

The Entry Draft in the National Hockey League:

Discrimination, Style of Play, and Team Location

By MARC LAVOIE*

ABSTRACT. The study shows that French Canadians continue to suffer from entry discrimination in the National Hockey League. At the time of the draft, the future offensive performance of French Canadian (and European) players is under-estimated. The addition of various measures of robustness and defensive play makes no difference. This study also takes into account the location of the teams that drafted the players. It seems that American teams discriminate against French Canadian players, while English Canada teams discriminate against Europeans. The teams from the Province of Quebec did not appear to discriminate in favour of French Canadians.

I

Introduction

BOTH ECONOMISTS AND SOCIOLOGISTS have devoted a considerable amount of attention to the topic of discrimination in professional team sports. Studies have covered a wide range of issues: segregation or stacking, entry discrimination, salary discrimination, and customer or fan discrimination (see the extensive survey made by Kahn [1991]).

*Marc Lavoie is a Full Professor of Economics at the University of Ottawa. His research interests include the economics of sport and heterodox economics. He has published *Foundations of Post-Keynesian Economic Analysis* (1992) and was an associate editor of the *Encyclopedia of Political Economy* (1999). A very different version of this paper was presented at the 1998 annual meeting of the Canadian Economics Association. I am grateful for the comments of the participants at the session, Serge Nadeau in particular, although he still may not agree with my conclusions. Many thanks also for the comments of the referee. This study was made possible by the excellent work of my research assistants Mark Deriet, Piyanjali Tissaaratchy, and Milan Jayasinghe, who were mainly financed by a research grant from the Faculty of Social Sciences at the University of Ottawa.

American Journal of Economics and Sociology, Vol. 62, No. 2 (April, 2003).
© 2003 American Journal of Economics and Sociology, Inc.

Most of these studies have focussed on the issue of racial discrimination in baseball, basketball or football, but discrimination in sport may also occur on other grounds, for instance on the basis of ethnicity or language. In particular, there have been studies on the possibility of entry discrimination and salary discrimination against baseball players of Hispanic origin (Leonard, Pine and Rice 1988; Leonard 1988; Lavoie and Leonard 1990).

Discrimination on the basis of language (or ethnic origin) has also been examined in the case of professional ice hockey.¹ An American sociologist, David Marple, extended the methodology that he had developed for the study of racial discrimination in professional basketball to examine the possibility of discrimination against French Canadian hockey players (Marple 1975). Since then, several other studies have provided some statistical evidence of entry or pay discrimination against French Canadians in the National Hockey League (NHL).

Whereas the analysis of entry discrimination has remained relatively simple, the analysis of salary determination has become more intricate. For instance, Longley (1995), Lavoie (1998), and Jones, Nadeau and Walsh (1999) have introduced interactive variables that allow to test for the presence of pay discrimination on the basis of the location of the team of each player. While Longley obtains clear-cut results showing that teams located in English Canada practice pay discrimination against French Canadian forwards, the other two studies lead to results that are much more ambiguous. For instance, while Lavoie (1998) confirms Longley's results with respect to forwards, his results show that American teams (instead of English Canada ones) pay significantly lower salaries to French Canadian defensemen. These contradictory results are not surprising. As more sophisticated questions are being put to the test, more disaggregated data with fewer observations must be used, leading to more fragile results.²

In contrast, the results achieved when testing entry discrimination all pointed in the same direction: performance differentials in favour of French Canadian forwards or defensemen are consistently observed. There has been some debate, however, about how these differentials should be interpreted. Their relevance has been questioned on the grounds that they are a partial indicator of perform-

ance, reflecting only the contribution to offense without taking into account the other elements of overall performance, such as defensive play.

The first objective of the present paper is to offer an empirical assessment of the arguments which deny that performance differentials are a measure of entry discrimination. It will be shown that (offensive) performance differentials remain when the other facets of on-ice performance are taken into account. The thesis of entry discrimination is thus sustained, even when the style of play is taken into consideration.

The second objective is to acquire some additional knowledge about the location, or the origins, of entry discrimination, thus extending to entry discrimination the methodology first proposed for hockey by Longley (1995) in the case of pay discrimination. In particular, common wisdom among hockey fans seems to be that while American and English Canadian teams might discriminate against French Canadians, NHL teams from the Province of Quebec reciprocate by discriminating against Anglophones from Canada and from the United States.³ This behavior would be due to some form of fan discrimination, whereby fans prefer, or managers believe that fans prefer, to watch home-grown players.⁴ We shall see whether common wisdom is correct.

The outline of the paper is the following. First, previous results of entry discrimination at the time of the draft will be recalled; second, the objections to the form taken by the tests of this hypothesis will be presented; third the results of new tests that attempt to take these objections into account will be discussed. In the last section, the new tests will be modified by the introduction of interactive variables, in an attempt to assess more precisely the location of entry discrimination. The conclusion will draw some policy implications.

