals have obtained the same degree, the level of literacy can vary greatly from one to the other. The authors therefore propose labour supply projections based on literacy skills, and in this way demonstrate that the Canadian government's official projections of labour supply have indeed overestimated the size of the labour force of the future, especially when it comes to jobs that require greater qualifications.

The introduction of the idea of basic literacy skills is definitely a step forward in the analysis of the role played by human capital. Indeed, the level of education (for example the most advanced degree obtained) is not a measure of the more qualitative elements of an individual's academic training. The fact that there is a correlation between the type of job an individual holds and the individual's level of literacy, independent of formal education, is a powerful enough argument for taking it into account when analyzing the performance of immigrants in the labour market.

The implications of this type of research raise some methodological questions. First, and the authors acknowledge this, there are endogeneity problems, due in large part to the use of cross-sectional data. As well, considering immigrants as a homogeneous group somewhat limits correlations between the degree of literacy and the type of employment held.

Indeed, according to the 2015 report of the *Institut de la statistique du Québec* (23), competency differences between immigrants and Canadian-born individuals relate only to immigrants in the categories of “refugee” and “family class”. Economic immigrants demonstrated literacy skills that were, overall, comparable to those of persons born in Canada.

The authors place their findings in the literature that posits that the lesser performance of immigrants in the labour market, as recently seen in Western societies, is mainly attributable to the inferior quality of education received in their countries of origin. According to work reviewed by Green and Worswick in 2017 (22), this interpretation only applies to the recognition of degrees obtained abroad. When one looks at literacy skills, the differences in employment earnings between immigrants and natives disappear.

The fact that levels of literacy skill supersede the impact of the quality of the degree obtained in the country of origin is not easy to interpret. An evaluation would not occur at the time of hiring unless employers systematically assess literacy skills using a PIAAC-type questionnaire. To my knowledge, employers do not do this. In an indirect way, employers, knowing the countries of origin in which the results of literacy tests are not as good, might be inclined to favour candidates coming from countries where skills are greater. If this is true (and it is unlikely), it would be an indirect form of discrimination, to the extent that employers would put all immigrants from one country in the same basket, regardless of their individual competencies. In the final analysis, this explanation does not hold up for another reason: these competency tests are very recent and cannot explain earlier declines in performance.

We therefore need to clarify the concrete mechanisms, probably applied at the firm level, that differentiate salaries according to linguistic skills. We need to study businesses’ internal practices, as is done in two studies we will examine further on, one on training (7) and the other on remuneration practises (8). In both cases, immigrant workers are at a disadvantage (all things being equal otherwise), which does not exclude the existence of discrimination. Such discrimination would come on top of that related to the recognizing of previous experience (22).

The impact of citizenship

The positive impact of the acquisition of citizenship on the economic integration of immigrants is a hypothesis that is widespread in the literature. And yet, few studies have been able to integrate this factor into their analyses, due to a lack of data. He and Zanoni (9) use what they call a “natural experiment” provided by changes to the Canadian Citizenship Act implemented in 2014, which extended the residency time required in Canada before being eligible to apply for citizenship from three to four years. They examined the impact of this change on the economic performances of immigrants.

The study uses two databases: The *Labour Force Survey* (LFS) from 2013-2014 (male immigrants between the ages of 20 and 65 only), linked with the administrative records from immigration statistics (between 2003 and 2013). The performance of immigrants in the labour market is assessed through a series of variables grouped into four categories of indicators measuring (i) the labour supply on the extensive margin (employment status, employed or unemployed); (ii) labour supply on the intensive margin (number of hours worked); (iii) job characteristics (being a public employee, or self-employed); and (iv) earnings.

The results show that delaying admissibility diminishes the number of hours worked, but has no impact on other variables, like the decision to participate or not in the labour market. As well, access to citizenship can provide a “premium” and improve performance on the labour market. Obtaining citizenship can also open up employment opportunities in the public sector.

In 2017, the eligibility period was brought back down to three years, which will allow, according to the authors, a study of the “reverse process”.

