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Canada at the Crossroads: Improving International Performance by Establishing a New Canadian Soccer League

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Abstract:

Canada's national soccer team program has met with disappointing results in the qualifying rounds of play in the CONCACAF zone that lead to World Cup qualification. Canada has not appeared in the World Cup tournament since 1986 and more recent performances place Canada well down in the FIFA world rankings. Canada has not benefitted from a national soccer league since 1993 and Canadian players have difficulty finding training opportunities abroad. This paper develops an econometric model to explain a nation's FIFA world points to determine the expected improvement in Canada's FIFA world points, and subsequent FIFA world and CONCACAF rankings, by establishing a hypothetical ten-team Tier II soccer league. The model suggests that only a modest improvement could be expected since most FIFA member nations already feature at least one professional or semi-professional league of some sort.

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Football is undeniably the most popular team sport in the world. Although many countries feature semi-professional and professional leagues with club sides, nothing captures the public interest and generates feelings of nationalistic pride than football played at the national team level. Regional competitions culminate in the World Cup tournament every four years that determines the top football nation in the world. There is no doubt that the psychic benefits from successfully progressing through the regional tournaments are large given the media coverage and revenues that are generated. For many countries, failing to qualify for the World Cup tournament is a national disgrace, while for others, qualifying is hopeful dream.

The wealthiest nations of the world tend to have successful national team programs. The larger European and South American economies tend to be frequent participants in the World Cup final accompanied by high FIFA national team rankings. The faster developing nations in Africa (Cameroon, Cote d'Ivoire, Nigeria, South Africa and others) and Asia (China, Japan, South Korea and others) are moving up the football ladder. North America is led by the United States and Mexico, with some of the Central American countries (Costa Rica, Panama) challenging for top position in the region. A puzzling anomaly is the case of Canada. Despite having one of the highest standards of living in the world, Canada's national team ranked 122nd in the FIFA world rankings as of November, 2014, just behind Niger and just in front of Liberia (out of 209 nations that are members of FIFA). Canada is a nation of just over 35 million people and has a per capita real GNI of US\$ 52,200.¹ Known more as an ice hockey nation, Canada has shorter summers than most countries, but no shorter than the more successful football nations of Finland, Russia, Netherlands, Sweden and others.

What Canada lacks is its own viable semi-professional or professional football league that can serve as a development platform for Canadian players. It is true that three Major League Soccer (MLS) teams operate in Canada (Montreal, Toronto and Vancouver) as well as one (Edmonton) from the second-tier North American Soccer League (NASL), however these teams feature little in the way of Canadian talent. In fact, out of 533 players in MLS in the 2011 season, only 21 were Canadian.² The NASL featured 31 Canadian players, most of whom saw little playing time on the pitch.³ Differences in language and culture make it very difficult for talented Canadian youth players to be featured in other foreign countries.⁴

¹ Source: <http://data.worldbank.org/country/canada> accessed on 03/11/2014.

² Source: *In a League of Our Own: A Study into the Viability of Division II Football in Canada*, ReThink Management Group, 2012. Available at http://rethinkmanagementgroup.com/case_studies

³ Source: Op. Cit. ReThink Management Group.

⁴ Source: Op. Cit. ReThink Management Group.

The definitions for a semi-professional or a professional league can differ by country, but generally a player in a semi-professional league cannot rely on income from playing football alone and typically earns less than the nation's per capita real GNI, whereas a player in a professional league earns enough income (more than the nation's per capita GNI) to avoid a second occupation. In the United States, MLS is considered a professional league as the average salary was approximately \$142,000 for the 2013 season, but some marquee players earned much more.⁵ The average salary in the second-tier NASL is thought to be approximately \$30,000, giving it semi-professional status.⁶ Salary data was not used to evaluate the semi-professional or professional status of each national league in each country due to the lack of available salary data. Instead each country was investigated using a wide variety of internet sources and a judgement was made. Many leagues were deemed as amateur leagues and excluded from consideration, particularly on the African continent.

It was judged that a total of 207 out of the 209 member countries of FIFA have at least one semi-professional or professional national football league, most of these being semi-professional. The only exceptions that could be found were Canada and the U.S. Virgin Islands. One can certainly criticize the rather subjective methods used to calculate the figure, however if anything, the methods were lenient. Yet Canada did not exhibit anything close to a semi-professional or professional national league. Yet the exclusion of Canada is not because it has not tried in the past. The Canadian Soccer League (CSL) operated between 1987 and 1993 with clubs primarily located in Ontario. The league procured a national television contract with TSN (The Sports Network) and featured mostly Canadian players. Unfortunately bad financial management and unreasonable expectations forced the league to cease operations in 1993, however the legacy of the CSL could be seen in the performance of the national team that ranked 42nd in the world in 1994 and won the CONCACAF Gold Cup tournament. It is possible that the re-establishment of semi-professional or professional football at the tier-two level could move Canada upward significantly in the FIFA world rankings and within the CONCACAF zone. Players developing in such a league, combined with Canadian players in MLS, could see Canada qualify for the World Cup tournament, although the road would be difficult.⁷

The purpose of this paper is to estimate how much of an improvement in its FIFA world ranking and subsequent ranking in the CONCACAF zone that Canada could expect by establishing a national football

⁵ Source: http://www.mlspayers.org/salary_info.html accessed on 03/11/2014. These salaries include those for designated players whose salaries can be much higher than the average.

⁶ Source: <http://blog.fieldoo.com/2014/02/league-review-nasl-reviving-the-past-glory-of-pele/>

⁷ Canada did qualify for the World Cup tournament in 1986 in Mexico largely utilizing players that played in the defunct first NASL.

league. This will require specifying and estimating an econometric model that determines a nation's FIFA rank, then forecasting a rank for Canada after establishing its own hypothetical national football league. For Canada it is the improvement in its ranking in the CONCACAF zone that will determine its chances for World Cup qualification. The next section provides a brief summary of Canada's national team performance in the past to provide a motivation for establishing a national league. The third section reviews the literature that has examined FIFA world rankings using econometric models and determines a useful specification for our purposes. The fourth section provides the estimation results and the last section provides a discussion of Canada's forecasted performance in the CONCACAF zone.