II

Entry Discrimination at the Draft: Past Results

THERE IS EXTENSIVE EVIDENCE of entry discrimination against French Canadians in the National Hockey League (Marple 1975; Boileau and Boulanger 1982; Coulombe and Lavoie 1985; Lavoie, Grenier and

Coulombe 1987; Lavoie 1989; McLean and Veall 1992; Lavoie and Grenier 1992; Lavoie 1998). The evidence is mainly based on comparisons of mean values of various performance indicators which show that French Canadians, and Europeans as well, display performance indicators which are (usually) significantly superior (in a statistical sense) to those of English Canadian (and American) players. These performance differentials are often said to be due to the higher barriers to entry that French Canadian hockey players (and probably European ones) face compared to Anglophone players.

A more sophisticated test of entry discrimination has also been proposed, using regression analysis to measure the extent of entry discrimination *at the time of the draft*. The test assumes that the lifetime performance of each player, measured by the number of points scored per game on average through his career, should be an inverse function of the rank at which the player was chosen during the universal amateur draft. The results obtained by various researchers, when comparing French Canadian players to English Canadian players only, are shown in Table 1.⁵ It is observed that indeed players picked early in the draft do have better performance indicators than players drafted later, although the non-linear term is significant, indicating that beyond a certain draft rank, the relationship is no longer negative.⁶ As one would expect, defense players drafted at the same rank as forwards score less points.

Finally, Table 1 shows that French Canadian players do systematically perform better than English Canadians equally ranked at the time of the draft, scoring between .06 and .12 extra point per game, or about 5 to 10 additional points in an 80-game season. Given the number of points scored per season, this represents a 10 to 20% performance differential. The coefficient of the French Canadian dummy variable is not always statistically significant at the 10% level, but it should be recalled here that significance is based on one-tail tests. *t*-ratios are always relatively high, and with two-tail tests the French Canadian variable would always be significant. In any case, the results are quite consistent through time, reinforcing belief in their validity. On the other hand, the explanatory power of the draft rank seems to be diminishing through time. This could indicate either that elements other than offensive performance are becoming more important in

Table 1

Draft Discrimination, with offensive performance only
 Dependent variable: lifetime points per game Various
 seasons. Reference category: English Canadian forwards

	1983–84 R ² = .27 N = 362	1989–90 AdjR ² = .22	1990–91 R ² = .20 N = 280	1993–94 AdjR ² = .16 N = 281
Constant	.752	.745	.737	.668
Draft Number	-.00467 (5.89)***	-.00372 (3.79)***	-.00411 (4.28)***	-.00228 (2.90)***
Draft Number ²	+0.000205 (4.54)***	+0.000132 (2.51)**	+0.000167 (3.16)***	+0.000110 (2.17)**
Defense	-.266 (9.59)***	-.271 (7.49)***	-.270 (7.78)***	-.230 (6.18)***
FRENCH	+0.110	+0.089	+0.064	+0.122
CANADIAN	(2.61)***	(1.54)	(1.43)	(2.44)**

Absolute *t*-ratios are in parentheses. Asterisks indicate one-tail statistical significance at the: ***1% level, **5% level, *10% level. 1983–84 season: players on the 1983–84 rosters, based on their performance prior to that season (Lavoie, Grenier and Coulombe 1987); 1989–90: idem (Lavoie and Grenier 1992); 1990–91: idem (McLean and Veall 1992); 1993–94: idem (author's calculations).

the eyes of general managers and NHL scouts, or that the latter have more difficulty in identifying talent.

If the above results indeed demonstrate the presence of discriminatory behavior, one may wonder how such a behavior can continue in a competitive context. One would presume that the teams that do not discriminate would end up with better win-loss records, and that, eventually, when all general managers and coaches realize this, discrimination would disappear.⁷ Why would a coach or a scout not want the best player regardless of player origin? Longley (1999) for one believes that such a behavior is linked to the political and cultural tensions that exist within Canada between French-speaking and

English-speaking populations, in particular with respect to the political status of the predominantly French-speaking Province of Quebec. He shows that when the political forces in favour of an independent Quebec are more powerful, teams from English Canada are more reluctant to draft and keep French Canadian players from Quebec relative to the teams from the United States, who are more immune from these political tensions.

Lavoie et al. (1987) argue that scouts, coaches, and other decision-makers do not consciously discriminate against French Canadian (or European) players. At the time of the decision, they believe that they make the best possible decision. However, selecting a player, especially during the draft, is a highly uncertain activity, being based on a large number of subjective parameters (Renger 1994). Precision is especially lacking when marginal players, those without obvious qualities, are being assessed. Some players that turned out to be highly prolific during their NHL career were never drafted by NHL teams, and hence initially accessed the league by fluke or through the recommendation of some friend of the coaching staff.⁸ Prejudices and different information networks, since French Canadian players predominantly come from the Province of Quebec, would then explain why marginal French Canadian players would be ignored or underestimated during the selection process. The consequence of such a behavior is that a relatively small number of marginal French Canadian (or European) players enter the NHL, and as a result, the average performance of French Canadian (or European) players is better than that of English Canadian or American players. Since the selecting staff only looks at the micro picture, comparing one player to another, and have no idea of the general picture, discrimination can be perpetuated.