The impact of immigrant status

As many authors before them have done, Bélanger, Fleury and Haemmerli (15) use census data to study immigrants’ experiences in the labour market. The novel aspect of their analyses stems from the fact that they use a new variable, introduced in the 2016 census, that allows for a distinction between temporary or permanent immigrant status. This type of study has become very crucial due to the significant increase in temporary workers over the last 20 years or so.

This migration track is especially valued by employers and governments, who see in it an opportunity to employ flexible labour coming from abroad.

The study presented here enables us for the first time ever to compare the economic performances of temporary immigrants to those of permanent immigrants. The economic indicator selected is employment earnings. Three groups were studied: temporary residents, permanent residents recently arrived (less than five years) and established residents (more than five years). The control variables included the usual characteristics (age, sex, civil status, knowledge of Canada's official languages, place of birth and place of residence in Canada), and on the other hand, characteristics of employment.

In general, the findings are what you might expect. Indeed, temporary workers have revenues that are inferior to those of the two groups of permanent workers, whether we are talking about recently arrived permanent workers or those less recently arrived. There are some interesting differences with regard to more qualified workers: compared to those less qualified, the more recent immigrants have an advantage. So it would seem that the Canadian experience only benefits those who are less qualified. The authors mention the possibility of a selection bias for the more qualified workers, especially when it comes to those who were resident in 2011 and who still have a temporary status in 2016. We would be looking at a sub-category of the qualified workers: those who have obtained their permanent residence and are therefore no longer part of the sample. This is further proof that permanent residence is a crucial factor in getting access to higher earnings. The authors mention that there might also be a selection effect for the less qualified workers, in that those who perform well would be more likely to stay in Canada, which would lead to higher earnings over time. However, one could also put forward the opposite hypothesis that the more qualified workers are more mobile than the others, which, in my opinion, is more plausible since it is more in line with economic research on the issue.

Selection bias is an important issue and future work should attempt to take it into account as much as possible.

The impact of permanent residence

The last study focusing on individual attributes also looks at temporary workers. The study carried out by Eichelmann-Lombardo and Haan (17) is novel, not just because it focuses on temporary workers, but also because of its longitudinal approach. It aims to analyze the migratory pathways of temporary workers from abroad who obtain permanent residence status. The central hypothesis stipulates that worker mobility between regions constitutes one way for workers to improve their economic conditions. The key causal variable here is the transition from temporary to permanent residence.

A study of this type is made possible by access to longitudinal data drawn from the *Longitudinal Immigration Database* (IMDB). The IMDB provides information that allows us to follow the evolution of immigrants' earnings based on tax returns. This database has been one of the most important recent sources of information since it became available³. The IMDB combines data from tax files with administrative immigration data.

The population under study is individuals between the ages of 25 and 64 for whom the initial immigration experience was within a program for temporary workers. The dependent variable is defined by the probability of an internal migration between 2000 and 2015. The analyses measure net effects after controlling for the composition of the household; gender, immigration category, knowledge of Canada's official languages, education, qualifications, region of origin, industry type, earnings and region of residency.

The findings show that temporary workers from abroad who have achieved permanent residence are less likely to move within a province, but more likely to move to another province. Here, we note other factors associated with lesser mobility: age; knowledge of French; being a single parent, female, less educated, or in the category of live-in caregivers; and lower earnings.

³ Available in part in 2017, this database became more completely accessible in 2018.

The impacts of working environment, organizational practices and living environment

Until this point, we have looked at studies that focused on explanatory variables at the individual level. But thanks to the availability of new databases, other factors can now be taken into account to explain gaps in earnings between immigrants and natives. The availability of new sources of data allows us to make new strides in understanding the economic integration of immigrants beyond causes related to individual attributes, as we examine a set of factors like workplace environment or employers' hiring practices.

Concentration in the labour market

A few studies show that the fact of choosing a workplace where there is a concentration of immigrants explains a major part of the differences in earnings between immigrants and non-immigrants.

Ostrovsky's study (10) benefits from the richness of data in the *Canadian Employer-Employee Dynamics Database* (CEEDD), linked to data from the 2016 Census. The CEEDD integrates data from a variety of administrative databases, including data from individual tax returns (T1), statements of remuneration paid (T4) submitted by employers, data about employers from the *National Accounts Longitudinal Microdata File* (NALMF), and data from the *Longitudinal Immigration Database* (IMDB).