Recent Canadian Performance

Despite Canada's senior men's team having recent successes in World Cup qualification rounds in the CONCACAF zone, its historical performance since its World Cup appearance in 1986 has been disappointing. The CONCACAF zone is dominated by the United States and Mexico who usually qualify for the World Cup tournament. That leaves only one spot to possibly qualify and Canada has faced very stiff competition from Honduras, Panama and other zone nations. While achieving a FIFA ranking as high as third in the CONCACAF zone in 2007, the Canadian side typically ranks tenth in any year. Part of this is due to the facts that Canada does not play as many international matches as other nations and has difficulty finding matches against quality opponents. Other nations, including Australia, South Korea and Japan have improved their international performances greatly in the last two decades by establishing national professional football leagues, while Canada's record has not shown any consistent improvement.⁸ These countries established professional leagues that improved the quality of their domestic talent, albeit, while incurring financial losses that in some cases were subsidized by government.

The men's Canadian national team plays in the CONCACAF zone which includes 35 countries with the United States and Mexico as the dominant nations. Only the top three teams receive automatic qualification to the World Cup tournament. A fourth team may qualify if it defeats the fifth place team from the South American zone (CONMEBOL). The quality of the top six teams in CONCACAF is typically high and Canada has found it difficult to place in the top six in recent years. Figure 1 displays

⁸ One could point to the successes of professional leagues in other countries that were not traditional soccer powers as justification for a new professional league in Canada. However other leagues in other countries share conditions that are very different from Canada. They largely operate in geographic isolation with no competition from rival leagues. This gives them tremendous bargaining power over television, media, apparel and other lucrative rights contracts and provides a more secure future for potential investors. In some cases such as Australia's A-league, the federal government has contributed significant monies to offset operating losses as part of an effort to bring more exposure to its national team program. It is unlikely that a new Canadian league could rely on similar funding.

Canada's FIFA ranking within the CONCACAF zone over the last five years. Canada has placed as high as third (August 2007) in the rankings and as low as 13th (January 2007) and has demonstrated marked volatility in comparison to other countries in the zone and a persistent fall in ranking during the winter months.⁹ Part of the reason for this is how the FIFA rankings are constructed. The Canadian team plays very few, if any, games in the winter months, while other teams in the zone remain actively playing games. This moves Canada down in the points ranking even though there is no change in the quality of the team. Some members of the national team play for European clubs whose season extends over the winter months, making it difficult for Canada to staff a national team. It is also likely that Canada's low world ranking makes it difficult for the team to schedule games due to the lack of appeal for highly ranked teams.

It is insightful to compare Canada's world FIFA ranking with Australia's. Canada's population of 35.1 million is larger than Australia's 23.1 million, yet both countries have high income per capita (\$52,200 and \$65,520 for Canada and Australia respectively).¹⁰ Figure 1 displays the FIFA world rankings for the two countries since 1994. Although Australia was ranked somewhat higher than Canada through 2004, it shared the same volatility and inconsistency. Australia moved from the Oceania zone to the Asian Football Conference (AFC) in 2005 where it faced much better competition. The Hyundai A-league and National Youth League also commenced in 2005, replacing the old and failing National Soccer League. Guus Hiddink was hired as manager of the team and brought a high standard of international and club-level success to the program. The improvement in Australia's FIFA ranking since 2005 is impressive and the lack of volatility remains quite remarkable.

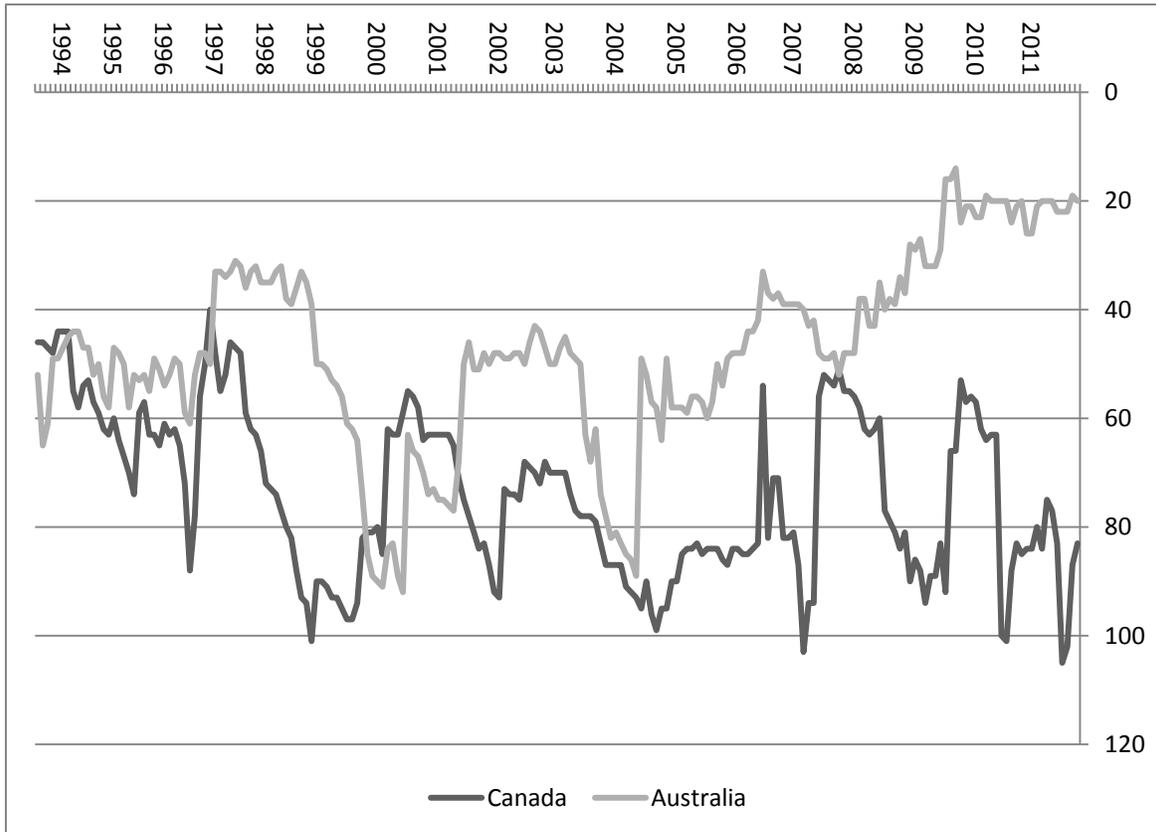
Canada's FIFA world ranking displays no periods of consistency or permanent improvement since 1997. In economic terms, Canada's world ranking is a random-walk with no predictability other than the previously noted winter decrease. The most notable period is 1993-97 when Bob Lenarduzzi managed the national team that consistently ranked 4th or 5th in CONCACAF but did not qualify for the World Cup. Canada and Australia were ranked 55 and 62 in the world respectively in mid-year 2000, but since that time Australia has shown marked improvement to a ranking of 20th by the end of 2012, while Canada has shown no consistent improvement and was ranked 83rd in the world. A large part of Australia's success