III

Objections to the Tests of Entry Discrimination

THE MAIN CRITIQUE against the straightforward test presented in the previous section is that the independent variable—the number of points scored per game—which is presumably the best available indicator of performance is only a measure of offensive performance, and does

not take into account performance in the defensive zone—a critique made forcefully by Walsh (1992). Of course, although this observation is surely relevant at the individual level, it may not be so at the aggregate level. Walsh needs to additionally assume that the defensive skills of French Canadian players are not as good, on average, as those of English Canadians. Walsh (1992) offers some indirect evidence of this contention, but as shown by Lavoie, Grenier and Coulombe (1992), this evidence is highly disputable.

One of Walsh's (1992) contentions was that French Canadian hockey players before being drafted mainly played in the Quebec Major Junior Hockey League, which is, along with the Ontario Hockey League and the Western Hockey League, one of the main breeding grounds of professional hockey players. Walsh claimed that the Quebec league was more offensive-minded than the other two Canadian leagues. On the basis of goals scored by game, this claim turns out not to be true since the early 1980s (Lavoie 1998: 57).

It remains, however, that defensive performance, and not just offensive performance, ought to be taken into consideration when measuring the overall contribution of an individual hockey player. As Walsh (1992: 445) says, "defending is of critical importance" in ice hockey. The problem is to find an adequate measure of defensive performance which could be included in regression analysis. Walsh (1992) himself only seems to propose the size of a player—his height or his weight—as a proper measure of good defensive play. According to Walsh (1992: 453), "in making draft selections NHL teams have available information that is particularly important to the probable effectiveness of defensemen, namely, player size." In addition, says Walsh (1992: 447), big players contribute to team success because of their "grinding ability." By checking opponents and playing physically, big players enhance the performance of their teammates and they reduce the performance of the opponents' skill players.

Walsh has misgivings about a well-known measure of two-sided play, the plus/minus indicator. These misgivings seem to be shared by general managers, since this variable only occasionally appears to show any significance in salary determination studies (as in Idson and Kahane, forthcoming). Other statistics that could be of significance and that could go beyond the size of a player are not publicly avail-

able. For instance, many individual teams probably take some count of the number of body checks given by a player, but this measure of defensive play is not available.

Lavoie and Grenier (1992) have designed a new qualitative indicator of defensive play. Using semi-public data, compiled by the NHL but not printed in their official guide, their *Defensive play* indicator identifies those players who are usually designated to handle the power-play of the opposite team. One would presume that those players who are on the ice during the most pressing defensive situations—the short-handed situations—are those players whose defensive skills are rated the highest by their coaches. Indeed, the variable of *Defensive play* is usually a significant variable in salary determination regressions, thus showing that coaches and general managers take this variable, or some close proxy of it, into account when setting players' salaries (Lavoie and Grenier 1992; Lavoie 1998).

Therefore, granting that points scored per game are a measure of offensive performance rather than of overall performance, other variables that are a proxy for defensive performance and team success must be included in a regression assessing the possibility and extent of entry discrimination. Obvious candidates are the *Defensive play* variable presented above, as well as variables reflecting size, such as the height and weight of players. Another obvious candidate is the (lifetime) number of minutes of penalty per game, which, according to Jones and Walsh (1992: 596), are expected to capture “defensive play,” “intimidation,” and the general “intensity” of a player (“a high level of commitment and a willingness to sacrifice for the team”).⁹

All these variables are presumed to have a negative sign, since it is assumed, for a given expected offensive performance, that scouts and general managers will draft at an earlier rank players who possess size characteristics (*height* and *weight*) and which exhibit potential defensive abilities (*defensive play* variable) and potential aggressive features (the *penalties* variable). A variable measuring the age of a player has also been included in the new regressions, since previous research has shown that older players, good enough to remain in the NHL, compile better performance statistics for a given draft rank (Lavoie, Grenier and Coulombe 1987: 417; McLean and Veall 1992: 472).

IV

Entry Discrimination at the Time of the Draft: New Results

THE REGRESSIONS PERTAINING TO the players of the 1993–94 season were thus redone with the addition of the above five variables. One regression was run with only the addition of the *Defensive play* variable, while the second regression includes the other four variables. Also, since all NHL teams now watch closely the best junior and amateur players from all over the world, and since American and European players are now a large proportion of the NHL players, these players have been included in another pair of regressions.¹⁰

The results obtained in Table 2 are no different from those obtained in Table 1. French Canadian players still appear to suffer from entry discrimination, even when the variables which act as a proxy for defensive performance are included in the regression. Compared to English Canadians with equal defensive proxies (height, weight, penalties, defensive play, and age) and identical draft rank, Francophones still score between .11 and .12 extra point per game—a statistically significant result. European hockey players seem to encounter the same fate: their performance differential is also significant, both from a sport and a statistical point of view, even when defensive and size proxies are taken into consideration. On the other hand, American players do not seem to suffer from entry discrimination: they are not, or barely so, underestimated during the draft. It thus seems that French Canadian hockey players are treated as if they were European players, i.e., as if they were not part of the North American junior hockey scene.