The study shows that immigrant workers employed in a workplace where there are relatively few immigrants earn more than those whose workplaces have a high concentration of immigrant workers. One especially interesting finding: The correlation between the concentration of immigrants in a workplace and employment earnings is negative for immigrants — especially for more educated immigrants —, but positive for individuals born in Canada. Residential concentration seems to be the main factor that would explain a concentration in the workplace. These results are valid for individual firms as well as for all firms taken as a whole.

The author does not specify what might be at the core of a correlation between a high concentration of immigrants in a business and lower employment earnings. In his theoretical discussion, the author does mention mechanisms that might be at the core of a sorting effect, explaining that immigrants have a tendency to concentrate in certain environments.

He cites, for instance, workers' preference for finding themselves among compatriots, the commonality of a limited level of linguistic skill or the fact of being oriented by their networks. The negative relation between the concentration of immigrants in a workplace would then be more a matter of selection than of causality. Employers' hiring practices and remuneration practises are also mentioned as explanatory hypotheses. The fact that the findings show an inverse correlation for native workers suggests differences in ability as between immigrants and natives when it comes to bargaining on workplace conditions.

The impact of firms' remuneration practices

It is important for us to be able to follow the evolution of immigrants' economic status from their arrival until their integration into the labour market. This would allow us to understand the specific trajectories that lead to an improvement in the process of their integration into the labour market. Until now, and according to Card, Dostie, Li and Parent (8), studies on this issue were based on data on individuals, census-style, for lack of anything better, when in fact it would be preferable to use longitudinal data. Their study uses data from the Canadian Employer-Employee Dynamics Database (CEEDD), which, as mentioned earlier, links administrative data about employers and employees with tax information and data from the Longitudinal Immigration Database (IMDB). It thus becomes possible to study the process of job searching through which individuals can go from businesses offering lower salaries to those offering higher remunerations. We can also estimate the increase in earnings over time as well as characteristics of the types of employment, such as the proportion of native workers in businesses according to the size of those businesses.

Findings covering 2008 to 2013 suggest that nearly half the earnings gap between immigrants and natives can be attributed to factors related to remuneration practises specific to a given firm and remaining constant over time. These preliminary findings show as well that differential sorting between immigrants and natives in various types of businesses explains in large part the gaps in remuneration between firms, and which allows immigrants to move to firms that offer better salaries.

The authors thus rule out another mechanism sometimes alluded to in the literature, that is, a differential in bargaining power between immigrants and natives that would result in immigrants obtaining a smaller share of a business's profits than natives.

The impact of training

Training is one of the most powerful mechanisms for enhancing workers' competencies, and in particular those of immigrants. This point is rarely studied when cross-sectional approaches are used. However, thanks to longitudinal data from the *Workplace and Employee Survey* (WES) produced by Statistics Canada and covering 1999 to 2006, we can now study the impact of training on economic performance. That is what Dostie and Javdani (7) have done, while adding a differentiation factor that has seldom been studied until now and which allows them to explain the earnings gap between immigrants and non-immigrants.

Their findings clearly show that the differential in access to training opportunities, either in a classroom setting or in the workplace, puts visible minorities at a disadvantage, whether they are qualified or unqualified individuals. Length of stay in Canada does not translate into better results. The authors do not speak of discrimination, but that would be a very plausible hypothesis.

The impact of the type of sponsorship

Another key variable in the study of the economic integration of immigrants is the category of immigration. All of the studies show that economic immigrants are better off than other types of immigrants, that is, sponsored immigrants and refugees. On the other hand, we know nothing about the impact of sponsorship on the economic benefits for refugees.

Kaida and Hou (12) ask the question of whether refugees sponsored privately do better in the labour market than government-sponsored refugees. In a longitudinal perspective, using data from the *Longitudinal Immigration Database* (IMDB), the authors track refugee cohorts between 1980 and 2009 in order to see the impact of sponsorship on earnings measured in 2015.

