DO BORDERS MATTER FOR SOCIAL
CAPITAL? ECONOMIC GROWTH AND
CIVIC CULTURE IN U.S. STATES AND
CANADIAN PROVINCES

John F. Helliwell

ABSTRACT

The paper first assesses regional and ethnic group differences in social trust and memberships in both Canada and the United States. The ethnic categories people choose to describe themselves are as important as regional differences, but much less important than education, in explaining differences in trust. Respondents who qualify their nationality by any of seven adjectives, a feature more prevalent in the United States than in Canada, (black, white, Hispanic and Asian in the United States; French, English and Ethnic in Canada) have lower levels of trust than those who consider themselves Canadians or Americans either first or only.

The dispersion of incomes across states or provinces has been dropping in both countries, but faster in Canada than in the United States. The 1980s increase in regional income disparity in the United States has no parallel in Canada. In neither country is there evidence that per capita economic growth is faster in regions marked by high levels of trust. However, U.S. migrants tend to move to states with higher perceived levels of trust, thus contributing to higher total growth in those states. The economic responsiveness of migration appears to be even stronger in Canada than in the United States, despite the much more extensive systems of fiscal equalization and social safety nets in Canada.

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I INTRODUCTION

This paper extends to North America the analysis in Helliwell and Putnam (1995) linking regional growth and social capital in Italian regions. In the United States and Canada, there are also strikingly large and long-lasting regional differences in trust and other measures of social capital, and these have, as in Italy (Putnam 1993), roots far in the past. This is more surprising for the United States and Canada, where migration has been much larger and more varied than in Italy. U.S. census and survey evidence suggests that migrants tend to bring trust or mistrust with them, and to pass it on to their descendants (Fischer 1989, Rice and Feldman 1995). What are the implications, if any, for economic growth? There is theoretical and empirical support for the idea that societies with high levels of mutual trust can operate markets and other economic and social institutions with fewer disputes and lower transactions costs (e.g. Platteau 1994a, 1994b). Should this be expected to show up as higher levels or rates of growth of GDP per capita? For Italy, there is some evidence that regions with higher levels of social have more effective regional governments, and grow faster, subject to the forces of conditional convergence permitting the lagging regions to learn from better practices elsewhere in the country. Among the U.S. states (Barro and Sala-i-Martin 1991) and among the Canadian provinces (Helliwell 1996b), however, the extent of unconditional convergence over the past decades has been so strong that it may be difficult to identify a growth-inducing role for social capital, especially as measures of social capital tend to be higher where average incomes are higher.

This paper lays out the evidence, and documents the extent and nature of the interprovincial, interstate and international differences in social capital, using a number of comparable measures from the World Values Survey of 1990-91. (Inglehart, Nevitte and Basenez, 1995) Attempts are also made to see to what extent Canada has suffered recent declines in social capital of the sort documented by Putnam (1995) for the United States. Are national borders as important for measures of social capital as they are for trade flows (McCallum 1995, Helliwell 1996c)? Comparable measures of social capital for U.S. states and Canadian provinces

should help to answer this question. The next section of the paper provides a comparative analysis of differences among provinces, among states, and between provinces and states, in key aspects of social capital, and the following section assesses the linkages between these and some measures of economic performance. The paper is exploratory in nature, partly because of the shortage of comparable data, and partly because there is not enough variation over time in the measures of social capital to unravel the undoubtedly complex two-way linkages between social capital and economic performance. It is also early days in the development of cleanly distinct hypotheses about how political and social institutions and norms should be expected to influence individual and aggregate economic performance, and vice versa.

II SOCIAL CAPITAL IN U.S. STATES AND CANADIAN PROVINCES

What are the most relevant ways of measuring those aspects of the political and social system that might influence the operation of a modern industrial democracy? In their pioneering comparative empirical study of post-war democracies, Almond and Verba (1963) "concluded that interpersonal trust is a prerequisite to the formation of secondary associations, which in turn is essential to effective political participation in any large democracy." (Inglehart 1990). Over the forty years since their empirical work in the 1950s, researchers in many countries have probed the extent of interpersonal trust, and examined the extent to which individuals participate in, and contribute their efforts to, voluntary associations. There have also been attempts to establish the extent to which interregional measures in these variables, described sometimes as measures of social capital or of civic culture, are linked with the extent to which citizens in the regions of a country are satisfied with the efficiency of their regional governments (Putnam 1973), and in turn whether there are subsequent payoffs in terms of conditionally higher growth in those regions with higher levels of social capital (Helliwell and Putnam 1995). For the regions of Italy, where detailed research had been carried out for more than twenty years, the results were fairly supportive of the notion that there was a causal linkage running from high levels of trust and engagement to higher levels of regional government performance and in turn to higher levels of economic performance, and higher rates of upward convergence towards best practice levels of efficiency.

This invites consideration of whether there are similarly large and long-standing

regional differences of social trust and civic engagement within other countries. The issues of regional differences and national trends could then be placed in comparative context, with an eye to assessing their relative size and significance. At a second stage, if these variations among regions and over time should be found significant, their importance in the broader analysis of political and economic life would need to be established. Finally, the use of individual responses should help to reveal the possible importance of inequality or other social cleavages on average levels of trust and participation, a matter not dealt with in earlier studies based on national averages of responses.

This section will make use of data from the World Values Survey, using individual response data from the United States and Canada from two rounds of surveys, one in 1981 and the other in 1990. Although the World Values Survey has the great advantage of asking the same questions in both countries, at about the same dates, there are three main difficulties: the restriction to only two dates makes changes over time difficult to identify; there are anomalous differences between the WVS and other measures of trust, especially in 1990; and although the WVS records data for all Canadian provinces, the U.S. states are classified only in groups, and these groups do not correspond fully to the lines of cleavage that appear among states in other data.

"Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?" Many thousands of interviewees have been asked this question over the last forty years, in scores of countries and languages. To provide something between the two alternatives, for those who might agree with both or neither, respondents could answer "don't know". A value of 1.0 is coded for the trust variable for those who think that most people can be trusted, and 0 for those who think instead that "You can't be too careful." When Almond and Verba (1963) took their "snapshot" of civic culture in five countries in the late 1950s, they asked this question to citizens of five countries. They were struck by how much higher social trust appeared be in Great Britain and the United States than in Germany and France. Almond and Verba saw these differences as

crucial, since they considered interpersonal trust to be a prerequisite to the formation of secondary associations, with the latter in turn being essential to effective political participation in any large democracy. As more recent evidence from the World Values Survey has shown (Inglehart 1990), this gap has been narrowed, with convergence being achieved partly through increases in trust in Germany and Italy and partly by reductions in the United States and Great Britain. This narrowing of the gap in social trust has been matched by a narrowing of the post-war gaps in per capita incomes. Putnam (1994) has documented the U.S. decline in several measures of social capital, including social trust and participation in a variety of voluntary organizations, and in Putnam (1995) has since attempted to winnow down the number of plausible contributing factors, leaving television as the principal culprit. Subsequent research has emphasized the differences among types of organization, with some growing and others declining, and with rising education levels doing much to offset other factors leading to a decline in participation. Despite the downward trend in the national average levels of trust, Rice and Feldman (1995) have shown a remarkable continuity from generation to generation in trustfulness, with American descendants of European migrants differing among themselves in their trust levels in ways that mimic contemporary differences among the European countries from which their parents or grandparents departed, even after two or more generations in the melting pot.

The World Values Survey contains the same trust and membership questions in both Canada and the United States. The equations in Tables 1 and 2 analyze the results for trust, while Tables 3 though 5 do the same for memberships. In Tables 1 and 2 the equations are estimated first for the 1576 U.S. observations, then for 1634 Canadian observations, and finally for the pooled sample containing data from both countries. Table 1 looks for differences by province or region, while Table 2 asks whether there are differences in trust corresponding to the ethnic categories people use to describe themselves. There are two versions for each trust equation, one with and one without a variable representing the individual's participation in a variety of organizations. Both versions include a variable measuring the age at which the respondent finished full-time education, with an increase of

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1.0 representing an additional year of schooling[1]. The effects of post-graduate education are conflated, since the highest value of the variable, 10.0, is used for all those who finished full-time education at the age of 21 or older. The education effects are strongly significant in both versions of the equation, but are higher in the equations without the number of memberships included. This fortunately does not pose any ambiguity of interpretation, since the equations in Tables 3 and 4 show that memberships are themselves influenced by education, in an amount that makes the implied effects of education the same whether one looks at the trust equation as a reduced form (thus excluding the membership variable) or treats the two equations as a system, substituting the estimated equation for memberships into the trust equation to calculate the direct plus indirect effects of education on the level of trust. A sample calculation may help to illustrate this result, as well as to show the important effects of education on the level of trust. The first equation in Table 1 shows that every additional year of education increases by .024 the probability that a U.S. respondent thinks that most people can be trusted, while adding a new membership category raises the probability by .031. From equation (v) in Table 3, however, we can find that another year in full-time education increases memberships by .264, so that the total effect, including the direct effects on trust and the indirect effects acting through membership activity, are .032 (=.024+.031*.264) In the second equation, by contrast, there is no direct membership effect, and the reduced-form effect of education is directly estimated as .032, the same value that results from solving the two equations for trust and memberships. Postulating that memberships influence trust, rather than the other way around, is consistent with the results of Brehm and Rahn (1995), who found the apparent influence much stronger from memberships to trust rather than vice versa. More generally, however, it is reasonable to suggest, following Putnam (1996) and Brehm and Rahn (1995) and others, that trust and

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[1] This is the way the question is asked in the WVS survey, and the results are coded as 1 if the individual left school at the age of 12 or younger, 2 if 13, up to 10 if he/she left at age 22 or later. For the analysis in this paper, 6 is added to each observation, to make the data approximately comparable with the U.S. GSS survey, which records the number of completed years of full-time education. As stop-and-go education becomes more common, this approximation will become less accurate, and the GSS form of the question will be likely to provide a more accurate measure of the level of educational attainment.

memberships are positively reinforcing, with membership contacts helping to foster trust, and higher trust levels encouraging more membership activity. Thus it is important to estimate the equations with neither appearing in the other's equation, to provide a reduced-form estimate of the full influence of education, region, ethnic affiliation or other pre-determined variables influencing both trust and memberships.

The total effects of education are large in both countries, but larger in Canada than in the United States. The total effect in the United States is .032, compared to .040 in Canada[2]. A four-year undergraduate degree would raise an expected trust level of .40 to .53 in the United States or to .56 in Canada.

The lower part of Table 1 shows the most important regional variations in trust in the two countries. In each country there is one region with sharply lower trust, and another with sharply higher trust. In the United States, trust is about .08 lower in the south and .13 higher in the West North Central region, with the remaining regions treated as the base for comparison. In Canada, trust is about .18 lower in Quebec and New Brunswick and .13 higher in Alberta and British Columbia, once again in comparison to the rest of the country. These calculations are based on the reduced-form equations without including the effects of membership, which also has some regional differences, although these are much less marked than those for trust.

Equations (v) and (vi) in Table 1 combine the U.S. and Canadian data to permit an evaluation of whether there are significant national differences in the level of trust. Once again, there are equations both with and without the intervening effects of membership, and for simplicity the discussion below will concentrate on the reduced-form equations without membership included. The explanatory power of the Canadian equations is higher than that

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[2] A larger fraction of the U.S. total effect flows through the indirect membership channel than is the case for Canada, since the effect of education on memberships is lower in Canada, as is the estimated effect of memberships on trust.