⁹ FIFA rankings are not without controversy and criticism. The ranking for each country is calculated based on a point system for victories and the quality of opponents. The ranking is based on a weighted average of points earned for the last three years with declining weights. The ranking calculation was changed by FIFA in 1998 and again in 2006 in response to criticisms of its accuracy and meaningfulness. A good reference is McHale and Davies (2008).

¹⁰ Source: <http://data.worldbank.org>. Accessed on 03/11/2014

has been the result of significant government funding being made available to the Football Federation of Australia (FFA) since 2005 to support the A-league and the national program.

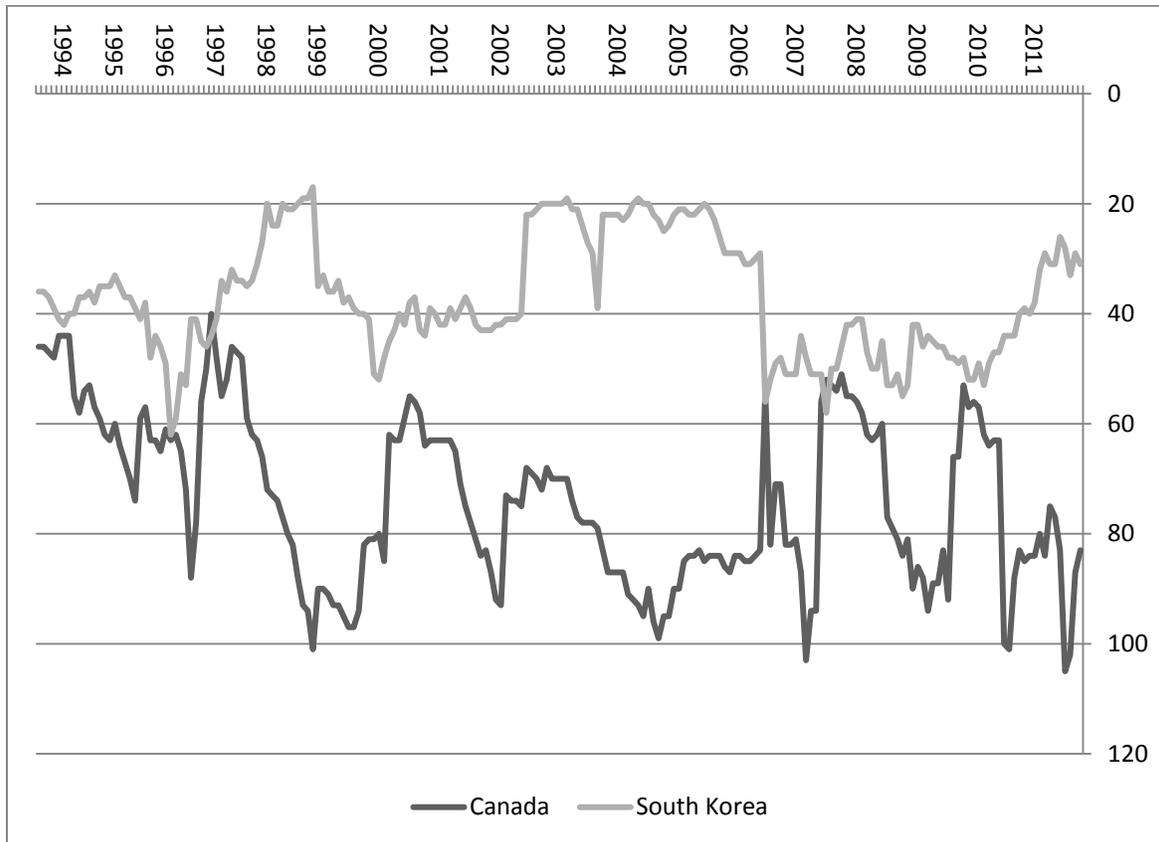
Figure 1: FIFA world rankings for Canada and Australia men’s national teams



Source: Compiled from <http://www.fifa.com/fifa-world-ranking/index.html>

South Korea provides an interesting example of how establishing a professional (K-league) can maintain the hard-worked achievements for national player development. Canada and South Korea were very close in the FIFA world rankings in 1994, Canada’s best year. South Korean businesses established the national K-league in 1998 that now features 16 clubs and a relegation tier-two league. Figure 2 demonstrates how the K-league has helped South Korea maintain its FIFA world rank between 20th and 40th for much of the last 16 years, a lofty position it never achieved before the 1990’s. Nevertheless the cases of Australia and South Korea do not guarantee that Canada will achieve the same success at the national team level. The next section builds an econometric model to estimate the degree of success that Canada can expect given its demographic and economic characteristics, as well as football history and position in the CONCACAF zone.

Figure 2: FIFA world rankings for Canada and Australia men's national teams



Source: Compiled from <http://www.fifa.com/fifa-world-ranking/index.html>

Previous Literature

The small literature that exists concentrates on how the FIFA rankings are associated with demographic, economic and political factors. FIFA began computing the monthly world rankings in 1993, hence the literature that studies the rankings is quite brief and recent. Hoffman, Lee and Ramasamy (2002; henceforth HLR) selected a sample of the 76 countries that were medal winners at the 2000 Olympic summer games held in Sydney and obtained their FIFA world ranking points for January 2001. Their econometric specification included a nation's real per capita GNP and population as economic and demographic factors. Real per capita GNP can be thought of as an indicator of a nation's willingness to fund football development programs. HLR included a quadratic GNP term to account for the possible diminishing returns to football funding on the FIFA world ranking points. Population was included as a scaling variable to possibly capture the larger sample of skilled football players to draw from with a larger

population base. Population can also account for countries with relatively low per capita incomes, but large enough populations to still provide an adequate level of funding and support for football leagues and national programs.