The findings show that refugees who entered Canada through private sponsorship have higher rates of employment and higher salaries than government-sponsored refugees. The advantages of private sponsorship are especially noticeable in the case of less educated refugees, which suggests that deficiencies in human capital can be made up for by social capital developed through contact with local sponsors. Furthermore, it may be that private sponsors involve themselves more in the refugees' job searches. Although the authors do not deal with this question, it may also be that refugees sponsored privately may feel more of an impetus to become autonomous.

One key finding relates to the hypothesis that the benefits of private sponsorship would be greater for individuals who have only a limited knowledge of the language of the host country than for those who with greater knowledge. This hypothesis was not borne out for men or women.

The impact of living environment

As Connolly and Haeck (13) assert, the success of children of immigrants in the labour market is critical to Canada's future economic health. It is relevant then to ask ourselves whether children of immigrants manage to attain higher socioeconomic statuses than their parents.

Their study bases itself on the information from Statistics Canada's *Intergenerational Income Database* (IID). This database covers nearly six million individuals born between 1963 and 1985 and their parents, and allows us to examine individuals' intergenerational mobility, by census subdivision. The degree of intergenerational mobility in regions where there is a high concentration of immigrants can be compared to that in regions where there is a low concentration of immigrants. As the authors point out, this analysis is obviously not causal, but it could provide information relative to the tendencies that emerge from the data.

In most census subdivisions with a high concentration of immigrants, the parents are disproportionately situated at the bottom of the earnings scale. Among children, the distribution is more equitable. Nonetheless, children of parents living in regions with high concentrations of immigrants are more likely to find themselves at the bottom of the earnings distribution ladder.

The findings therefore suggest that the more the children live in areas with high concentrations of immigrants, the more they have a chance to experience intergenerational mobility.

This is definitely a case of correlation and not causation. It is difficult with this type of data to dissect the processes at work, as is often the case with this type of study. Apart from the problem of endogeneity and self-selection, it is still unclear how living in an area with a high concentration of immigrants favours socioeconomic mobility among the immigrants' children.

The impact of industrial structure

The studies presented up to this point examine immigrants' economic performance as measured by employment earnings. Few studies look at the learning of a language. The issue of language in explanatory models of the cross-sectional type poses a problem of circularity: does language learning have an influence on economic performance, or is it the fact of working in a specific environment that has an influence on language learning? With cross-sectional data, it is difficult to conclude whether causation or correlation is occurring (22).

Furtado and Kong (2) manage to probe causation in their study, as their work connects the evolution of acquisition of the English language with the evolution of the industrial structure of the United States between 1980 and 2010. The analysis focuses only on immigrants with few qualifications. The data come from the 1980, 1990 and 2000 censuses and from the *American Community Survey* (ACS). The impact of industrial structure is measured here according to the size of the manufacturing sector within the industrial structure of metropolitan areas.

The findings show that a reduction in the relative size of the manufacturing sector in the industrial structures of metropolitan areas improves linguistic skill in English among unqualified immigrants. The authors see three mechanisms at work: (i) The threat of job losses in the manufacturing sector may lead some immigrants to actively invest in improving their linguistic skills, for example by signing up for formal languages classes.

(ii) Immigrants with few qualifications who lose their jobs in the manufacturing sector may tend to want to move toward jobs in the service sector, where the ability to use English is more widespread; exposure to the language would therefore wind up enhancing their linguistic skills. (iii) Finally, even immigrants who are not directly affected by changes in the manufacturing sector may improve their linguistic skills to the extent that more people around them start speaking English more often, and speaking it better.

This type of research clearly shows that we cannot consider language to be a purely exogenous variable, unchanging over time. An initial level of knowledge, for instance what is possessed upon arrival, can be enhanced over time by concrete experience in the workplace. Future studies will therefore need to measure the evolution of linguistic skills over time and connect them to other changes in the workplace, as was done here.

The impact of linguistic enclaves

We saw earlier how a concentration of immigrants in a given area can affect immigrants' economic performance. In a study by Laliberté (4), this question is addressed, but this time in relation to English language learning in Australia. Once again, the only way to dissect the causal relation between linguistic concentration and linguistic skills is to use longitudinal data. This study benefits from data in the *Longitudinal Survey of Immigrants in Australia*⁴.