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of the U.S. equations, while that of the combined equation naturally falls about midway between the two. The systematic regional effects in each country are found again in the two-country sample, and a new variable covering the rest of Canada (ROC) is added to see if there are significant trust differences between the two countries. The coefficient suggests that trust levels for individuals living outside the areas of specially high or low trust are .044 higher in Canada than in the United States, assuming the same number of years of education in the two cases. Predicted trust levels generally rise as one crosses the border from south to north, but there are important exceptions, and the regions used for subdivision have no cast-iron claim to capture accurately the boundaries of trustful or distrustful communities. For example, since Minnesota is in the high-trust West North Central region, and Manitoba is a part of baseline Canada, predicted social trust drops as one crosses the border to the north, as it does if one crosses from New England into Quebec. However, it rises slightly crossing from New York into Ontario, and much more moving from Washington state to British Columbia[3].

Why does trust vary so much from region to region, and generally rise from south to north-central in the United States and from east to west in Canada? Do open spaces and cold winters combine to make people rely on each other, as many of the pioneer histories would suggest? Does the pacifying influence of the early imposition of the rule of law, rather than of force of arms, help to explain higher trust north of the 49th parallel? What is likely is that the patterns of trust in 1990 have their origins many years in the past, if Putnam's Italian research can be transposed to North America. The big difference, of course, is that the western parts of North America received their major population growth only this century. What was special about some migrations, or about some features of new communities, that made them more likely to have higher levels of social trust? Specific answers to questions of this sort will require more information than is in the current sample data, since there is too

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[3] To be more specific, predicted trust falls by .09 from Minnesota to Manitoba (.132-.044), and by .13 from New England to Quebec. It rises by .044 from New York to Ontario, and by .22 from Washington to British Columbia (.044+.176).

little information there about the type and origins of the communities in which the individual respondents live. What is very likely, however, is that much of the differences among individuals in their degree of trust will be found to depend on the extent of trust in the communities from which they migrated, even if that migration should be long past. Perhaps part of the reason for the high level of trust in Minnesota (.63 compared to the national average of .42) may be the cold climate and the social life of the hockey rinks, but more important, according to recent research by Rice and Feldman (1995) is that one-third of the population of Minnesota is of Norwegian extraction, and Norway has, according to comparable WVS data, among the highest trust levels in the world. If trust levels are strongly persistent, as their finding that grandparent effects are almost important as parent effects would suggest, then the high trust levels in Minnesota were brought with them by the Norwegian immigrants. What remains to be discovered is what features of subsequent community life and development were helpful, and which were not, in maintaining or improving the imported levels of trust. Perhaps a similar story can be told for Quebec, as the trust levels in France are well below those of other western European countries, and well below those in Quebec. However, it must be remembered that the 'pure laine' Quebecers left France long before the French Revolution, and have had a longer and more separate existence than any of the comparable ethnic groups in either Canada or the United States.

One of the difficulties of assessing the importance of migration as a determinant of trust and other forms of social capital is that although state and provincial boundaries were in part drawn to reflect previous patterns of migration, subsequent migration patterns have been so complicated and varied that state and provincial averages, let alone the multi-state regions covered by the WVS, are likely to contain too much heterogeneity of origin and contemporary community structure. The burden of the story of Rice and Feldman is that the melting pot does not melt very fast, even in the migratory United States, but it is almost certain that a finer grid than states or nations is needed to assess the way the process works. There is also a problem with too much aggregation in the description of the source of migration. Fischer (1989) has argued convincingly that four successive waves of English migration came with strikingly different types and amounts of social capital and maintained

their distinct cultures over the subsequent centuries. The contrasts he draws between the Puritan migrants from East Anglia to Massachusetts, the southern English cavalier migrants to Virginia, the Quaker migrants to the Delaware, and the borderlands migrants to the backcountry are extreme, and their shadows far-reaching. For example, each of the initial groups played separate but important roles in opening up the west, and in determining the type of social capital to be found in the communities they established there[4], twice transplanted from their source communities in Britain. The Quakers brought town meetings and a tradition of ordered liberty to Massachusetts. The Virginia settlers brought hierarchies and "strong oligarchies, Anglican churches, a highly developed sense of honour and an idea of hegemonic liberty" (Fischer, 1989, 786). The Friends brought to the Delaware a work ethic, austerity and "a pluralistic system of reciprocal liberty." The migration from the border country to the backcountry was later and much larger than its predecessors, and the migrants themselves were very different from those who preceded them. These forebears of Patrick Henry were leaving hard conditions and hoping for better. They were used to the endemic violence of the border regions, and brought with them suspicion of formal education and authority, distinctive modes of dress and speech, rituals of love and violence, militant Christianity, clan loyalties and violence that came to mark the settlements they founded in "the backcountry region that included southwestern Pennsylvania, the western part of Maryland and Virginia, North and South Carolina, Georgia, Kentucky and Tennessee." (Fischer 1989, 634).

The four cultures described by Fischer may all have come from England, but they embodied vastly different amounts and types of social capital, were generally antipathetic to each other, and developed communities where they settled, and where they subsequently moved, that had little in common with each other, although strikingly related to their own

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[4] The backcountry migrants later extended westward into Oklahoma and Texas, and many moved westward again to California at the time of the dustbowls of the 1930s. Roxanne Dunbar-Ortiz (1995, 572-3) reports that she knew what the verdict of the Rodney King trial would be as soon as she heard it was transferred to Simi Valley, which she knew from her own family history to be an "Okie" town.

previous characteristics. What can we conclude from this? Most importantly, it is clear that using nations as definitions of source populations, and states or provinces as the units for analysis on this side of the water is bound to cover up as much as it reveals. It is perhaps surprising that regional differences have even managed to show up at all.