Climate could be a factor in determining football popularity and success. HLR included a temperature variable that is the squared deviation of the average temperature in the capital city from 14°C. This variable could be problematic if temperature shows considerable variation in large countries, such as Russia and China. If it is the case that the majority of club teams and the national team are housed in the capital city, this is less of an issue. HLR included a dummy variable if the country is Spanish or Portuguese speaking based on the argument that the cultures of these nations have ingrained football success. A dummy variable for hosting the World Cup tournament is also included as an independent variable on the grounds that hosting the tournament can kick-start national development programs and professional leagues. Macmillan and Smith (2007; hereafter MS) correctly point out that the likelihood of winning the bid to host a World Cup tournament is strongly associated with a tradition of international football success, hence there is an endogeneity issue that is tricky to solve.

HLR found that all of their independent variables were statistically significant with the expected signs using least squares. However the approach used by HLR has two problems. First, HLR measure the FIFA world points at a single point in time instead of over a period of time. This snapshot method suffers from the large swings in FIFA points that occur over the calendar year. Countries that play few international matches in the winter months, mostly those in the northern hemisphere, will have relatively fewer points than those countries that play more regularly in the winter months. FIFA world points are calculated using a complicated formula that gives the largest weight to the most recent matches and the least weight to matches that occurred four years previous. With no international matches played in the winter months, Canada's FIFA world ranking typically drops by 10 to 15 positions with its points remaining unchanged. Hence the choice of the time of year to measure the FIFA world points is important to insure that the points are representative of the quality of a national team.

The second problem with the HLR approach is well-documented by MS. Including only the 76 countries introduces a sample selection bias that can only be overcome by using a much larger sample of countries. MS include all of the FIFA member countries that reliable data can be obtained for – a total of 176 countries in all. Their model specification is the same as HLR with the addition of two new independent variables to capture a nation's football tradition. The first is the number of years since a nation played its first international football match. This could be a troublesome measure since many of the smaller FIFA

member nations culled together national teams from amateur men's social clubs long ago that played very few international matches after their first. Many of the examples are nations that were colonized under British (Bahamas, Bermuda, India, Myanmar (Burma), etc.) or French (Algeria, Morocco, Senegal, Suriname, etc.) rule that brought strong football traditions with them. Typically after gaining independence, these nations show little interest in maintaining these imported football traditions, but might experience a resurgence in international football participation in more recent years. MS also include a dummy variable to represent former republics of the Soviet Union that have had much less time to develop independent football traditions.

The econometric results obtained by MS differ somewhat from HLR probably due to the much larger sample. All of the independent variables are statistically significant with the expected signs with the exception of being a host country for the World Cup tournament. Nevertheless the rather modest adjusted R^2 values obtained by HLR and MS (highest value is 0.508) suggest that there is much more work to be done.

A simpler econometric model is used by Houston and Wilson (2002: hereafter HW) to explain the January 1999 FIFA points of 179 countries. The independent variables included real per capita income in linear and quadratic form, as well as the natural logarithm of population, the number of years of FIFA membership and the number of youth World Cup appearances. All of the variables are statistically significant with the correct sign with the exception of years of FIFA membership.

It makes sense to specify dummy variables that account for the zone group that a country is situated in. FIFA divides the world in six zones based on geographic location. The strongest zone is undoubtedly UEFA (Union of European Football Associations) that includes all of the strongest European countries. One of the factors that are used in the calculation of the FIFA world points is the strength of the opponent measured by its FIFA world rank. Playing a stronger opponent garners a nation more FIFA points regardless of the outcome of the match. So countries in the UEFA zone can accumulate a lot of points simply because they play against the strongest opponents in the world. On the other hand, pity poor New Zealand that plays in the weakest of the FIFA zones, the OFC (Oceania Football Confederation). It plays matches against the weakest opponents in the world, hence accumulating a number of FIFA world points equal to even a moderate quality European country is impossible. The introduction of zonal dummy variables should account for differences in the average number of FIFA world points across the zones.

Leeds and Leeds (2009; hereafter LL) extend the work of HLR to include new independent variables that they select to test a number of the hypotheses developed in Foer (2004). These include a dummy variable for each of the former Soviet republics (Latvia, Estonia and so on) and a dummy variable for each of the current communist countries (Cuba, China, North Korea and Japan) based on the argument that communist regimes value sport as a type of international propaganda and will direct more resources to sport than democratic regimes. LL also include the Freedom House rating of political freedom based on the argument in Foer (2004) that political freedom will enhance international football success. Other variables include a dummy variable to indicate the last occupying country after 1900, a dummy variable for an oil-exporting country and the number of domestic clubs that qualify for the zone Champion's League competition. The empirical results suggest that real per capita GDP, population, having hosted a World Cup tournament and being an oil-exporting country are positive and significant contributors to FIFA points. Being a current communist country negatively impacts FIFA points while having domestic clubs that compete in zone Champion's League tournaments are important for African and South American nations. Overall the results do not support most of the hypotheses regarding international football performance that are developed in Foer (2004).

Miyazaki (2013) examines the composition of a national football teams as a determinant of its FIFA world points. Specifically, Miyazaki determines the number of national team players that also play in top-level professional leagues outside of the country for the 1999-2006 sample period, and includes this number as an independent variable in a least squares regression. The other independent variables include population, per capita real GDP, total number of World Cup tournament appearances, total number of youth World Cup appearances, and the year that the nation became a FIFA member. Miyazaki defines the top-level leagues to be the Premiership (England), League 1 (France), Bundesliga (Germany), Serie A (Italy) and La Liga (Spain). To have any chance of playing in these top leagues, a player most certainly must be a national team member in most of the FIFA member countries. This introduces an endogeneity issue that Miyazaki handles by constructing an instrumental variable for the number of players in these leagues using the nation's real purchasing power parity index as an instrument. Rather than using zonal dummy variables, Miyazaki constructs a new independent variable that is the total FIFA ranking points for each zone less the FIFA ranking points for each country divided by the total number of FIFA member nations minus one. The objective is to hold constant the relative strength of each FIFA zone, however this approach seems rather ad hoc. It is not clear why Miyazaki did not account for fixed effects by using zonal dummy variables or taking differences from the country mean for each variable. The empirical results suggest that having players on the national team that play in the top-level leagues does not have a

statistically significant effect on the FIFA world points. When the African nations are excluded, there is only a small, but statistically significant, effect.