The findings show that living in a linguistic enclave impedes the learning of a language, although the effect is less than what cross-sectional models would suggest. More in-depth analyses show, as well, that pre-immigration linguistic skill levels considerably inflate cross-sectional calculations.

The findings also show that social interaction with friends and colleagues, rather than formal training, impacts language learning. Note that in this inquiry, linguistic skill is measured via self-declared data and through interviews conducted in English or in another language.

Finally, given that there is a considerable economic advantage that comes with linguistic skill (as shown above in the case of literacy), the negative effect of linguistic enclaves contributes to slowing the economic integration of immigrants.

⁴This is one of the rare longitudinal studies, along with the *Enquête sur les nouveaux immigrants du Québec* (ENI) (21). It is startling that the ENI study, unique in its category, did not resonate outside Quebec. It can't solely be a language issue, since some findings were published in English. Could this be another example of disciplinary or linguistic silos?

The impact of immigration policy

Van Haren's study (14) is the only one presented here that focuses on the notion of gender in connection with immigration policy. It is also the only one to take into account certain factors relating to the country of origin such as access to education in the home country and freedom to emigrate. The study focuses on the makeup of economic immigration to Canada between 2003 and 2013 and examines to what extent the proportion of female economic immigrants changed as well as what factors explain the changes.

Working from administrative immigration data from 2003 to 2013, countries of origin are grouped according to specific attributes. What emerges from the data is that greater equality between men and women in access to education, and better employment opportunities for women in the country of origin, increase the chances of women emigrating to Canada. Education is the most important factor. On the other hand, an increase in the human development index diminishes the proportion of women who leave the country.

The impacts of immigration on the economy

In the studies that follow, we leave the individual sphere and concentrate on the impact of immigration in a more global fashion.

Entrepreneurship

The theme of entrepreneurship among immigrants is attracting more and more attention among researchers. Several studies show that immigrants may have more "entrepreneurial fibre" than natives. In their study, Green, Liu, Ostrovsky and Picot (5) ask whether the process that leads to immigrants deciding to become entrepreneurs reflects a greater propensity for innovation and job creation (the "attraction" factor) or stems rather from the fact that their limited success in the labour market pushes them to choose to be self-employed (the "repulsion" factor). Their study is made possible by access to a novel type of data drawn from the *Canadian Employer-Employee Dynamics Database* (CEEDD). As mentioned earlier, the CEEDD links administrative data about employers and employees with tax information (from both individuals and businesses) and data from the *Longitudinal Immigration Database* (IMDB).

As did earlier studies, the authors make a distinction between unincorporated businesses (self-employment) and incorporated businesses.

Their findings show that, if immigrants are more entrepreneurial than natives, it is mostly due to the fact that they more often find themselves in unincorporated businesses, and therefore are more the self-employed type. As well, the characteristics associated with this type of business suggest that the "push" factor rather than the "pull" factor is operating.

Another finding of the study is that, compared to immigrants in other categories, economic immigrants are more likely to start businesses, though to a lesser degree than might be expected. Finally, the analyses suggest that the creation of business by immigrants is not associated with increased innovation or job creation; the relationship in fact tends to be negative.

Productivity

Until now, studies on the impact of immigration on productivity have been inconclusive. In general, these studies have been carried out outside of the firms where production actually takes place. According to Hou, Gu and Picot (6), apart from the need to undertake analyses at the firm level, the time span of the period of observation also matters. They cite a study that showed a positive relationship between immigration and productivity over the longer term, but not in the short term.

As does the previous study (5), this one uses CEEDD data. The study examines the impact of the proportion of immigrants in a business on the productivity of the business. The analyses take into account length of stay, knowledge of official languages, immigration categories, qualifications, intention to work in jobs related to the sciences, technology, engineering or mathematics (the "STEM" professions) and finally education.

The most important finding is that the connections between an increase in productivity and the proportion of immigrant workers varies according to the length of the period studied. Over a period of a year, the connection is weak. On the other hand, over five or ten years, the positive relationship grows, while nonetheless remaining limited.

Changes in the proportion of immigrants without a university degree are associated with the largest productivity gains. This indicates that immigrants can help firms increase their productivity when they possess competencies that complement the qualifications or specializations of native workers.