What can be done to further cast light on the possible differences among individuals in their trust and involvement? Table 2 attempts an alternative classification that may help to disentangle these differences. What was done here was to divide respondents according to how they classified themselves. The categories used for the United States were Hispanic American, Black American, Asian American and White American. The base alternative, chosen by 28% of the respondents, was 'American first, and then member of some ethnic group'. For Canada, the three hyphenated categories were French Canadian, English Canadian and Ethnic Canadian. The base alternatives were 'Canadian first, and then member of some ethnic group' (13% of respondents) or 'Canadian first and only' (38% of respondents). In both countries, those who defined themselves with an ethnic qualifier were less likely to think that people could be trusted. The equations all included separate allowance for the effects of education, and were estimated with and without the inclusion of the memberships variable. The ethnicity effects are larger in the equations without memberships included, reflecting the fact that those who qualify their citizenship by ethnicity also have lower than average membership activity. The biggest departure from baseline trust is among those who describe themselves as Black Americans (.32 below baseline), followed by French Canadians (.22 below baseline) and English Canadians (.19 below), but the effects are negative, and generally significantly so, for all seven categories, comprising four in the United States and three in Canada. Equations (v) and (vi) combine the data for the United States and Canada, permitting the trust levels in the two countries to be compared directly. Comparing unhyphenated Canadians and Americans of the same education level, trust levels in 1990 were about .06 higher in Canada than in the United States. The difference is slightly larger if one compares people with the same membership activity also (using equation v), since memberships are generally higher in the United States.

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The Table 2 results by ethnic classification are quite striking. They suggest that trust levels are lower where perceived cultural cleavages are stronger, if it is reasonable to assume that those who classify themselves with an ethnic qualifier do so because of perceived cleavages. This effect is as apparent among those who describe themselves as English-Canadian as it is among those who describe themselves as French-Canadian, suggesting that the perception of cleavage is as important as whether one is in the majority or the minority. The baseline Americans or Canadians, who think of themselves first as Americans or Canadians, and then later, or not at all, as members of some ethnic group, are more trusting than their fellow citizens. Perhaps the bridging institutions and experiences that helped them to maintain a higher level of trust also made them more likely to emphasize the common elements rather than their differences in their descriptions of themselves[5].

In the previous analysis all membership types have been treated equally. Is it true that membership activity is all that counts, or are some types of voluntary organization more likely than others to build bridges of the sort that encourage social trust and other forms of social capital? Table 3 and 4 show regional and ethnic differences in memberships of various types for the United States and Canada separately, and Table 5 compares the differences between the United States and Canada in memberships of different types. The sixteen types of voluntary organization are aggregated into four main groupings for analysis: (i) sports and cultural, (ii) political, (iii) religious, and (iv) trade union[6].

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[5] These results are consistent with those of Kalin and Berry (1996), whose 1991 survey results show that those whose ethnic self-identity is as an unhyphenated Canadian, as distinct from those whose primary affiliation is either to an ethnic group, are less ethno-centric and more accepting of multiculturalism.

[6] The sports and cultural grouping is the aggregate of six WVS groupings: social welfare, education, youth work, sports or recreation, health, and other. The political category is the aggregate of eight WVS categories: political parties, community action groups, world development groups, environmental groups, professional associations, women's' groups, the peace movement, and animal rights. Churches and religious organizations are a separate WVS category, as are trade unions.

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Looking first at Table 3, showing U.S. memberships by type, education and ethnic grouping, several main features are apparent in the results. Education effects are significantly positive for all types of membership except trade unions, where there is no effect. The positive education effects are especially high for sport, cultural and political organizations. Turning to the regional effects, trade union and sports and cultural memberships are significantly lower, and religious memberships slightly higher in the South. In the West-North-Central region, memberships are much higher in all types of organization except trade unions, where the national average prevails. All of the four ethnic groups are significantly less likely to participate in sports and cultural and political organizations, while not differing significantly from national average memberships in religious and trade union groups.

In Canada, the education effects are significantly positive for all but religious organizations. The only significant regional differences in memberships are for religious groups, where memberships are significantly below national averages in both the special regions, more so in Quebec and New Brunswick than in Alberta and British Columbia. Among the ethnic groupings, there are no significant membership differences, except that those calling themselves ethnic Canadians are significantly more likely to be involved in political organizations. Overall, there is much less regional and ethnic variation of memberships in Canada than in the United States.

Comparing Canada and the United States more directly, as is done in Table 5, shows that Canadians of similar education levels are much less likely than are U.S. respondents to belong to religious organizations, and more than one-third more likely to belong to trade unions[7]. The pattern of education effects differs significantly by type of organization. Education effects for sports and cultural organizations and for political organizations are

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[7] The aggregate difference in unionization, while of relatively recent origin, is much larger than in the WVS sample. Riddell (1993, 110) reports that union membership as a percentage of nonagricultural paid workers, which in 1965 was at 30% in both countries, had by 1990 fallen in the United States to 16% and risen in Canada to 33%.

about equal, although both are about half again as large in the United States as in Canada[8]. For religious groups, there is a much smaller, but still significant, positive effect of education in the United States, but no such effect in Canada. For trade unions, there is no significant educational effect in the United States, but a modest and significant positive effect in Canada. This latter difference is no doubt related to the fact that service industries, and especially the public service, where education levels are above national averages, are relatively much more unionized in Canada than in the United States[9].

Thus we see that the higher average memberships in the United States are concentrated in religious organizations, where Canadians are half as likely as U.S. respondents to belong. Americans are also somewhat more likely to belong to political organizations, while memberships in sports and cultural organizations are the same in both countries. Trade unionism is the only form of membership that is significantly higher in Canada than in the United States. Given the quite different patterns of memberships in the two countries, it is of interest to ask whether some types of membership are more likely than others to contribute to social trust. The answer, in general, is no. If the basic equations with trust explained by education and memberships are estimated with the four different types of memberships separately and together, there are no differences by type of membership for the United States, and the equation fits better with the total than with any one or sub-group of membership types.

For Canada, the membership total excluding trade union membership has a slightly higher explanatory power, since the contribution of the trade union component is insignificantly negative, but the difference is not significant. If it is true that trust is built

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[8] The importance of education as a factor increasing U.S. participation in political activities of many types is extensively documented in the survey results of Verba, Schlozman and Brady (1995).

