

United States and Canada understand that Mexico has a need of compensatory investments in areas that are lagging, then we can talk about an equal comparison between the three countries.

JAMES GALBRAITH: Only to say that I accept both points in their entirety. I think the political question is very important. I only passed over it with great speed and not meaning to use, to have the term taken in a pejorative sense in any way. It does seem to me that one has to contrast policies that produce high growth rates and rising minimum wages with policies that fail to produce them. The trick, the problem of course is coming up with policies that produce high growth rates in a sustainable way, and that leads directly to your second point, which is that here is inter-regional—and in this case, transnational—interdependence on this matter. Portugal's an interesting case because it does have three and a half percent of its GDP transferred to it by the European community and this is a very important factor in what is a very low unemployment rate for a poor country. So the Europeans have begun to come to grips with this, but I would suggest that the model of coming to grips with it is not on the international level but rather in the United States during the New Deal, when we achieved a continental social security system, a federal minimum wage and as a result a great convergence across regions, where the differences between Texas and New York are much less than the differences between, say, Spain and Germany, let alone Mexico and the United States. This is an issue which needs to be considered, as you rightly point out, in its larger context.

SESSION I

Poverty Impacts of Trade, Macroeconomic and Social Policy— Canada and the United States in the 1990s

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Introduction

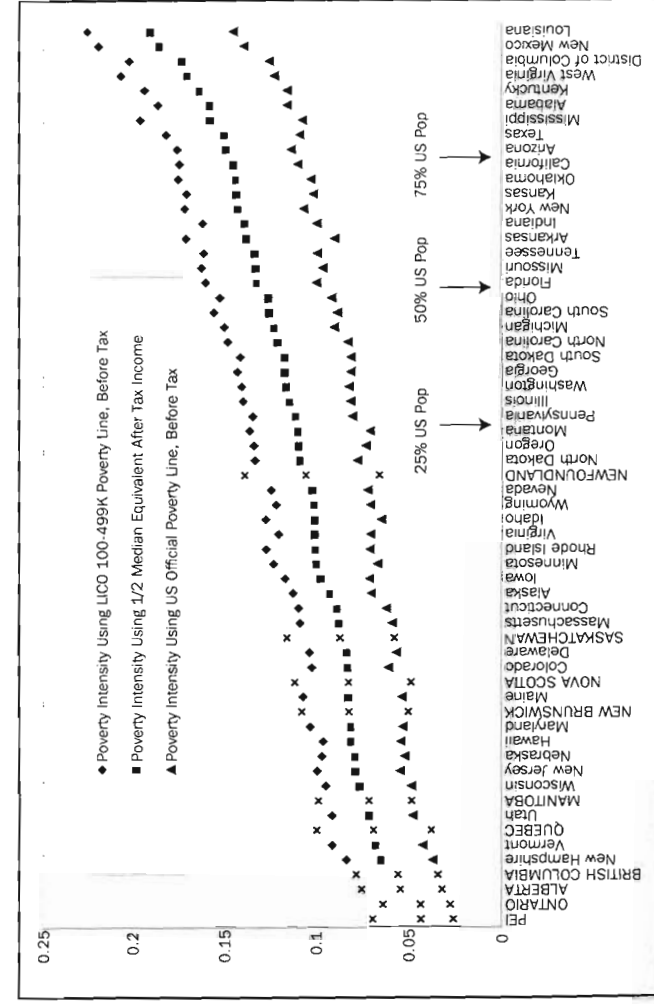
As the twentieth century drew to a close, protests at the Seattle Summit of the World Trade Organization brought home the twin realities of greater international economic interdependence and burgeoning popular anxieties over its implications. Although the Seattle protesters were concerned with a wide range of environmental and social issues, many of their concerns had underlying economic roots. Globalization has been widely blamed for a "race to the bottom" in wage levels and employment standards in the developed world.

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Elected governments, acting through the World Trade Organization, have increasingly constrained themselves to inaction in dealing with the potential adverse implications (such as job loss) of international trade. Talks aimed at increasing international trade have therefore become the focus of protests, whose basis is the increasing economic insecurity felt by many individuals.