Model and Data

Our emphasis is to estimate the contribution of the presence of domestic professional and semi-professional football leagues to a nation's international football success. This is particularly important for less visible football countries whose domestic talent have little opportunity to feature in important foreign leagues. Canada can be included in this group. Determining whether a football league is professional, semi-professional or amateur is simple for some countries since the league status is either well-known or can be easily determined using information from the league office or the national football association. For the football powers of the world, the distinguishing feature of an amateur league is that players are not paid for the services, although they may receive training, gear, transportation and meals. However for the poorer countries, the distinction is not so clear. Many African nations in the CFA zone would be classified as amateur using the standards of more developed football countries. Yet benefitting from training, food, lodging and transportation could place these fortunate players in a much better economic situation than those in the general population.

We utilized three simple criteria to determine the amateur status of a domestic football league. These affected the outcomes mostly for nations in the AFC, CFA, CONCACAF and OFC zones. We determined a football league to be non-amateur if: 1) the league is a national league and not a regional league; 2) the top clubs in the league qualify for the zone Champion's League competition, or; 3) teams in the league can be promoted to an immediately higher league that meets the second condition. Using these criteria, most of the member nations in the above mentioned zones had at least one qualifying league. However the number of leagues reveals little about the number of players participating in each league, so the total number of clubs in the qualifying leagues in each country was used as an independent variable, whether professional or semi-professional. Table 1 provides a summary of these data.

As already discussed in the previous section, the number of FIFA world points for each nation is sensitive to the month of the year and the year in the World Cup cycle that is chosen. To overcome these measurement problems, we averaged the number of FIFA world points using the month of August and the years 2010 through 2013. August seemed like a good choice since most (but not all) of the major professional football leagues begin a new season in this month and international football activity subsides for the year. These data also appear in Table 1.

LL used the FIFA rank as the dependent variable in one of their regression models, however we have chosen not to use the FIFA rank for several reasons. Ranks are ordinal data, meaning that the distance between two consecutive ranks has no meaning. The least squares estimator makes use of the sample mean and variance of the dependent variable in computing the coefficient estimates. These statistics have no interpretation when dealing with data that is ranks making the use of least squares inappropriate. In addition, a FIFA rank can change up or down due to nothing that the national team in question is doing. The FIFA rank for Mexico can move down if other nations that are close to Mexico in the FIFA world points play in matches while the Mexican national team is idle, however Mexico's FIFA world points will not be affected. This unpredictable movement in the rank would be captured in the error term of the model, but there is no reason to believe that this error will be normally distributed and random.

LL argued that a negative binomial regression is appropriate for dealing with data that is ranks, but that is not true. The negative binomial distribution is appropriate for data that measures the number of occurrences of an event over a fixed period of time (commonly referred to as count data), similar to a Poisson distribution, whose statistical properties are well known. An example of a variable that is distributed as a negative binomial is the goal difference between two teams in a hockey game (Rockerbie and Easton (2005)) or a soccer game (Dixon and Coles (1997)) over many games.¹¹ A FIFA rank is just a representation of the ordering of FIFA world points and is not distributed as a negative binomial. A commonly accepted econometric method to deal with data that are ranks does not seem to exist so we avoid the whole issue by focusing only on FIFA world points.

We also included the 2010-13 averages of real per capita GDP in linear and quadratic form, as well as population since their inclusion in the regression model is quite standard in the literature. These were collected from the World Bank (<http://data.worldbank.org>). The number of years of FIFA membership was included to account for football tradition, although we admit this variable does not perform well in the previous literature. Finally we included a dummy variable for each FIFA zone, excluding the UEFA zone, on the basis that it is likely that the average number of points might differ between the zones simply based on the number of matches played and the quality of the opponent.

It may be the case that the marginal effect of an additional football club on FIFA world points differs between the FIFA zones. Adding a 123rd club in Spain might have a much smaller effect on its FIFA world points than adding 10th club in Trinidad and Tobago on its FIFA world points. The strength of diminishing returns also could differ across the FIFA zones. To account for this possibility, we created

¹¹ This is the difference between two Poisson distributed random variables.

interaction terms between the number of clubs in each nation and the zone in which the nation is situated in.

To summarize, the regression model takes the following form.

$$FIFAWP_i = \alpha + \beta_1 CLUBS_i + \beta_2 CLUBS_i^2 + \beta_3 YEARS_i + \beta_4 Y_i + \beta_5 Y_i^2 + \beta_6 POP_i + \beta_7 POP_i^2 + \sum_{k=1}^5 \gamma_k ZONE_k + \sum_{k=1}^5 \sum_{i=1}^N \delta_k ZONE_k \cdot CLUBS_i + \sum_{k=1}^5 \sum_{i=1}^N \delta_k ZONE_k \cdot CLUBS_i^2 \quad (1)$$

The variables *FIFAWP*, *Y*, *YEARS* and *POP* are the FIFA world points averaged over the end of August 2010-2013 years, real GDP per capita, the number of years of FIFA membership up to 2013 and population respectively. The variable *CLUBS* is the number of professional and semi-professional football clubs counted using the criteria already mentioned. Quadratic terms are included for *Y*, *POP* and *CLUBS* to allow for diminishing returns. The variable *ZONE* is a dummy variable for each of the geographic football zones utilized by FIFA, excluding the UEFA zone. These fixed effect terms allow the mean number of FIFA world points to differ across the six world zones. The last two summations contain interaction terms between the geographic zone and the number of professional and semi-professional clubs in each nation. The idea is that having additional clubs may benefit some zones more than others and also affect the rate of diminishing returns to additional clubs.