[9] Using data from surveys of workers by the AFL and the CFL, Riddell (1993, 124) shows the effect of education on the demand for unionization to be higher in Canada than in the United States, but significantly so only for university graduates.

most by involvement in bridging rather than separating institutions, then it is perhaps not surprising that trade union membership is less likely to increase general trust, since unions build solidarity among workers in part by emphasizing a cleavage between workers and managers, and between capital and labour. With that slight and partial exception, it seems generally appropriate to conclude, as other researchers have argued, that membership in almost any organization helps to develop knowledge and shared values that contribute to attitudes of trust

How do changes in social capital compare in the two countries? On this important question the data pose difficulties. The only really comparable data for the two countries, collected at similar times, come from the World Values Surveys of 1981 and 1990. The same questions were asked in both countries, and it is possible to factor out the possible confounding role of education differences in the two samples. There are two main problems. One is that there are only two data points for each country. The second and more fundamental problem is that the 1990 WVS data show values of trust that are much higher than those from the GSS and National Election Survey taken at nearby dates, and higher than was found by the WVS in 1981. Thus the WVS shows trust rising in the United States from 1981 to 1990, and this makes more difficult the comparison between Canada and the United States. If the data from both surveys in both countries are pooled together in one large sample, with each of the other trust levels compared to that in the United States in 1990, an equation with education levels included shows U.S. trust in 1981 to be .10 lower than in 1990. Canadian trust in 1981 is equal to U.S. 1990 trust, while Canadian 1990 trust is .02 higher. Looking just at the sample average levels of trust, which is not unreasonable since the education differences are not very large (education levels are roughly six months higher in the United States than in Canada, in both years, and are about six months higher in 1990 than in 1981, in both countries), Canadian trust levels rose from .48 in 1981 to .53 in 1990, while those in the United States rose from .40 in 1981 to .52 in 1990. The WVS data thus show trust levels to be higher in Canada than in the United States, by a much bigger margin in 1981 than in 1990. Whether these data should be taken to imply a drop in trust in Canada, if

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other evidence points to a drop in the United States, is not clear, since the answer would depend on how many of the four samples were thought to be anomalous. The membership data also show increases from 1981 to 1990 in both countries. It may be possible to locate and standardize for sampling differences that make the U.S. 1990 WVS data for trust and memberships different from other U.S. evidence. In the meantime, the conclusion has to be that we simply cannot yet tell from the WVS data whether social capital has declined in Canada over the 1980s, or how any Canadian changes relate to those in the United States.

III ECONOMIC GROWTH AND SOCIAL CAPITAL

If there is a positive linkage running from measures of social capital to regional economic growth in Canada and the United States, it will be difficult to uncover. In the United States, there has been a striking convergence in the levels of per capital incomes over the past century, and the same has been true for Canadian provinces, at least over the post-1926 period for which comparable data are available. Economic growth has been fastest in those states and provinces that had the lowest per capita incomes at the beginning of the period. But the results in the preceding sections show that these are also generally the regions with lower than average levels of trust and, to a lesser extent, of memberships. For example, the U.S. southern states have had significantly lower trust levels, while having the fastest rates of growth over the past century, while the two most western Canadian provinces have had higher trust and memberships and low rates of growth of per capita incomes. This does not mean that social capital is bad for growth, as the Italian study showed a positive partial effect of social capital on growth even though the poorer regions grew fastest and had the lowest levels of social capital. The faster growth of the poorer regions is explained by conditional convergence, wherein, once certain conditions established, the poorer region grow faster because as they adopt more efficient techniques already developed and in use in other regions. The hypothesis is that regions with higher levels of social capital may be able to coordinate and implement the required changes in institutions and performance more easily and at less cost, since trust and informal cooperative networks can both facilitate the passage of ideas and make less costly the system of contracts and contacts required to support innovation and growth (Platteau 1994a,b). This hypothesis was supported by the Italian

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results (Helliwell and Putnam 1995). Among the industrial countries, however (Helliwell 1996a), and among U.S. states and Canadian provinces, the convergence has been so rapid as to obscure any simple positive effect flowing from levels of trust and membership to subsequent economic growth. This result may change with better data and analysis, and as the longer and more dramatic convergence process starts to slow down. In any event, it may well remain true, in North America as it is in Italy, that the regions with higher levels of social capital retain higher than average income levels even after many years of convergence. What do the data show so far?

If we focus especially on the period since 1950, the coefficient of variation of per capita personal incomes among US states fell from .22 in 1950 to .19 in 1960 and .14 in 1980. In Canada, the dispersion and convergence patterns were very similar to those in the United States, at least until the U.S. dispersion started to increase again in the late 1970s. The coefficient of variation among provinces in personal disposable income fell from .21 in 1950 to .19 in 1960 and .15 in 1980. Since 1980, however, the experience in the two countries has been quite different, as is shown in Figure 1. For U.S. states the coefficient of variation among state averages for personal income rose from .14 in 1979 to .17 in 1989, as previously noted by Crihfield, Giertz and Mehta (1995). The similar statistic for personal disposable incomes rose from .13 in 1979 to .155 in 1989. In Canada, by contrast, the coefficient of variation of personal disposable incomes continued to fall, dropping from .136 in 1979 to .11 in 1989. Since 1990, the interstate income dispersion in the United States has started to fall once again, but is still substantially higher than in Canada. In both countries, the inter-regional variation of disposable incomes is smaller than that of pre-tax and transfer incomes, showing that the tax and transfer system does manage to make average post-tax incomes more equal than are pre-tax incomes. The gap between the two dispersion measures is quite similar in the two countries, despite the more extensive and more expensive Canadian system of social safety nets, including a much more equalizing system of payments from the federal government to provincial governments.

Regional growth regressions for the United States, with time series for each of the nine census regions estimated as a system of equations using the iterative Zellner SUR technique for estimated seemingly unrelated regressions, provide systematic evidence of convergence, as might be expected from the evidence shown in Figure 1. However, adding measures of trust from the most recent previous GSS surveys does not add anything to the explanation of convergence. For Canada, there are provincial estimates of trust available only for 1990, and there is no correlation between these and the constant terms from provincial equation for the growth of per capita incomes. Thus it still appears to be the case that there is no significant evidence that higher levels of social capital, at least as measured by trust, have a positive effect of the growth rates of per capita incomes.