Besides the ethnic variables, all other variables have the expected sign except for the *Defensive play* variable. One would have thought that skaters most often used in the most defensive aspect of the game—in short-handed situations—would be the players most specialized in defensive skills. This is not so, however. It turns out that the offensive performance of the players belonging to the group of players most often used against the opponent's power play is above that of the average NHL player.¹¹ This implies that many offensive star players are also utilized to kill penalties. It also shows that the offen-

Table 2

Draft Discrimination, with style of play Dependent variable:
lifetime points per game 1993–1994 season. Reference
category: English Canadian forwards

	AdjR ² = .17	AdjR ² = .34	AdjR ² = .18	AdjR ² = .29
	N = 281		N = 436	
Constant	.650	.374	.643	.555
Draft Number	-.00284 (2.95)***	-.00311 (3.51)***	-.00236 (3.36)***	-.00276 (4.15)***
Draft Number ²	.0000109 (2.16)**	.0000116 (2.55)**	.0000077 (2.30)**	.0000091 (2.89)***
Defense	-.237 (6.40)***	-.217 (6.42)***	-.225 (7.85)***	-.198 (7.18)***
Defensive Play	.109 (2.49)**	.033 (.89)	.087 (2.76)***	.043 (1.43)
Age		.025 (5.2)***		.019 (5.15)***
Weight		-.0012 (.87)		-.0014 (1.28)
Height		-.0027 (1.38)		-.0029 (1.66)*
Penalties		-.085 (5.34)***		-.076 (5.42)***
FRENCH	.125	.118	.125	.116
CANADIAN	(2.53)**	(2.61)***	(2.63)***	(2.58)***
EUROPEAN			.167 (4.35)***	.135 (3.59)***
AMERICAN			.048 (1.27)	.025 (.70)

Absolute *t*-ratios are in parentheses. Asterisks indicate one-tail statistical significance at the: ***1% level, **5% level, *10% level.

sive/defensive skill dichotomy may be overrated. There may be good offensive players who lack defensive skills, and vice versa. However, these results show that, in general, those who have good offensive skills also have good defensive skills.

As expected, weight, height, and minutes of penalties per game all have a negative sign, with *t*-ratios which are statistically significant or nearly so. Also, the addition of these variables increases substantially the adjusted R^2 statistic. All this demonstrates that scouts and general managers are searching for these attributes when they rank and draft junior players. Therefore, either hockey experts are overestimating the worth of these attributes on individual (offensive) performance, or indeed size and robustness do have a positive effect on team winning or team revenues that goes beyond the performance of the individual player. But whatever is the case, robustness and size make no difference to the performance differentials observed in the case of French Canadians (and Europeans). Performance differentials barely drop when robustness, size, and defensive play are taken into account, and these performance differentials remain highly significant. One can only conclude that the new evidence strongly supports, once more, the hypothesis of entry discrimination against French Canadian hockey players in the NHL.

It would seem that entry discrimination is due to the prejudices that (some) scouts entertain with regards to the play of the French Canadian and European players. Scouts, like Walsh (1992), most likely believe that these players lack the defensive qualities that American and English Canadian players have. Recent instances can illuminate this point. Junior player Éric Desmarais, previously drafted by the Montreal Canadiens, made the following remarks one month after having been cut off from the Canadian national junior squad: "My defensive game was mentioned. . . . It seems that people believe that Quebec players can only play offensively. For sure, an offensive player may have some small defensive weaknesses, but I do not believe that Quebec players are weaker than other ones on that." The journalist who reports this opinion concludes by mentioning that Quebec players may suffer from discrimination: "They might be the victims of what one would call a strongly-held prejudice" (Robillard 1999).

Ironically, Europeans are subjected to the same treatment. In an otherwise excellent book, Bruce Hood (1999: 238–241), a Canadian who refereed more than a thousand NHL games, asserts that European players are “floaters,” “underachievers” who “are liabilities to their teams” because they have “glaring defensive weaknesses.” The above results do not sustain such beliefs.

V

The Location of Entry Discrimination

AS LONGLEY (1995: 414) correctly remarks, even if no discrimination could be observed at the league level, discrimination in NHL hockey against French Canadians could still exist—the aggregate measure of discrimination could be statistically obscured by the behavior of NHL teams located in Quebec, assuming that these teams “are not prone to discriminatory treatment” against French Canadians.¹² Whereas Longley investigates this issue for pay discrimination, one may wish to do the same in the case of entry discrimination, even though we were able to find evidence of entry discrimination at the aggregate level.

There are essentially two possible sources of entry discrimination at the time of the draft: either scouts are biased in their reports, or general managers and coaches tend to draft local players when they have to choose between players who are approximately equally-rated. Of course, both sources of discrimination may play a role. Because scouting and talent evaluation is such a subjective and hazardous activity, being based in part on an evaluation of the psychological strength of the player, entry discrimination against French Canadians has been attributed mainly to the reports of the scouts who are part of the NHL central scouting system, and who may entertain many of the prejudices which can be found in the popular press (Lavoie 1989: 28).¹³

One may wonder in particular whether NHL teams located in Quebec are being influenced by the reports of the NHL scouting system and hence also underestimate the potential performance of French Canadian junior players, or whether they discriminate in favour of French Canadians (i.e., they would discriminate against

English Canadian and American players), as common wisdom would have it.¹⁴ Various past coaches and general managers of the Quebec Nordiques and of the Montreal Canadiens have claimed that these teams make special efforts to find good French Canadian players (Lavoie 1998: 82–83). Are these claims true? Are they consistent with the available evidence? Does the desire to hire local players compensate for the possible biased reports of the central scouting system?