Results

Equation (1) was estimated for the full sample of 201 FIFA member nations using the White heteroskedasticity-consistent covariance matrix procedure to correct for an unknown form of heteroskedasticity. The results are presented in Table 2. Column (1) presents the estimates excluding the zone dummy and interaction variables. Per capita GDP and population have no statistically significant effect on the FIFA world points, although they do have the correct signs. The number of years of FIFA membership significantly improves the FIFA world points by almost 2.5 points per year of membership. This result is probably heavily weighted by the UEFA countries, many of whom that have been FIFA members since the inception of FIFA in 1904. These countries perform quite well in terms of FIFA world points, while the more recent member countries in the other zones do not perform as well. The result suggests that the years of FIFA membership are a suitable and significant indicator of football tradition. A greater number of professional and semi-professional clubs in the country significantly improves the FIFA world points, albeit with significant diminishing returns. If Canada established a ten-team Tier II league, the model suggests that it could expect to obtain an additional 155 FIFA world points as of

August 2013.¹² This would have improved Canada's world points from 385.95 to 540.91 in August 2013, improving its FIFA world ranking from 91 to 62, a significant improvement. Canada's position within the CONCACAF zone would have increased from 12 to 6, just enough to avoid the first and second rounds of World Cup qualification matches¹³.

The model in column (2) of Table 2 includes the zone dummy and interaction variables. The excluded zone is UEFA, the strongest zone. Per capita GDP and population have statistically significant effects on the FIFA world points with the expected signs. The number of years of FIFA membership is also statistically significant but slightly smaller than the coefficient in column (1). The dummy variable coefficient estimates suggest that the mean number of FIFA world points is significantly lower in the CFA (Africa) and OFC (Oceania) zones than the UEFA zone, likely due to lower number of matches played and the lower quality of the opponents faced in the zones. The effect of additional professional and semi-professional clubs in the UEFA zone is smaller than the effects in column (1) for all of the zones. Since many clubs already operate in most of the UEFA countries, and for lengthy periods of time, this is to be expected. The zone interaction variables are not statistically significant for the AFC (Asia), CONCACAF (North and Central America & Caribbean) and CONMEBOL (South America) zones, suggesting that the effects on the FIFA world points of adding more clubs is the same as the UEFA zone. The effect is significantly higher for the CFA and OFC zones. Unfortunately for Canada, the results suggest that improvement in FIFA world points from operating a hypothetical ten-team league is less than previously estimated. Canada's points are predicted to improve by just 96.63 points as of August 2013, improving its world ranking from 91 to 72 and its CONCACAF ranking from 12 to 6 again.

It could be that the estimates in column (2) are influenced by the presence of many small nations in the sample that have little hope of moving up in the FIFA world rankings and have little inclination to do so. Some of the countries in the CFA, CONCACAF and OFC zones have small populations with little financial support for a national football program. Examples from Table 1 are the Seychelles (89,170), Bermuda (65,020) and American Samoa (55,170). The sample in column (3) excludes countries with

¹² Why just ten teams? Canada is a large country in terms of land mass and its major markets are spread out across the country. The only domestic professional league that operates at a national level in Canada is the nine-team Canadian Football League. A Tier II professional soccer league with ten teams will probably exploit the most viable financial markets in Canada and might struggle to survive (see Op. Cit. ReThink Management Group). The Canadian Hockey League operates across the country and is composed of the Western Hockey League, Ontario Hockey League, and the Quebec Major Junior Hockey League. There are many teams but all are amateur.

¹³ The countries ranked 26-35 play in the first round to reduce the number of teams to 30. Teams ranked 7-25 play in the second round as well as the five qualifying teams from the first round. Teams ranked 1-6 play in the third round against the six group winners from the second round. The final round (the "hex") includes the six group winners from the third round. Canada typically enters play in the second round.

populations less than 100,000 – an arbitrary figure – but excluding enough nations to determine if our belief is true. Per capita GDP and population have statistically significant effects on the FIFA world points, but their marginal effects are smaller as one would expect when the small population nations are excluded. The zone dummy variables are larger for the CFA, CONCACAF and the OFC indicating their mean FIFA points are even further below the mean for UEFA. This can be explained by the exclusion of the minnow nations in UEFA in the sample that increased the mean FIFA world points for the UEFA zone. These countries include Andorra (79,220), Faroe Islands (49,470), Liechtenstein (36,930) and San Marino (31,450). The CFA and OFC remain the only zones that demonstrate returns to additional clubs that are significantly larger than the UEFA zone.

The results in column (3) suggest only a small improvement in Canada's international success from establishing a Tier II professional football league. A ten-team league increases Canada's FIFA world points by just 63.91 points. This translates to a move from a FIFA world rank of 91 to 79 as of August 2013, and a move within CONCACAF from 12 to 9. This is not enough of an improvement to move Canada forward out of the second round of World Cup qualification in the CONCACAF zone and basically leaves its chances for World Cup qualification unchanged or only marginally higher.

Conclusion

Canada's men's national football program has struggled to maintain international relevance since the late 1990's. Poor results in the CONCACAF qualification rounds make any hope of qualification for the World Cup tournament very remote. Canada's FIFA world rank is 122 and it sits 16th in the CONCACAF zone as of October 2014, leaving the nation to look up to the giants of St. Kitts & Nevis at the 15th position. Australia, Japan, South Korea and the United States are recent examples of nations that have significantly improved their national team performances by establishing professional and semi-professional football leagues on a national scale. Canada does not currently operate a national football league even though previous attempts to operate a semi-professional league (CSL, 1987-93) did pay dividends in improving Canada's FIFA world ranking (44th in 1994) and ranking within CONCACAF (4th in 1994). Unfortunately the CSL was not financially viable and it is likely that weak football markets in Canada prevent a national football league from garnering interest from investors.

The international football landscape that Canada currently faces is quite different from what it was in 1994. Many more nations are now FIFA members and have developing national programs (25 since 1994). Many more leagues exist today in the world and this creates a demand for talented players from

many countries that were not thought to be traditionally strong producers of talent. Perhaps most importantly for Canada, the first full season of MLS in 1996 provided a clear path for talented players in the United States, the Caribbean and Central America to improve their level of play. Very few Canadian players feature in MLS and even fewer garner full playing time. For many Canadian players, the only available options are the NASL and the lower divisions of foreign leagues.