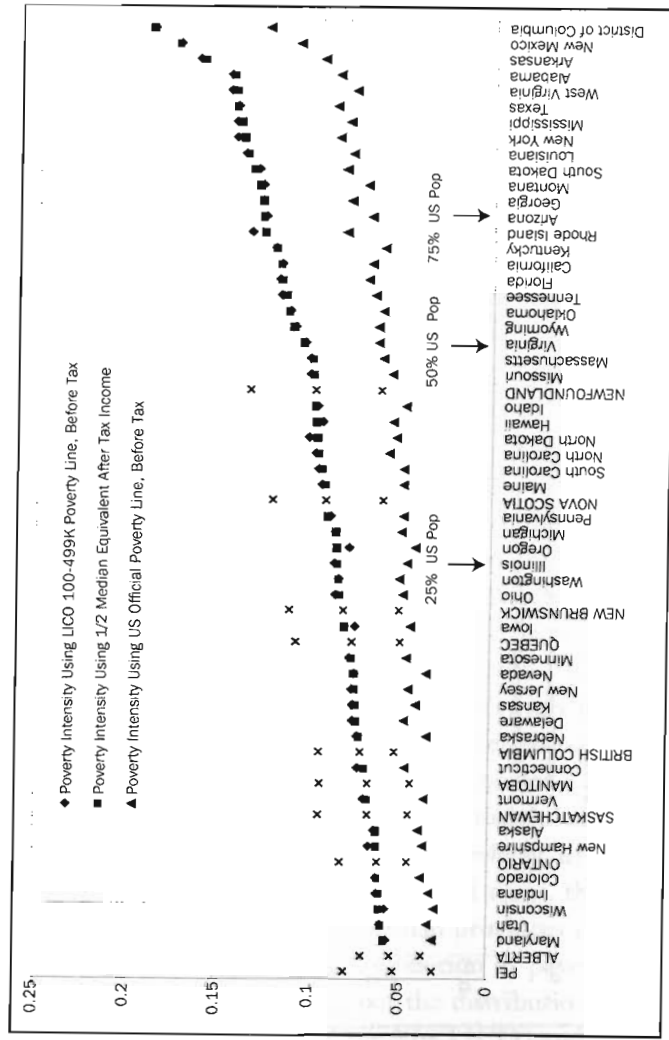
In Canada, these economic anxieties have interacted with concerns about national identity and cultural distinctiveness (which are also directly affected by the debate over trade liberalization and cultural industries). The vast majority of Canadians live within 100 kilometers of the U.S. border and experience a daily inundation of American popular culture. Distinguishing ourselves from "the Americans" has therefore long been a preoccupation of many Canadians. In recent years, a somewhat sanctimonious self-image of Canada as "kinder and gentler" than the United States has taken hold [see Graves, Dugas, and Beauchamp (1999)]. Up to 1994, the empirical evidence on the prevalence of poverty in different nations had lent support to that perception, as Canada-wide poverty intensity approached northern European norms, while U.S. poverty continued to increase.¹ Since 1994, however, new patterns have emerged in Canada and the United States. Figures 1 and 2 compare poverty intensity in Canadian provinces and U.S. states in 1994 and 1997. In both Figures 1 and 2, provinces and states are ranked in order of poverty intensity as calculated when one draws the poverty line at the internationally accepted standard level of half the median equivalent income of individuals. One could also draw the poverty line at the real value (using purchasing power parity) of the U.S. official poverty line, or at the Canadian Low Income Cutoff (LICO). In all cases, the qualitative result is much the same. In 1994, Canadian provinces are almost all clustered at the bottom end of the distribution of poverty intensity, but by 1997 they are spread throughout the distribution. This result is strongest for the highest poverty line (the LICO) and least for the lowest (the U.S. official poverty line). Figure 2 presents the intermediate case. It therefore appears that Canada's "distinctiveness" in social outcomes is rapidly eroding.²

Figure 1. Poverty Intensity in U.S. States and Canadian Provinces—1994



Sources: Authors' calculations using the Luxembourg Income Study (United States) and the Survey of Consumer Finances-Households (Canada). Dollar values converted using purchasing power parities (US\$0.79 per Can.\$). States and provinces ordered by the SST index using 1/2 the median equivalent after-tax income poverty measure.