A new regression has been designed to test common wisdom on this issue. Interaction variables have been created to distinguish players on the basis of both their linguistic or national origins and the location of the team from which they were drafted. Since there are four possible origins and three locations (Quebec, the rest of Canada, and the United States), players are thus divided into twelve groups.¹⁵ In contrast to Table 2, only one set of regressions is being shown: the set which includes all the measurable variables that have been suggested to have an impact on the draft and the choices of scouts and general managers.¹⁶

Now, to test for entry discrimination on the basis of team location, three different kinds of regressions need to be run. The first regression, noted (A) in Table 3, allows us to verify whether the management of teams located in Quebec discriminates against English Canadian players (and against American players) at the time of the draft, or, looking at it the other way, whether Quebec teams are influenced by the presumably biased reports of the NHL scouting system and discriminate against French Canadian players. The reference category comprises all French Canadian forwards drafted by Quebec teams, while the other relevant variables refer to the English Canadians, Europeans and Americans drafted by the two Quebec teams. Since the coefficients attached to the other groups are useless, all players drafted elsewhere have been put together in the OTHERS category.

In the second regression, noted (B), the English Canadian forwards who have been drafted by teams located in the rest of Canada constitute the reference category. Regression B allows to verify whether there is entry discrimination against French Canadians, Europeans, or Americans drafted by teams located in English Canada. Finally, the

Table 3

Draft Discrimination on the basis of the location of the drafting team
 Dependent variable: lifetime points per game;
 1993–1994 season

Reference category Independent variable	French Canadian forwards drafted by teams located in Quebec (A)	English Canadian forwards drafted by teams from ROC—Rest of Canada (B)	American forwards drafted by teams located in the USA (C)
	AdjR ² = .27	AdjR ² = .28	AdjR ² = .29
Constant	.663	.627	.657
Draft Number	-.00256 (3.81)***	-.00272 (4.05)***	-.00264 (3.97)***
Draft Number ²	.0000087 (2.72)***	.0000092 (2.89)***	.0000089 (2.81)***
Defense	-.189 (6.73)***	-.192 (6.91)***	-.197 (7.12)***
Defensive Play	.041 (1.30)	.048 (1.54)	.047 (1.53)
Age (years)	.017 (4.59)***	.017 (4.57)***	.017 (4.78)***
Weight (pounds)	-.0013 (1.21)	-.0013 (1.17)	-.0016 (1.40)
Height (feet)	-.0025 (1.40)	-.0024 (1.36)	-.0035 (1.92)*
Penalties (mns per game)	-.089 (6.38)***	-.085 (6.11)***	-.082 (5.88)***
FRENCH CANADIAN drafted		in ROC -.007 (.07)	in USA .148 (2.31)**

Table 3 *Continued*

Reference category Independent variable	French Canadian forwards drafted by teams located in Quebec (A)	English Canadian forwards drafted by teams from ROC—Rest of Canada (B)	American forwards drafted by teams located in the USA (C)
ENGLISH CANADIAN drafted	in Quebec -.033 (.38)		in USA -.046 (1.14)
EUROPEAN drafted	in Quebec .067 (.57)	in ROC .163 (2.42)**	in USA .054 (1.06)
AMERICAN drafted	in Quebec -.111 (1.04)	in ROC .037 (.43)	
OTHERS (drafted elsewhere)	-.027 (.57)	-.002 (.06)	.021 (.52)

N = 436. Absolute *t*-ratios are in parentheses. Asterisks as in other tables.

last regression, noted (C), tests for the possibility of entry discrimination by American teams. American forwards constitute the reference category, and the relevant interaction variables refer to the French Canadians, English Canadians, and Europeans drafted by American teams.

Let us first examine the (A) regression, where French Canadian forwards drafted in Quebec are the reference category. It appears that teams located in Quebec do not discriminate against any group of players at the time of entry, since none of the coefficients of the relevant interaction variables are significantly positive. On the contrary, the coefficients attached to the English Canadian and American players drafted by Quebec teams are negative, thus indicating that these players may have been overestimated at the time of the draft (none of coefficients are statistically significant, however).

Assuming that the management staffs of the Montreal Canadiens and of the Quebec Nordiques do, as they have claimed overtly and repeatedly in the media, make a conscious effort to find and draft Francophone hockey players in particular, the results of Table 3 would seem to indicate that the coaches, general managers, and scouts of these Quebec organizations are influenced at the time of the draft by the prejudices expressed in the reports of the NHL central scouting system. If this were not the case, one would expect a positive coefficient attached to the English Canadian and American players being drafted by teams located in Quebec.

The rest of Table 3 does not duplicate the results that had been achieved by Longley (1995) in his location test of salary discrimination. Looking at regression (B), the results show that Canadian teams do not discriminate against French Canadian players at the time of the draft: their worth is not underestimated at draft time. This result is, however, fragile: only a handful of French Canadians have been drafted in the past by teams located in English Canada.¹⁷ On the other hand, it is clear that European players are drafted late by English Canada teams, relative to the actual achievements of these Europeans in the NHL.