This paper places financial viability aside and considers what the effect of a Tier II professional or semi-professional football league would have on Canada's international football position. Based on the estimation results from an econometric model of FIFA world points, the situation for Canada is not encouraging. Establishing a new Canadian league could increase Canada's FIFA world point total per year by 64 to 97 points. This improves Canada's FIFA world rank by 12 to 19 positions, but improves Canada's FIFA rank within the CONCACAF zone by only 3 to 6 positions. The upshot is that the best Canada could achieve would be to avoid the arduous second round of World Cup qualification within CONCACAF, and enter in the more competitive third round with a more rested and experienced team. In the lesser outcome, Canada still enters in the second round of World Cup qualification with a slightly higher rank, but no effective improvement for World Cup qualification. Most FIFA member nations have at least one professional or semi-professional league of some sort, so the return to Canada by establishing its only league is modest.

The results also suggest that the highest returns to establishing more professional and semi-professional teams lie in the CFA (Africa) and OFC (Oceania) zones. The remaining zones (AFC, CONCACAF, CONMEBOL, UEFA) all share returns that are not significantly different from each other. Canada faces a long and difficult road to becoming a notable force in international soccer. Establishing a national Tier II league is a start, but significant resources still need to be devoted to youth programs and assisting young players to find training in foreign leagues.

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Table 1. Number of clubs in qualifying leagues by country and average FIFA points (2010-13).

Country	Zone	FIFA points	Leagues	Clubs	Country	Zone	FIFA points	Leagues	Clubs
Afghanistan	AFC	155.75	1	12	Anguilla	CONCACAF	3.5	1	7
Australia	AFC	666.25	1	10	Antigua and Barbuda	CONCACAF	268.25	1	10
Bahrain	AFC	307.75	1	10	Aruba	CONCACAF	143.25	1	10
Bangladesh	AFC	127.5	1	13	Bahamas	CONCACAF	68.25	1	10
Bhutan	AFC	1.5	1	7	Barbados	CONCACAF	130.75	1	10
Brunei Darussalam	AFC	23	1	10	Belize	CONCACAF	176	1	9
Cambodia	AFC	39	1	10	Bermuda	CONCACAF	135.75	1	10
China PR	AFC	409.5	2	30	Canada	CONCACAF	348.5	1	3
Chinese Taipei	AFC	81.25	1	6	Cayman Islands	CONCACAF	54	1	8
Guam	AFC	58.25	2	16	Costa Rica	CONCACAF	676.25	2	30
Hong Kong	AFC	144	1	11	Cuba	CONCACAF	280	1	16
India	AFC	134.5	1	15	Dominica	CONCACAF	126.25	1	8
Indonesia	AFC	142.5	1	18	Dominican Republic	CONCACAF	283.25	1	8
Iran	AFC	578.25	1	18	El Salvador	CONCACAF	393.75	2	34
Iraq	AFC	349.5	1	16	Grenada	CONCACAF	223.25	1	10
Japan	AFC	758.75	2	38	Guatemala	CONCACAF	310	2	32
Jordan	AFC	442	1	12	Guyana	CONCACAF	238.25	1	10
Korea DPR	AFC	281.25	1	12	Haiti	CONCACAF	358	1	12
Korea Republic	AFC	644.5	3	36	Honduras	CONCACAF	577.75	2	36
Kuwait	AFC	321	1	8	Jamaica	CONCACAF	486	2	24
Kyrgyzstan	AFC	127	2	16	Mexico	CONCACAF	886.75	3	87
Laos	AFC	69.25	1	7	Montserrat	CONCACAF	41.25	1	5
Lebanon	AFC	225	2	28	Nicaragua	CONCACAF	123.5	2	30
Malaysia	AFC	139.75	2	24	Panama	CONCACAF	559.25	2	24
Maldives	AFC	138.75	1	8	Puerto Rico	CONCACAF	188	1	6
Mongolia	AFC	59.75	1	7	St. Kitts and Nevis	CONCACAF	219.75	1	13
Myanmar	AFC	97.5	1	12	St. Lucia	CONCACAF	125.25	1	8
Nepal	AFC	127	1	12	St. Vincent & the Grenadines	CONCACAF	187.25	1	12
Oman	AFC	376	1	12	Suriname	CONCACAF	267.75	2	23
Pakistan	AFC	94.5	1	17	Trinidad and Tobago	CONCACAF	406.5	1	9
Philippines	AFC	175.25	2	21	Turks and Caicos Islands	CONCACAF	19.75	1	7
Qatar	AFC	342.75	1	12	US Virgin Islands	CONCACAF	71	0	0
Saudi Arabia	AFC	348.5	1	14	USA	CONCACAF	840	3	38
Singapore	AFC	154	1	12	Argentina	CONMEBOL	1232.25	3	63
Sri Lanka	AFC	80	1	12	Bolivia	CONMEBOL	450.25	2	27
Syria	AFC	213	1	18	Brazil	CONMEBOL	1119.25	3	60
Tajikistan	AFC	221.75	1	9	Chile	CONMEBOL	971	2	32
Thailand	AFC	207.25	2	38	Colombia	CONMEBOL	1069.75	2	36
Timor-Leste	AFC	20.75	1	9	Ecuador	CONMEBOL	802.25	2	24
Turkmenistan	AFC	224	1	10	Paraguay	CONMEBOL	683	2	28