Figure 2. Poverty Intensity in U.S. States and Canadian Provinces—1997



Sources: Authors' calculations using the Luxembourg Income Study (United States) and the Survey of Consumer Finances—Households (Canada). Dollar values converted using purchasing power parities (US\$0.79 per Can.\$). States and provinces ordered by the SSI index using 1/2 the median equivalent after-tax income poverty measure.

Although, on an annual income basis, less than a fifth of the population directly experiences poverty, poverty is also important for many non-poor people who are anxious about their future probability of deprivation. Even the securely affluent are affected, because the prevalence and depth of poverty may be of wider importance for civic life and national identity.³ Since greater similarity of poverty outcomes in Canada and the United States appears to be coinciding with greater North American trade integration, one possible explanation is trade liberalization.

However, despite having had internal free trade for over 200 years, there is a wide range of income inequality and poverty outcomes to be observed within the United States.⁴ A wide range of social welfare payments are made by states.⁵ This heterogeneity in outcomes and policies should induce some skepticism about the homogenizing effects of trade.

Another potential cause is macroeconomic policy. Monetary policy in Canada has, since 1988, been focused solely on the attainment of inflation targets, while the U.S. Federal Reserve has adopted a less dogmatic approach. A succession of prominent Canadian economists have focused on monetary policy as a leading cause of Canada's higher unemployment during the 1990s. [For example, Fortin (1996), Riddell (1999).] Social policy change is yet another conceivable explanation. The 1994–1997 period coincides with major structural change to American welfare policy and Canadian (un)employment insurance.⁶

Since all these trends affected provinces and states to differing degrees, this paper focuses on trying to explain the variation in poverty intensity across jurisdictions within Canada and the United States. To fix ideas, section 2 (Conceptual Framework) presents a framework for discussion while section 3 (Empirical Issues) discusses data sources and the variables used in the analysis. In section 4 (Results), the results of cross-sectional regressions for 1994 and 1997 are presented. Section 5 discusses implications.

Conceptual Framework

Suppose that we think of the national economy as having two sectors—internationally tradable (T) and non-tradable (N) goods and services. Each individual worker draws his or her income from one sector or the other as per equation (1) or (2).

$$Y_{it}^N = \bar{Y}_t^N \alpha_i^N + \varepsilon_{it}^N \quad (1)$$

$$Y_{it}^T = \bar{Y}_t^T \alpha_i^T + \varepsilon_{it}^T \quad (2)$$

\bar{Y}_t^T, \bar{Y}_t^N = average income in traded (T) and non-traded (N) sector in period t

α_i^T, α_i^N = relative permanent personal advantage of individual i in traded and non-traded sectors.

$$E(\alpha_i^T) = E(\alpha_i^N) = 0$$

$\varepsilon_{it}^T, \varepsilon_{it}^N$ = stochastic income shock in traded and non-traded sector.

$$E(\varepsilon_{it}^T) = E(\varepsilon_{it}^N) = 0 \quad \varepsilon_i^N \sim F_N(0, \sigma^N); \quad \varepsilon_i^T \sim F_T(0, \sigma^T)$$

The Average Income in a country is then given as (3) where β_t is the proportion of employment in the tradable sector at time t .

$$\bar{Y}_t = \beta_t \bar{Y}_t^T + (1 - \beta_t) \bar{Y}_t^N \quad (3)$$

A policy shift to greater openness in international trade is motivated by the expectation that (4) holds. However, it is also recognized that the tradable sector is more exposed to shocks (impacting on both wages and employment), which imply that income flows become more uncertain. Equation (5) summarizes the difference in insecurity.