Finally let us consider the results of regression (C). The results show that American teams clearly underestimate the potential of French Canadian players at the time of the draft. Thus most of the entry discrimination that can be observed at the aggregate level would seem to arise from the behavior of the American teams. European players drafted by American teams also exhibit a positive coefficient, but it is far from being significant, and hence it would appear that the evidence of discrimination against Europeans which has been found at the aggregate level must be mostly attributed to the behavior of the teams located in English Canada, a behavior which might be called the *Don Cherry effect*.¹⁸ English Canadian players, by contrast, are associated with a negative coefficient which would imply that these players are being slightly overestimated, but statistical significance is lacking.

These results lack consistency. If customer discrimination were present, one would have expected the teams from a given location to discriminate systematically against players of all foreign origins.

This is not the case, however. Additionally, if the prejudices of the central scouting bureau against French Canadian (or European) players were responsible for the previously uncovered aggregate evidence of entry discrimination, these prejudices should have been reflected both in English Canada and in the United States. The above contradictions once again show that when more sophisticated techniques are introduced to uncover more complicated facts or to verify more sophisticated hypotheses, the obtained results are often fragile.¹⁹

VI

Conclusion and Policy Implications

THE PRESENT STUDY, based on the prior accumulated statistics of veteran players playing during the 1993/94 season, reinforces previous findings based on other NHL seasons. As before, it has been shown that French Canadian players suffer from entry discrimination at the time of the draft. The result is robust: taking the style of play into account changes nothing to this long-standing feature. The use of various measures of robustness or defensive play, such as the height or weight of a player, the number of minutes of penalty piled up per game, or a dichotomic variable showing whether the player usually participates or not in short-handed play, makes no difference.²⁰ European players appear to suffer the same fate.

In addition, it has been shown that although the two teams that used to be located in the Province of Quebec have claimed to attach a premium to the choice of French Canadian players, no such premium could be found. On the contrary, the evidence seems to indicate that those two teams—the Nordiques and the Canadiens—may have been influenced by the systematic under-valuation of French Canadian junior players by the NHL central scouting bureau. This biased information would be approximately compensated by the two teams' desire to draft local players. Contrary to popular wisdom, however, the evidence clearly shows that the two teams from the Province of Quebec discriminated against neither English Canadian players nor American players at the time of the draft.

On the other hand, entry discrimination against French Canadians

clearly arises in the case of teams located in the United States, but no such evidence could be found in the case of teams located in the rest of Canada. This is the exact opposite of what had been found by Longley (1995) with respect to pay discrimination, i.e., English Canadian teams appearing to discriminate against French Canadian forwards while American teams did not. The result also runs against the clear-cut conclusion, arrived at by Longley (1999) on the basis of thirty seasons of data, that English Canada teams draft a proportionately smaller number of French Canadian hockey players relative to the teams located in the United States. Thus, general conclusions cannot be drawn at this stage. Studies combining a multiplicity of seasons are required in order to increase the number of players included in the smallest categories and to increase the reliability of the results.

Still, can any policy conclusions be drawn out of the obtained results? First it should be pointed out that the collective bargaining agreement between the players and the owners specifically forbids any discrimination. Article 7.2 points out that: "Neither the NHLPA, the NHL, nor any Club shall discriminate against or in favor of any player because of religion, race, color, national origin, sex, age, marital status" (NHLPA/NHL: 12). Within the current context of political rectitude, it is difficult to see how a case could be proven on the basis of a single player. No staff member will ever admit of choosing or not choosing an individual player on the basis of race or ethnic origin. It seems that such an article is mainly helpful to control racial remarks or ethnic slurs.

On the other hand, studies such as ours could demonstrate some evidence of discrimination on the basis of national origin, but then, since harm is being done to a group of players in general rather than to anyone specifically, it is not clear who would and who could invoke the collective agreement. My guess is that not much can be done along that avenue. Rather, what is required is more and better information.

If hiring discrimination was essentially associated with fan discrimination, which is not what the results bear out, more information would not alter the behavior of those making the decisions at the time of the draft, since profit maximizing considerations would be

inducing owners to discriminate. But if instead entry discrimination is essentially associated with prejudices, such as the belief that French Canadians and Europeans lack defensive skills when compared to American or English Canadian players of equivalent talent, then the main remedy is to spread correct information. By demonstrating that the contribution of French Canadian or European hockey players is under-estimated as a group, the assessment of scouts or of coaches and general managers can be slowly modified. The present study is precisely one element of this potential information blitz.

Indeed, such a change in perception may have already occurred. Between 1993–94 and 1999–2000, the proportion of English Canadian players has fallen from 56 to 46% and that of American players has fallen from 18 to 16%. On the other hand, the proportion of French Canadians in the NHL has remained constant at approximately 10%, while that of Europeans has increased, from 16 to 28%. Nearly 40% of the NHL players do not have English as their mother tongue. Not being an English-speaking player may now be less of an issue in the NHL.

Notes

1. An affair erupted recently when a French Canadian player, Patrice Brisebois, from the Montreal Canadiens, complained to the media that he had been called a “frog” on several occasions in front of the referee by an opponent from the Ottawa Senators, Vaclav Prospal, himself a Czech player. Prospal, whose coach, ironically, is himself French Canadian, later presented excuses, claiming that being a foreigner, he was not aware that the slur “frog” could be taken as hateful. Media pointed out that the insult was one that “French Canadian players have endured for decades” (Beacon 2000). The fact that a foreign player would call a French Canadian by the name of “frog” demonstrates that this derogatory expression is probably used routinely on the ice or in the dressing room.