International trade

Fung, Grekou and Liu's study (20) looks at the impact of immigrant entrepreneurship on international trade. Lacking relevant data, research in this area had limited itself to analyses on an aggregate level. But once again, thanks to CEEDD data, the authors were able to carry out analyses at the level of individual businesses. As well, the new data allowed the researchers to better distinguish between the effect of the presence of immigrants on lowering information costs, on the one hand, and on product demand, on the other hand.

The findings show that businesses owned by immigrants, compared to businesses owned by Canadian-born individuals, stimulate trade between Canada and the regions of origin of the immigrant business owners. The effect is positive and significant. This is true for the manufacturing sector, but even more so for the wholesale sector, which underlines the role of immigrants as trade intermediaries. Finally, the positive effects relate to the probabilities of importing and exporting, the number of products imported and exported, and the value of imports and exports per product.

Exports

A final study, from Cardoso and Ramanarayanan (18), uses CEEDD data to study the impact of immigration on Canadian exporting. As with the other studies we have presented, the data allows the authors to go from analyses at the aggregate level to analyses at the firm level.

The study's main conclusion is with regard to the strong positive impact that comes from hiring immigrants. The more a business hires immigrants from a particular country, the more it will be likely to export to that country.

The findings based on Canadian data seem to be confirmed by data from France.

Marcha and Nedoncelle (19) use data from the French manufacturing sector from 1997 to 2008 to examine the impact of immigrant workers on exports at the firm level. The data they use is similar to Canadian data from the CEEDD.

As in Canada, findings show that the presence of immigrants, whether occupying jobs that need highly skilled labour or jobs that need less skilled labour, helps a business's exports. This positive impact affects the value and the volume of exports, as well as the number of products exported. The authors conclude that in the current European context, policy-makers should keep in mind that tightening of immigration policies will have a negative impact on businesses' exporting performance.

A sociologist's critical look at "official" categories of immigrants

The QICSS's international conference presented work that used "official" data collected and produced by governmental statistics institutes. "Official" categories are seldom challenged. Recent work argues that these categories are social constructs and that they must be placed in their historical context (26). Richard Alba's presentation (11) constitutes an important foray into a key area in research on immigration that uses official concepts tied to immigrants' racial and ethnic origins.

In his keynote speech, Richard Alba puts forth the idea that U.S. population projections based on race feed the belief in the emergence of a society where the majority becomes a minority and in which more than half of Americans would belong to minority groups by 2045. He notes that many analysts explain the 2016 presidential election results by referring to anxiety on the part of many Whites vis-à-vis demographic changes. He adds that extreme right-wing groups have been recruiting on the basis that "white domination" is threatened in the United States. At the opposite end of the spectrum, the multicultural left looks favourably on the end of "white America".

One of the problems with racial categories in the United States has to do with the fact that individuals of mixed origin or from mixed families, often the products of interethnic unions, are classified as being minorities. However — and this is his main argument —, these mixed-race children are closer to "white" children than to those having the same minority background, both in earnings or living environment.

The same goes for adults of mixed origin, who feel closer to individuals classified as whites.

One notable exception: children who are products of unions between a person of black race and another of white race.

The implication of this realization is that projections that predict that the “whites” category will become a minority are problematic in that the exclusion of mixed categories (products of interethnic unions in which one of the parents is white) winds up exaggerating the decline of the relative weight of the “white” population in American society.

Summary and Conclusion

In a recent review, Green and Worswick (22) contend that the success of the next generation of research on the performances of immigrants in the labour market will depend in large part on the development of new datasets (p. 1285). The conference organized by the QICSS in October of 2018 had the goal of examining to what extent the new datasets could generate new findings and advance debate on the performance of immigrants in the labour market and the economic impact of immigration.

The methodological gaps in previous research on the impact of immigration have often been alluded to. The biggest gap is the cross-sectional nature of the data. The economic integration of immigrants is a process that takes place over time, a process that necessarily calls for longitudinal approaches. Over the last few years, several longitudinal databases have allowed us to tackle this fundamental gap. Another important gap has to do with the impossibility of carrying out analyses at the level of a business when attempting to examine the impact of immigration on the economy, hence the need to use aggregate data. Here too, we should note the possibility of accessing new databases that are both longitudinal and able to link employee information to employer information. The most spectacular advance, in my view, is the linking of data from different sources. Lastly, another major advance that emerged at the QICSS conference related to the addition of new questions to the Census.