However, in addition to the growth or per capita incomes, there is also a plausible channel running from social capital to inter-regional or interprovincial migration. The hypothesis here is that measured levels of social capital provide indicators of a quality of life that may attract migrants. The positive correlations between levels of social capital and levels of per capita incomes may permit the measures of social capital to have an independent effect above and beyond the likely effect of per capita incomes differences as an incentive for inter-regional migration. If this is so, it would provide a direct linkage between social capital and regional growth, since the regions with higher levels of social capital would attract population and economic activity, even without any induced change in average per capita incomes.

Table 6 reports the results of systems of migration equations for the nine U.S. census regions and for the ten Canadian provinces. For both the United States and Canada, the dependent variable in the annual change in the logarithm of the population in a region or province. In both the United States and Canada, there is significant evidence that migration moves population from the poorer to the richer regions, with the magnitude of the effect being similar in the two countries. The Canadian results show that the difference in unemployment rates has an even more significant effect, suggesting the potential usefulness of extending the equationf for U.S. migration rates to include the effects of regional

differences in unemployment rates. It is interesting that the migration rates within Canada appear to be as much or more dependent on economic influences than is migration in the United States, given other results suggesting that labour markets are more flexible in the United States than in other industrial countries, and given the much higher rates of inter-regional fiscal transfers in Canada than in the United States. In addition, the Canadian social safety nets are twice as expensive and have much broader and deeper coverage than those in the United states, leading one to expect that population might move more quickly in response to income and employment prospects in the United States than in Canada. That this does not appear to be the case may be surprising, but is consistent with the earlier result that convergence of per capita incomes over the past thirty years has been faster in Canada than in the United States. The implication would seem to be that the higher degree of equity-based redistribution of incomes from the richer to the poorer regions has not substantially slowed down the migration and other economic adjustments that must eventually be relied upon to equilibrate economic opportunities over the longer run.

Turning to the evidence on the impact of social capital, the U.S. equations suggest that migration does favour the regions with higher levels of trust, even after allowing for the impact of higher average incomes. Adding a time trend lessens the apparent effect, so the results should be regarded as provisional. No similar direct test is possible for the Canadian migration equations, since there are no time series for the provincial measures of social capital. However, it is possible to see if the provincial constant terms from the migration equations are correlated with the provincial measures of trust for 1990. They are not. Thus there is no apparent tendency in Canada, at least with the limited evidence available, for population to flow to provinces with higher levels of social capital, after allowing for the strong effects of differences in incomes and unemployment rates.

IV CONCLUSIONS

The paper first assessed regional and ethnic group differences in social trust and memberships in both Canada and the United States, using the 1990 WVS survey data in both cases. The effects of education on trust and membership are positive in both countries, and

larger in Canada than in the United States. In both countries, regions were found with significantly lower and higher than average levels of trust, with smaller echoes in membership activity. The ethnic categories people chose to describe themselves were as important as regional differences in explaining differences in trust. Respondents who qualified their citizenship by any of seven adjectives (black, white, Hispanic and Asian in the United States; French, English and Ethnic in Canada) had lower levels of trust than those who considered themselves Canadians or Americans either first or only. These categories also explained differences in memberships, but much more so in the United States than in Canada, where membership activities of the different types were more evenly spread across the country. It was argued that the regional differences in trust would have been easier to identify with smaller geographic units, given the apparent importance of past migration patterns which have varied greatly among and within states and provinces.

Comparisons of membership activity between the United States showed the two countries to have very similar membership in sports, cultural and political organizations, but very different patterns in religious and trade union activities, with the United States respondents being twice as likely to take part in a religious or church group, and significantly less likely to be involved with a trade union.

The WVS data were unable to show whether Canada has shared in the decline in trust and memberships over the past twenty years, since the WVS data actually suggest an increase in trust and memberships in both countries from 1981 to 1990, with the levels of trust being higher in Canada in both surveys, but the increase in trust being greater for the United States. More comparable data is required to explain the sources of the apparent contradiction between the diverging trends of the WVS and GSS data. Since there are many more observations by the GSS surveys, and these data match other surveys taken as part of the National Election Study (NES), it is likely that the resolution will be in favour of the GSS and NES data. If so, then the primary use of the WVS data will be in making international comparisons at a given time. Even so, the comparisons of the determinants of 1990 trust and membership in Canada and the United States must be treated with some caution, given the

discrepancies which have been found between the WVS and other survey data.

The paper then turned to the linkages between measures of trust and economic growth. Comparable data for both personal incomes per capita and personal disposable incomes per capita show that the dispersion of incomes has been dropping in both countries, but faster in Canada than in the United States. In addition, the 1980s increase in regional income disparity in the United States had no parallel in Canada. In neither country was there evidence that per capita economic growth was faster in regions marked by high levels of trust. In this sense, the results of this paper support those found earlier for the OECD countries rather than the results for the Italian regions. This discrepancy may be due to the higher quality of social capital measures for the Italian regions, but even there the evidence was indicative rather than compelling.

The paper finally turned to consider whether the extensive margin of economic growth, as represented by migration from one province or region to another, was influenced by differences in social capital. In both countries there was significant evidence that migration is substantially triggered by differences in income levels. In the United States there was also evidence that after adjusting for the effects of income differences migrants tend to favour states with higher perceived levels of trust. Given the evidence that migrants tend to bring social capital with them, the induced migration is likely to play a role in changing the regional differences in social capital. The exact form of the relation cannot be specified without more knowledge about the characteristics of the migrants, and is likely to depend also on the effects of the migration on the social and other institutional structures of the sending and receiving regions. It is simply too early in the research to conclude whether the net effect of the migration will be to cause a convergence of social capital of a sort that has characterized the distribution of income levels in both countries. Another interesting feature of the migration results was the finding that the responsiveness of migration appears to be if anything stronger in Canada than in the United States, despite the much more extensive systems of fiscal equalization and social safety nets in Canada. These programmes, which are often thought to mirror a higher degree of social cohesiveness in Canada, are also thought by

some to blunt the economic incentives to reallocate population and industry so as to equalize income opportunities across the country. Thus it is encouraging to find, as these tentative results suggest, that the more extensive Canadian transfer programmes have been accompanied by faster regional convergence of per capita incomes and by migration patterns that are highly responsive to differences in prospects for incomes and employment.