2. There is also a recent paper by Jim Sentance (1999), which directly investigates the possibility of fan discrimination, by studying the price of hockey cards compared to the past performance of their players. Sentance finds some evidence, based on the prices of cards in Canada, that there might have been some fan discrimination against French Canadian players in English Canada.

3. The data pertains to the players of the 1993/94 season, when two teams from the Province of Quebec played in the NHL. The Quebec Nordiques became the Colorado Avalanche in 1995.

4. Ever since the seminal study of Pascal and Rapping (1972), several researchers have believed that fan discrimination plays a crucial role in the sports labor market. See Kahn's (1991) survey, and Hamilton (1997: 289) and Hanssen (1998) for recent arguments pertaining to basketball and baseball, respectively.

5. Earlier studies of the draft did not include American and European players because it was assumed that they were being picked on a basis that was different from that of Canadian players, who provided most of the NHL labor pool.

6. This occurs, i.e., the performance/draft relationship reaches its minimum point, at rank 113, 140, 123, 104 respectively, according to the four studies of Table 1. Thus, as Walsh (1992: 459, fn. 29) notes, in the last half of the draft the negative relationship between performance and draft number is not there. But very few players who have been chosen in the last half of the draft become regulars in the NHL. Walsh says that the regressions of Table 1 are "nonsensical." Rather, this feature of the regression is more a reflection of the deficiencies of the predicting abilities of NHL scouts, who are unable to identify all future good players, than a failure of the analysis. In any case, I have also run a regression using the inverse of the draft rank, instead of the squared term, thus imposing a downward-sloping curve, and have obtained nearly identical results. For another set of data, third, fourth, and fifth order terms of the draft variable were introduced as a response to Walsh's critique, but again the coefficient of the French Canadian dummy variable remained the same.

7. In hockey, there has been no study on the costs of discrimination, i.e., no study was done trying to relate the winning percentage of a team to the proportion of French Canadian or European players on each team. In baseball, it was shown that, between 1950 and 1984, the addition of black starters meant better winning percentages (Hanssen 1998).

8. For instance, Dino Ciccarelli had two 50-goal seasons with the Minnesota North Stars, while Tim Kerr had four with the Philadelphia Flyers. Both (Canadian) players were never drafted.

9. Reading game reports, it would appear instead, at least on occasions, that penalized players failed to suffer for the team, drawing stupid penalties when losing their temper and attempting to retaliate.

10. Introducing Europeans and Americans in such regressions was first done by Lavoie and Grenier (1992) and McLean and Veall (1992).

11. Forwards who play regularly in short-handed situations score 43.8 career points per season versus 36.0 points per season for the other forwards. Similarly for defensemen, the numbers are 27.8 and 20.3 respectively. These numbers are for players of the 1993–1994 season, and the differentials are statistically significant (Lavoie 1998: 53).

12. Longley (1997) mentions that the behavior of the Ottawa Senators may

be different from that of the other Canadian teams because 30% of the population of the Ottawa-Hull metropolitan area is made up of French Canadians. This was also an argument made by Boileau and Boulanger (1982) when dealing with the Ottawa team that briefly played in the NHL rival league, the World Hockey Association (WHA).

13. These prejudices are mentioned by hockey experts Klein and Reif, as reproduced in Lavoie, Grenier and Coulombe (1992: 467). When Luc Robitaille reached the 500-goal mark early in 1999, he recalled that many scouts and so-called experts claimed that he was lazy and lacked defensive skills (Robitaille was chosen at the 171st rank in the 1984 draft).

14. Common wisdom may be reflected by the remark that a referee once made: "It is not clear that any teams discriminate against French Canadians, but there certainly are two teams who have discriminated in favour of them: the Quebec Nordiques and the Montreal Canadiens."

15. Note that here the players are divided according to the team that drafted them, whereas in Longley's (1995) study of the location of pay discrimination, players are divided according to the team for which they end up playing.

16. The qualitative results are similar when only the *Defensive play* variable is added to the draft rank, as was done in Table 2.

17. There were only five French Canadian defensemen and forwards drafted by the six teams from the rest of Canada. The sample excludes rookies, such as Alexandre Daigle, who started to play for the Ottawa Senators in the fall of 1993. In the sample used by Longley (1995), based on the 1989/1990 season, English Canada teams also only used five French Canadian forwards. This paucity of numbers will not yield robust results.

18. Don Cherry is a former NHL coach who is a highly-popular commentator of *Hockey Night in Canada*, for the Canadian Broadcasting Corporation. Cherry has long disparaged the play of European hockey players.

19. For instance, while all authors agree on the determinants of salaries in baseball, different techniques have been used to measure the net marginal revenue product of players. As a result, studies trying to establish whether or not free agent players were cheated by the owners during the 1986–1988 period have yielded widely different conclusions (contrast, among others, MacDonald and Reynolds [1994] with Oorlog [1995]).

20. Other regressions were run, measuring performance, robustness, and experience per season—instead of per game. Those regressions yielded similar results.