$$\bar{Y}_t^T > \bar{Y}_t^N \quad (4)$$

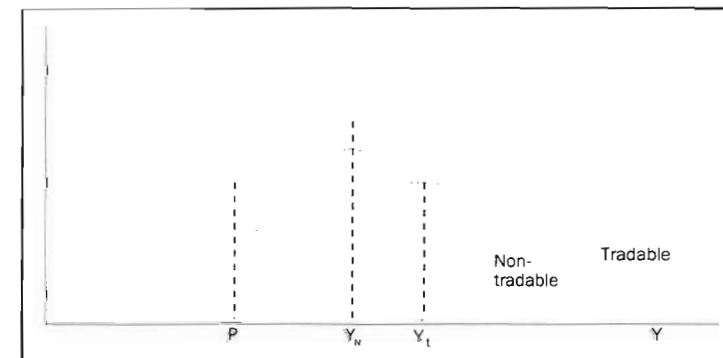
$$\sigma^N < \sigma^T \quad (5)$$

Presumably, the labor supply of individuals to sectors is driven by some combination of their attitudes to risk, the correlation of relative abilities across sectors, the average income differential (4) and the difference in stochastic variability (5). In a full general equilibrium model, relative labor supplies by sector would interact with sectoral elasticities of demand to determine the equilibrium relative income ratio. For present purposes, all we need to assume is that (4) and (5) hold and that the industrial structure of states (provinces) differs. Each state (province) of workforce n_{st} within a country of size N has a specific industrial structure β_{st} . Equation (6) summarizes the overall relation.

$$\beta_t = \sum \frac{n_{st}}{N} \cdot \beta_{st} \quad (6)$$

Figure 3 presents a graphical representation of income prospects for a typical person, where P represents the poverty line. The greater dispersion of income in the tradable sector opens up the possibility

Figure 3. Income Distribution in Tradable and Non-Tradable Sectors



that poverty will rise as labor flows into traded industries, but the combination of a higher mean income with greater variance of incomes in the traded sector means that there is no clear prediction about poverty probability.

If F_T and F_N denote the cumulative distribution function of income in tradable and non-tradable sectors (for a person of given characteristics), then poverty probability in a state (province) would be given by (7).

$$R_s = \beta_s(F_T(P)) + (1 - \beta_s)(F_N(P)). \quad (7)$$

In addition to worrying in general about the loss in utility produced by a possible income loss, people worry about poverty because there is something different about being poor. Adam Smith wrote of the importance of meeting customary consumption norms: "the want of which would be supposed to denote that disgraceful degree of poverty, which, it is presumed, nobody can fall into without extreme bad conduct."⁷ Sen (1985) has introduced the vocabulary of functionings or capabilities—such as the capability of appearing in public without shame as to shabby clothing. Bourguignon and Fields (1997) have noted that if there is something qualitatively different about being poor, the utility function is discontinuous at the poverty line. Hence, there is good reason for individuals to care about both their probability of poverty and the depth of that poverty, if it occurs.

If, as equations (1) and (2) summarize, the current pretax income of individuals can be neatly divided into permanent differentials and stochastic shocks, one could categorize the corresponding social transfers as arising from social assistance or social insurance programs. The simplest characterization of a social assistance program that aims at redistribution of permanent income is in terms of its guarantee rate (g_o) and implicit tax rate (t_o) which together determine net transfers B_i^o , as per equation (8).

$$B_i^o = g_o - t_o \bar{Y} \alpha_i \quad (8)$$

Social insurance programs (such as unemployment insurance) can be characterized as a form of coinsurance, or risk-sharing, among individuals, in which people with positive income shocks pay taxes and those who get negative shocks receive benefits ($B_i^!$). A simple characterization⁸ of such a system is (9):

$$B_i^! = -t_1 \varepsilon_i. \quad (9)$$

In this highly simplified world, the after-tax income of workers in non-tradables is given by (10) while (11) gives after-tax income in the tradables sector.

$$\bar{Y}_{it}^N = g_o + (1-t_o) \bar{Y}_t^N \alpha_i^N + (1-t_1) \varepsilon_{it}^N \quad (10)$$

$$\bar{Y}_{it}^T = g_o + (1-t_o) \bar{Y}_t^T \alpha_i^T + (1-t_1) \varepsilon_{it}^T \quad (11)$$

If social assistance and social insurance programs are delivered at the state (provincial)⁹ level then one must add a subscript to denote the state-specific level of welfare payments (g_{os}) and the state-specific replacement rate in social insurance (t_{1s}). Denote the cumulative distribution function corresponding to (10) as \bar{F}_s^N and that corresponding to (11) as \bar{F}_s^T . After taxes and transfers, when the poverty line is p , the poverty rate in a given state (province) is then given by (12).