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Table 1
Trust in U.S. and Canadian Regions, 1990

Equation	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Country:	U.S	U.S.	Canada	Canada	Both	Both
Observations	1576	1576	1634	1634	3210	3210
Estimation Method	OLS	OLS	OLS	OLS	OLS	OLS
Dependent Variable	trust 1990	trust 1990	trust 1990	trust 1990	trust 1990	trust 1990
Constant	.281 (6.0)	.274 (5.8)	.248 (6.2)	.258 (6.5)	.232 (7.1)	.239 (7.3)
Coefficients:						
Age leaving school	.024 (4.0)	.032 (5.7)	.036 (7.3)	.040 (8.2)	.031 (8.1)	.037 (9.9)
Memberships	.031 (5.0)		.022 (3.6)		.026 (6.1)	
South	-.073 (2.4)	-.080 (2.6)			-.071 (2.4)	-.077 (2.6)
WNorth Central	.105 (2.5)	.131 (3.2)			.110 (2.7)	.132 (3.2)
Quebec+NB			-.175 (6.3)	-.178 (6.4)	-.128 (4.7)	-.135 (5.0)
AL+BC			.131 (4.3)	.132 (4.3)	.180 (6.0)	.176 (5.8)
ROC					.048 (2.1)	.044 (1.9)
$\bar{R}^2$	.048	.033	.098	.092	.073	.063
S.E.E.	.487	.491	.474	.476	.481	.483

Table 2
Trust in the U.S. and Canada by Affiliation, 1990

Equation	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Country:	U.S	U.S.	Canada	Canada	Both	Both
Observations	1576	1576	1674	1674	3210	3210
Estimation Method	OLS	OLS	OLS	OLS	OLS	OLS
Dependent Variable	trust	trust	trust	trust	trust	trust
Constant	.349	.357	.307	.317	.281	.300
	(6.8)	(6.9)	(7.6)	(7.8)	(7.5)	(9.3)
Age leaving school	.021	.028	.037	.041	.030	.036
	(3.6)	(5.1)	(7.5)	(8.4)	(7.9)	(9.3)
Memberships	.030		.023			
	(4.9)		(3.7)			
Hispanic-American	-.114	-.144			-.107	-.135
	(1.8)	(2.3)			(1.7)	(2.2)
Black-American	-.299	-.324			-.293	-.317
	(6.2)	(6.7)			(6.1)	(6.6)
Asian-American	-.136	-.167			-.137	-.165
	(1.0)	(1.2)			(1.0)	(1.2)
White-American	-.037	-.048			-.033	-.044
	(1.3)	(1.8)			(1.2)	(1.6)
French-Canadian			-.210	-.216	-.142	-.162
			(5.3)	(5.5)	(3.3)	(3.8)
English-Canadian			-.187	-.189	-.114	-.131
			(7.1)	(7.1)	(3.8)	(4.3)
Ethnic-Canadian			-.146	-.139	-.072	-.079
			(2.6)	(2.5)	(1.2)	(1.4)
Other Canadians					.073	.059
					(2.7)	(2.1)
$\bar{R}^2$	.062	.048	.087	.080	.074	.064
S.E.E.	.484	.488	.477	.479	.481	.483

Table 3
U.S. Memberships by Type, 1990

Equation 1576 observations	(i)	(ii)	(iii)	(iv)	(v)
Average number of memberships	.81	.61	.49	.09	2.01
Estimation Method Dependent Variable	OLS sports+cult	OLS political	OLS religious	OLS trade union	OLS total
Constant	.903 (17.1)	.777 (16.1)	.484 (19.7)	.086 (6.0)	2.25 (23.0)
Coefficients: Age leaving school	.119 (9.5)	.120 (10.5)	.023 (4.0)	.002 (0.7)	.264 (11.4)
South	-.141 (2.1)	-.051 (0.8)	.050 (1.6)	-.060 (3.3)	-.202 (1.6)
WNorth-Central	.306 (3.4)	.300 (3.6)	.197 (4.7)	.016 (0.6)	.818 (4.9)
Hispanic	-.342 (2.5)	-.552 (4.4)	-.092 (1.4)	-.008 (0.2)	-.993 (3.9)
Black	-.304 (2.8)	-.375 (3.8)	-.019 (0.4)	-.012 (0.4)	-.711 (3.6)
Asian	-.451 (1.4)	-.582 (2.0)	.072 (0.5)	-.083 (1.0)	-1.043 (1.8)
White	-.130 (2.1)	-.271 (4.9)	-.043 (1.5)	.037 (2.3)	-.407 (3.6)
$\bar{R}^2$	.081	.106	.023	.012	.121
S.E.E.	1.07	.975	.494	.288	1.97

Table 4
Canadian Memberships by Type, 1990

Equation 1634 observations	(i)	(ii)	(iii)	(iv)	(v)
Average number of memberships	.80	.52	.25	.12	1.69
Estimation Method Dependent Variable	OLS sports+cult	OLS political	OLS religious	OLS trade union	OLS total
Constant	.811 (19.3)	.494 (13.3)	.331 (19.1)	.121 (9.1)	1.758 (22.7)
Age leaving school	.079 (7.4)	.078 (8.3)	.002 (0.4)	.012 (3.6)	.171 (8.7)
French Canadian	.007 (0.1)	-.077 (0.9)	-.004 (0.1)	-.039 (1.3)	-.192 (1.1)
English Canadian	-.010 (0.2)	-.033 (0.6)	-.034 (1.3)	.024 (1.2)	-.054 (0.5)
Ethnic Canadian	.087 (0.7)	.304 (2.9)	-.079 (1.6)	-.011 (0.3)	.302 (1.4)
QU+NB	.007 (0.1)	.064 (1.0)	-.155 (5.6)	.019 (0.9)	-.065 (0.5)
AL+BC	.053 (0.8)	.112 (1.9)	-.109 (4.0)	-.022 (1.0)	.034 (0.3)
$\bar{R}^2$	.032	.048	.026	.009	.047
S.E.E.	1.034	.912	.427	.326	1.910