References

- Beacon, Bill. (2000). "NHL investigates ethnic slur against Brisebois," www.southam.com/ottawacitizen/newsnow/cpfs/hockey, January 5, 2000.

- Boileau, Roger, and Rock Boulanger. (1982). "Les francophones au hockey: compétence limitée ou promotion bloquée?" *Desport*, September:15-8.
- Coulombe, Serge, and Marc Lavoie. (1985). "Les francophones dans la Ligue nationale de hockey: une analyse économique de la discrimination," *L'Actualité économique*, 61 (1): 73-92.
- Hamilton, Barton H. (1997). "Racial discrimination and professional basketball salaries in the 1990s," *Applied Economics*, 29 (3): 287-296.
- Hanssen, Andrew. (1998). "The costs of discrimination: A study of major league baseball," *Southern Economic Journal*, 64 (3): 603-627.
- Kahn, Lawrence H. (1991). "Discrimination in professional sports: a survey of the literature," *Industrial and Labor Relations Review*, 44 (3): 395-418.
- Idson, Todd L., and Leo H. Kahane (forthcoming). "Team effects on compensation: an application to salary determination in the National Hockey League," *Economic Inquiry*.
- Jones, J. Colin H., Serge Nadeau, and William Walsh. (1999). "Ethnicity, productivity and salary: player compensation in the National Hockey League," *Applied Economics*, 31 (5): 593-608.
- Jones, J. C. H., and William D. Walsh. (1988). "Salary determination in the National Hockey League: the effects of skills, franchise characteristics, and discrimination," *Industrial and Labour Relations Review*, 41 (4): 592-604.
- Lavoie, Marc. (1989). "Stacking, performance differentials, and salary discrimination in professional ice hockey: a survey of the evidence," *Sociology of Sport Journal*, 6 (1): 17-35.
- . (1998). *Désavantage numérique, les francophones dans la LNH*. Hull: Vents d'Ouest.
- Lavoie, Marc, and Gilles Grenier. (1992). "Discrimination and Salary Determination in the National Hockey League," in G. W. Scully (ed.), *Advances in the Economics of Sport Volume 1* Greenwich, CT: JAI Press.
- Lavoie, Marc, Gilles Grenier, and Serge Coulombe. (1987). "Discrimination and performance differentials in the National Hockey League," *Canadian Public Policy*, 13 (4): 407-22.
- . (1992). "Performance differentials in the National Hockey League: discrimination versus style-of-play thesis," *Canadian Public Policy*, 18 (4): 461-469.
- Leonard, Wilbert M. (1988). "Salaries and race in professional baseball: The Hispanic component," *Sociology of Sport Journal*, 5, 278-284.
- Leonard, Wilbert M., and Marc Lavoie. (1990). "Salaries, race/ethnicity, and pitchers in major league baseball: A correction and comment," *Sociology of Sport Journal*, 7 (4): 394-398.
- Leonard, Wilbert M., J. Pine, and C. Rice. (1988). "Performance characteristics of white, black and Hispanic major league baseball players: 1955-1984," *Journal of Sport and Social Issues*, 12 (1): 31-43.

- Longley, Neil. (1995). "Salary discrimination in the National Hockey League: the effects of team location," *Canadian Public Policy*, 21 (4): 470–5.
- . (1997). "Do English Canadian hockey teams discriminate against French Canadian players? A reply," *Canadian Public Policy*, 23 (2): 217–20.
- . (1999). "The underrepresentation of French Canadians on English Canadian NHL teams: Evidence from 1943 to 1998," Working Paper, 30 pp.
- MacDonald, D. N., and M. O. Reynolds. (1994). "Are baseball players paid their marginal products?," *Managerial and Decision Economics*, 15 (5): 443–57.
- Marple, David P. (1975). "Analyse de la discrimination que subissent les Canadiens français au hockey professionnel," *Mouvement*, 10 (1): 7–13.
- McLean, Robert C., and Michael R. Veall. (1992). "Performance and salary differentials in the National Hockey League," *Canadian Public Policy*, 18 (4): 470–5.
- NHLP/NHL (1995). *Collective Bargaining Agreement*.
- Oorlog, Dale R. (1995). "Marginal revenue and labor strife in major league baseball," *Journal of Labor Research*, 16 (1): 25–42.
- Pascal, Antony H., and Leonard A. Rapping. (1972). "The economics of racial discrimination in organized baseball," in A. H. Pascal (ed.), *Racial Discrimination in Economic Life*. Lexington: Lexington Books.
- Renger, Ralph. (1994). "Identifying the task requirements essential to the success of a professional ice hockey player: a scout's perspective," *Journal of Teaching in Physical Education*, 13 (2): 180–195.
- Robillard, Guy. (1999). "Verrons-nous bientôt Éric Chouinard et Mike Ribeiro?" *Le Devoir*, February 3, p. B8.
- Sentance, Jim. (1999). "English-Canadian attitudes to French-Canadian hockey players: evidence from the market for vintage hockey cards," Paper presented at the 1999 annual conference of the Canadian Economics Association, 17 pp.
- Walsh, William D. (1992). "The entry problem of francophones in the National Hockey League: a systemic interpretation," *Canadian Public Policy*, 18 (4): 443–60.