Previous research on the economic integration of immigrants that examined the factors explaining differences in earnings between immigrants and natives drew upon individual attributes of a demographic nature (age, gender), of a geographic nature (national origin) and above all of an economic nature (human capital).

This research tradition remains important, as it allows us to address the question of “residual” discrimination (21). Three studies presented at the conference were able to benefit from the new Census questions to delve more deeply into economic integration factors: one on access to citizenship (9) and two on access to permanent residence (17) (15). The findings showed the positive effects of these two variables on the economic integration of immigrants. These enriched data have also allowed us to compare temporary workers and immigrants with permanent status. The innovative character of the data in the *International Assessment of Adult Competencies* (PIAAC) has permitted the introduction of a key component of human capital, literacy; it is a factor that has a significant role in the performance of immigrants in the labour market.

The new databases have opened up another major avenue, the possibility of including in statistical models variables that go beyond individual attributes in order to explain earnings differentials between immigrants and natives. Therefore, we were able to examine the role of the concentration of immigrants in the labour market (10), remuneration practises at the level of individual businesses (8), training (7), the category of sponsorship (12), the concentration of immigrants in a given region (13), industrial structures (2), linguistic enclaves (4) and immigration policy (14). These are all important factors influencing performances in the labour market.

Research on the impact of immigration on economic indicators had, until now, yielded limited findings, findings that were sometimes contradictory. The linking of several sources of information in new databases has allowed us to delve much deeper and shed new light on a heavily debated issue⁵. The studies presented at the conference, focusing on entrepreneurship (5), productivity (6), international trade (20) and exports (18 et 19), drew extensively on the *Canadian Employer-Employee Dynamics Database* (CEEDD), which links administrative data about employers and employees with tax information (from both individuals and businesses) and administrative data on immigrants. In all cases, the findings show immigration having a positive impact.

⁵Most of the work presented at the conference used highly sophisticated analytical methods (e.g. econometric models, multiple regressions, simulation models, etc.). We have chosen not to discuss these methods in detail. Still, we should mention that the issues of specifications and endogeneity have been taken into account. As well, the principle of “all things being equal” has been rigorously respected (the main control variables always being present in the analyses).

Even though we can point to significant progress thanks to the new databases, there are still significant gaps in the full understanding of the process of economic integration and in the proper measurement of the impacts of immigration on the economy. Starting from the conceptual framework that I have proposed (24 and 25), here are some factors that will have to be integrated into analytical models and which were not really discussed at the QICSS conference. Based on the principle that only longitudinal data are appropriate for the study of economic integration, it is imperative that we (i) distinguish the national origins of immigrants and stop treating them as homogenous groups; (ii) take into account categories of immigration and age at the time of immigration; (iii) include gender issues, beyond the strict approach of “sex” as a control variable; and finally (iv) further dissect mechanisms of discrimination (22). As for the structural determinants of economic integration, apart from the factors already analysed in the studies presented above, it will be important to take into account factors tied to the evolution of the labour market. On this point, several studies have shown that these factors affect all new entrants into the labour market, immigrants and natives alike. What is at issue here is the definition of a group of natives comparable to immigrants. (21). Green and Worswick (22) emphasize the need to find a comparison group of natives whose choices regarding investment in human capital are similar to those of immigrants (p. 1280).

As for studies on the impact of immigration on the economy as a whole, two methodological principles must be adhered to. First, impact studies have to be carried out over a long period. It is over the long term that these impacts can be felt. Secondly, we need to think about what we mean by “minimal” impacts. The demographic argument is important here: overall, when we look at the relative importance of immigrants measured as the ratio of immigrants to the entire national population, the denominator (national population) is very high, so that the addition of immigrants to the numerator can only yield minimal results, or even no results. That is why business-level analyses, which are now possible thanks to the new databases, as we saw in the studies presented at this conference, will yield better findings. Given this demographic argument, we might be surprised to find some significant impacts.