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Table 5
U.S. and Canadian Memberships Compared, 1990

Equation 3210 observations	(i)	(ii)	(iii)	(iv)	(v)
Average number of memberships	.81	.56	.37	.11	1.85
Estimation Method Dependent Variable	OLS sports+cult	OLS political	OLS religious	OLS trade union	OLS total
Constant	.785 (29.4)	.584 (24.2)	.486 (41.3)	.092 (11.8)	1.95 (39.4)
Age leaving school for United States	.128 (10.6)	.131 (12.0)	.023 (4.3)	.003 (0.9)	.286 (12.8)
Age leaving school for Canada	.081 (7.5)	.081 (8.2)	.002 (0.5)	.012 (3.7)	.176 (8.8)
Canada	.033 (0.9)	-.052 (1.5)	-.237 (14.4)	.033 (3.0)	-.224 (3.2)
$\bar{R}^2$	.049	.063	.069	.006	.074
S.E.E.	1.05	.952	.465	.309	1.95
Probability of schooling effects being the same in Canada and U.S.	p=.003	p=.0005	p=.004	p=.069	p=.0002

Table 6
Regional Migration in the United States and Canada

Equation	(i)	(ii)	(iii)	(iv)	(v)
Estimation method	SUR	POOL	POOL	SUR	SUR
Sample	US regions	US regions	US regions	Provinces	Provinces
Time period	1962-94	1962-94	1962-94	1961-89	1961-89
Observations	9x33	9x33	9x33	10x29	10x29
Dependent variable	dln(pop)it	dln(pop)it	dln(pop)it	dln(pop)it	dln(pop)it
Relative personal income	.0217	.0576	.0598	.0467	.0334
	(6.0)	(6.1)	(6.4)	(10.0)	(8.0)
Trust	.0163	.0103	.0056		
	(4.7)	(2.2)	(1.2)		
Time index			.00025		
			(4.9)		
Relative Unemp rate					-.0145
					(17.2)
System R^2	.381	.394	.408	.612	.941

Notes: Absolute values of t-statistics are in parentheses below coefficients. The SUR estimations use the iterative Zellner procedure, and include constant terms for each region or province. The POOL results are estimated with separate intercepts (not reported) for each region, have separate autocorrelation coefficients for each region (ranging from 0.6 to 0.9), and allow for cross-sectionally correlated error terms. The time index takes the value 1.0 in 1961, 2.0 in 1962, and so on. The provincial constant terms from equations (iv) and (v) are not correlated with the 1990 WVS measures of trust in the provinces.

Fig 1 Convergence of Personal Income
COVs among states and provinces
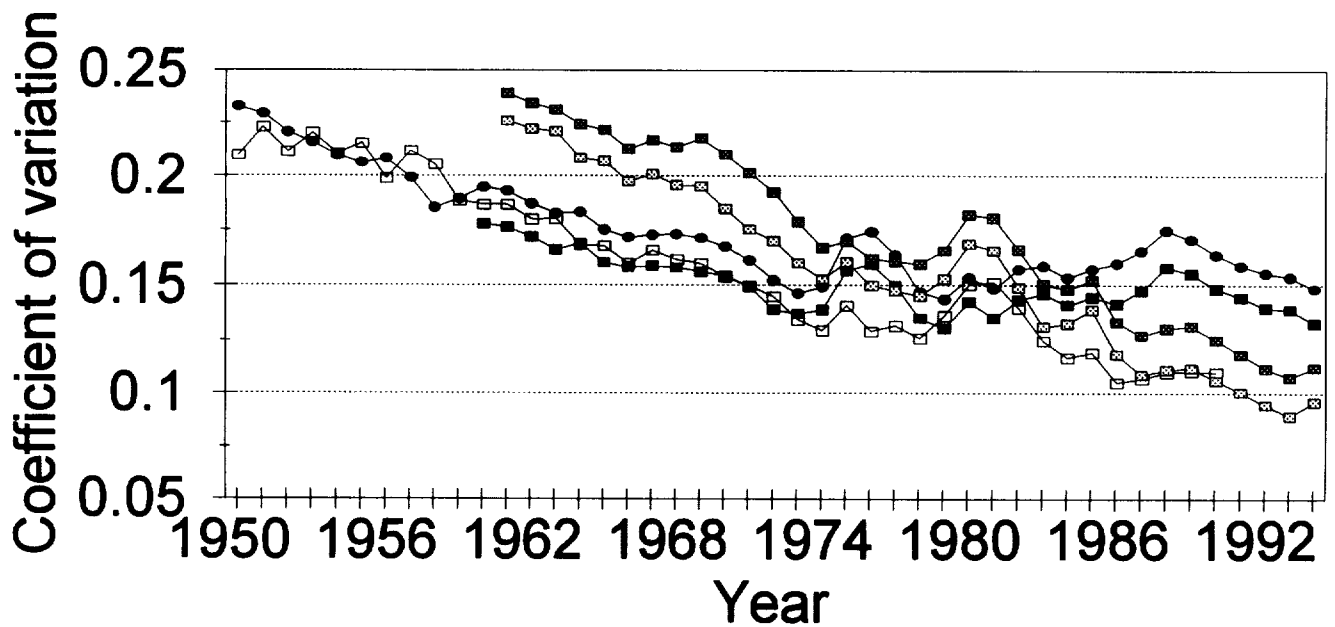
Legend:
- PDI U.S. states
- PI U.S. states
- PI Can incl NFL
- PDI, provinces
- PDI Can incl NFL

Y-axis: Coefficient of variation (0.05, 0.1, 0.15, 0.2, 0.25)
X-axis: Year (1950, 1956, 1962, 1968, 1974, 1980, 1986, 1992)

Fig 2 Regional Growth
Personal Income Per Capita 1959-94