United Arab Emirates	AFC	367.75	2	22	Peru	CONMEBOL	697.5	2	32
Uzbekistan	AFC	497	2	26	Uruguay	CONMEBOL	1181	2	31
Vietnam	AFC	180.75	2	20	Venezuela	CONMEBOL	649.25	2	38
Yemen	AFC	123.5	1	14	American Samoa	OFC	27.25	1	8
Algeria	CFA	728.75	2	32	Cook Islands	OFC	12.25	1	7
Angola	CFA	379.25	1	16	Fiji	OFC	101.75	1	10
Benin	CFA	386.75	1	14	New Caledonia	OFC	220	1	8
Botswana	CFA	358.75	1	16	New Zealand	OFC	406	1	9
Burkina Faso	CFA	540.5	1	16	Samoa	OFC	48.25	1	10
Burundi	CFA	216.5	1	14	Solomon Islands	OFC	110.5	1	9
Cameroon	CFA	553.25	2	28	Tonga	OFC	42.75	1	4
Cape Verde Islands	CFA	498	1	12	Vanuatu	OFC	88.75	1	8
Central African Republic	CFA	355.25	2	24	Albania	UEFA	530	3	51
Chad	CFA	183.5	1	10	Andorra	UEFA	9.75	1	8
Comoros	CFA	54.5	1	8	Armenia	UEFA	549.25	2	17
Congo	CFA	339	1	18	Austria	UEFA	552	5	68
Congo DR	CFA	316	1	14	Azerbaijan	UEFA	322.75	2	26
Côte d'Ivoire	CFA	914.75	2	38	Belarus	UEFA	484.25	1	12
Djibouti	CFA	13.25	1	10	Belgium	UEFA	931.25	3	70
Egypt	CFA	641.25	1	19	Bosnia and Herzegovina	UEFA	826.25	2	32
Equatorial Guinea	CFA	262.75	2	23	Bulgaria	UEFA	496	2	28
Eritrea	CFA	27.25	1	8	Croatia	UEFA	1030.25	2	22
Ethiopia	CFA	266.75	1	14	Cyprus	UEFA	283.25	2	28
Gabon	CFA	464.25	1	14	Czech Republic	UEFA	734	2	32
Gambia	CFA	209.5	1	12	Denmark	UEFA	866	2	26
Ghana	CFA	727.75	2	34	England	UEFA	1095	5	106
Guinea	CFA	477.25	1	12	Estonia	UEFA	432	2	20
Guinea-Bissau	CFA	136.25	1	10	Faroe Islands	UEFA	141	2	20
Kenya	CFA	251.25	1	16	Finland	UEFA	476.5	3	62
Lesotho	CFA	146.5	1	14	France	UEFA	987	3	58
Liberia	CFA	280	2	14	FYR Macedonia	UEFA	372.75	2	20
Libya	CFA	538	1	16	Georgia	UEFA	397.25	2	32
Madagascar	CFA	120.5	1	12	Germany	UEFA	1449.25	6	111
Malawi	CFA	352.75	1	16	Greece	UEFA	1017.5	4	57
Mali	CFA	570.25	1	16	Hungary	UEFA	691	3	48
Mauritania	CFA	98.5	1	14	Iceland	UEFA	388.5	2	24
Mauritius	CFA	48	1	10	Israel	UEFA	538	2	32
Morocco	CFA	464.25	2	31	Italy	UEFA	1128.25	4	80
Mozambique	CFA	311.5	1	13	Kazakhstan	UEFA	201.75	1	12
Namibia	CFA	244	1	12	Latvia	UEFA	363.75	2	26
Niger	CFA	296	1	14	Liechtenstein	UEFA	172.75	1	10
Nigeria	CFA	639.25	1	20	Lithuania	UEFA	396.5	2	17
Rwanda	CFA	253.5	1	14	Luxembourg	UEFA	253	2	28
Senegal	CFA	510	1	14	Malta	UEFA	169.25	1	12
Seychelles	CFA	55.25	1	10	Moldova	UEFA	289.5	2	28

Sierra Leone	CFA	463.25	1	14	Montenegro	UEFA	695.75	3	53
Somalia	CFA	22	1	8	Netherlands	UEFA	1330.25	2	38
South Africa	CFA	511	1	16	Northern Ireland	UEFA	382.25	2	41
Sudan	CFA	287.25	1	14	Norway	UEFA	759	2	88
Swaziland	CFA	85.25	1	12	Poland	UEFA	508.25	2	34
Tanzania	CFA	254	1	14	Portugal	UEFA	1131	5	80
Togo	CFA	346.25	1	14	Republic of Ireland	UEFA	655	2	21
Tunisia	CFA	596.5	3	48	Romania	UEFA	652.5	3	122
Uganda	CFA	414.75	2	36	Russia	UEFA	958.5	3	50
Zambia	CFA	493.75	1	16	San Marino	UEFA	0	1	15
Zimbabwe	CFA	353	1	16	Scotland	UEFA	628.25	4	42
					Serbia	UEFA	710.75	3	98
					Slovakia	UEFA	639.5	3	102
					Slovenia	UEFA	699.75	3	72
					Spain	UEFA	1473.25	6	122
					Sweden	UEFA	821.75	4	60
					Switzerland	UEFA	947.5	4	78
					Turkey	UEFA	707.5	4	70
					Ukraine	UEFA	723.5	2	34
					Wales	UEFA	540.5	2	28

Table 2. Least squares estimate of Equation (1) using heteroskedasticity correction.

Variable	(1)	(2)	(3)
α	58.108**	70.258*	194.713*
$CLUBS_i$	16.296*	10.029*	6.491*
$CLUBS_i^2$	-0.080*	-0.034*	-0.010*
$YEARS_i$	2.378*	1.881*	1.113**
Y_i	0.001	0.003**	0.006*
Y_i^2	-9.83E-09	-3.06E-08*	-5.50E-08**
POP_i	4.49E-07	7.11E-07*	7.88E-08*
POP_i^2	-4.48E-16	-5.50E-16*	-5.91E-16*
$ZONE_{AFC}$		-37.301	-186.452
$ZONE_{CFA}$		-381.120*	-471.759*
$ZONE_{CONCACAF}$		-113.265	-213.370**
$ZONE_{CONMEBOL}$		-19.164	52.192
$ZONE_{OFC}$		-329.584*	-731.234*
$ZONE_{AFC} \cdot CLUBS_i$		-10.379	-3.281
$ZONE_{AFC} \cdot CLUBS_i^2$		0.218	0.124
$ZONE_{CFA} \cdot CLUBS_i$		35.315*	38.289*
$ZONE_{CFA} \cdot CLUBS_i^2$		-0.575*	-0.586*
$ZONE_{CONCACAF} \cdot CLUBS_i$		2.543	6.295
$ZONE_{CONCACAF} \cdot CLUBS_i^2$		-0.023	-0.048
$ZONE_{CONMEBOL} \cdot CLUBS_i$		12.939	9.274
$ZONE_{CONMEBOL} \cdot CLUBS_i^2$		-0.116	-0.062
$ZONE_{OFC} \cdot CLUBS_i$		66.739*	175.591*
$ZONE_{OFC} \cdot CLUBS_i^2$		-4.712*	-12.577*
	Adjusted R ² =	Adjusted R ² =	Adjusted R ² =
	0.636	0.686	0.682
	N = 201	N = 201	N = 186
	F = 50.96**	F = 20.835*	F = 19.040*
*indicates statistical significance at 95% confidence			
**indicates statistical significance at 90% confidence			