That said, we can invoke another sort of argument to better understand and above all put in context the fairly modest statistical findings. I would use the analogy of “marginal costs” to apply it to “marginal effects”. Take the example of a business with 20 employees that hires two immigrant workers. The usual findings (see the studies presented here) would project that these two workers (10% of the work force) would have a positive, but minor, effect on the business’s performance indicators (productivity, profits, etc.). But the concept of marginal effects, in the economic sense of the term, would put forward that the hiring of these two workers may have allowed the business to survive and/or avert a decline. Current methodologies do not allow us to measure this type of effect. In short, in this context, the idea of “minor statistical impact” acquires real meaning and could in fact constitute a “major” finding.

In fact, we should be asking the opposite question: what would happen if we took the immigrant workers from the businesses (past event) or if businesses did not manage to recruit the workers they needed (future event)? We don’t really have a methodology for measuring this marginal effect. For now, one possible approach would be to put the question to employers who hire immigrant workers, asking them what would have happened to their businesses without the contributions of these workers. Beyond a specific business, other effects that are not being measured could indirectly affect the jobs of native workers (job losses) and other service providers (transport, intermediate products, etc.)

The table has been set for other innovative findings.

APPENDIX

List of papers presented at the conference on "Immigration's Impact, Immigrants' Outcomes: New Results Using Social and Business Data" organized by the Quebec inter-University Centre for Social Statistics (QICSS), Université de Montréal, October 11 and 12, 2018.

1. David Card, A Reader's Guide to the Economic Analysis of Immigration.
2. Delia Furtado and Haiyang Kong, What Is the Impact of Industrial Structure on Low-Skill Immigrants' English Language Fluency?
3. Samuel Vézina and Alain Bélanger, Littératie et adéquation entre l'offre et la demande de main-d'œuvre selon le type d'emploi au Canada : projections par microsimulation entre 2014 et 2024.
4. Jean-William P. Laliberté, Language Skill Acquisition in Immigrant Social Networks: Evidence from Australia.
5. David A. Green, Huju Liu, Yuri Ostrovsky and Garnett Picot, Immigrant Entrepreneurs: The Entry of Immigrants into Firm Ownership.
6. Feng Hou, Wulong Gu and Garnett Picot, Immigration and Firm Productivity: Evidence from the Canadian Employer-Employee Dynamics Database.
7. Benoit Dostie and Mohsen Javdani, Canadian immigrants and training opportunities: evidence from Canadian linked employer-employee data.
8. David Card, Benoit Dostie, Jiang Beryl Li and Daniel Parent, Immigrant careers and networks.
9. Ailin He and Wladimir Zanoni, On the Short Term Effects of Citizenship on Labor Market Outcomes.
10. Yuri Ostrovsky, Workplace Immigrant Concentration and the Earnings of Immigrant and Canadian-born Workers.
11. Richard Alba, Ethno-racial realignment in North American immigration societies.
12. Lisa Kaida and Feng Hou, The long-term economic benefits of refugee private sponsorship.
13. Marie Connolly and Catherine Haeck, La mobilité sociale au Canada et l'immigration : que peut-on apprendre de la Base de données sur la mobilité intergénérationnelle du revenu ?
14. Ian Van Haren, Migration Policy, Source Country Factors, and the Gender Composition of Economic Migrants to Canada.
15. Charles Fleury, Danièle Bélanger and Guillaume Haemmerli, The relationship between migration status and income: a comparison of permanent residents and temporary workers in Canada.
16. Jie Ma, High Skilled Immigration and the Market for Skilled Labor: The Role of Occupational Choice.
17. Federico Eichelmann-Lombardo and Michael Haan, the migratory pathways of Temporary Foreign Workers that receive Permanent Status.
18. Miguel Cardoso and Ananth Ramanarayanan, Immigrants and Exports: Firm-level Evidence from Canada.
19. Léa Marchal and Clément Nedoncelle, Immigrants and Firm Export Performance Across Destinations.
20. Loretta Fung, Douwere Grekou and Huju Liu, The Impact of Immigrant Business Ownership on International Trade.

Other references

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