$$\bar{R}_s = \beta_s \bar{F}_s^T(p) + (1 - \beta_s) \bar{F}_s^N(p). \quad (12)$$

We cannot unambiguously predict the impact of trade openness ($\delta \bar{R}_s / \delta \beta_s \geq 0$), but the implication of greater risk pooling in social insurance programs is clear ($\delta \bar{R}_s / \delta t_{1s} < 0$) and so is the impact of greater generosity in social assistance ($\delta \bar{R}_s / \delta g_{os} < 0$).

In reality, of course, Unemployment Insurance (UI) and social assistance programs are highly complex programs. Both simultaneously redistribute income between lifetime income classes and between contingencies (such as unemployment) that are experienced within lifetime income classes. In reality, program designers and

administrators cannot easily distinguish permanent and transitory differences in earnings capacity, or the voluntary and involuntary utilization of that capacity. A major part of the design and administration of these programs is driven by the incentive problem, and program managers' desire to minimize their impact on labor supply. Boadway and Cuff (1999) is an example of recent theoretical literature that outlines why, in an environment of imperfect information, program designers will utilize both types of programs, and will also institute controls for job search and work effort.

However, the bottom line for present purposes is that variations in UI and social assistance generosity are likely to have distinct effects on the intensity of poverty. The exposure of a region to trade, on the other hand, has ambiguous effects.

Empirical Issues

Poverty Measurement

The most commonly used statistic on poverty is the poverty rate, but since Sen (1976) many authors have recognized that the poverty rate, by itself, is a poor index.¹⁰ Simply counting the number of the poor, as a percentage of all people, ignores any consideration of the depth of their poverty. As Myles and Picot (1999) have noted, some social policies transfer income to groups (such as single parents) whose incomes are well below the poverty line. *Because* their incomes are so low, policy changes that affect these groups may have large impacts on their well-being, but not show up in the poverty rate statistics if few individuals are actually moved over the poverty line.

On the other hand, an index such as the average poverty gap ratio looks only at the average percentage shortfall of income below the poverty line. As a result, it ignores the issue of how many people are poor. This paper therefore uses the Sen-Shorrocks-Thon (SST) index of poverty intensity, which combines consideration of the poverty rate, average poverty gap ratio and inequality among the poor.¹¹

In this paper, we want to assess whether observed differences between provinces and states in poverty intensity in 1994 and 1997 can be explained by differences in trade exposure, aggregate unemployment or social welfare spending. We know the sample size used to construct estimates of poverty in each jurisdiction, which in many cases (particularly for the smaller U.S. states) is sufficiently small that some state rankings are not statistically meaningful.¹² However, the data do provide an unbiased estimate of each state's characteristics, albeit with a standard error of estimate due to sampling variability. We therefore use a bootstrap procedure to compute the standard deviation of the SST index of poverty intensity,¹³ and generalized least squares to assign to each observation a weight inversely proportional to its bootstrap standard error of estimate.

This paper uses data on the total after-tax income of households and assumes that income is shared within families. However, the focus of welfare comparisons is the distribution of income among persons. We therefore calculate the "equivalent income" of all individuals, and measure poverty intensity in terms of equivalent income. In the literature, a number of equivalence scales have been used to account for the economies of scale of household consumption [see Burkhauser et al. (1996), Phipps and Garner (1994), and Figini (1998)]. The issues raised by different equivalence scales are important, but to keep this paper focused, and to maintain comparability with much of the international literature, we simply use the Luxembourg Income Study (LIS) equivalence scale which calculates the equivalent income of each family member as equal to household income divided by the square root of household size.

As Hagenaaers (1991) and many others have noted, there has long been a debate on how best to conceptualize poverty. In very poor countries, where many people may be continually hungry, poverty can best be seen in absolute terms, but in developed countries we take the view that social norms within each country as to a minimally adequate standard of living differ across countries and change over time and are in fact heavily influenced by the prevailing average standard of living [see Osberg (1984, pp. 61-73)]. On this basis, this paper

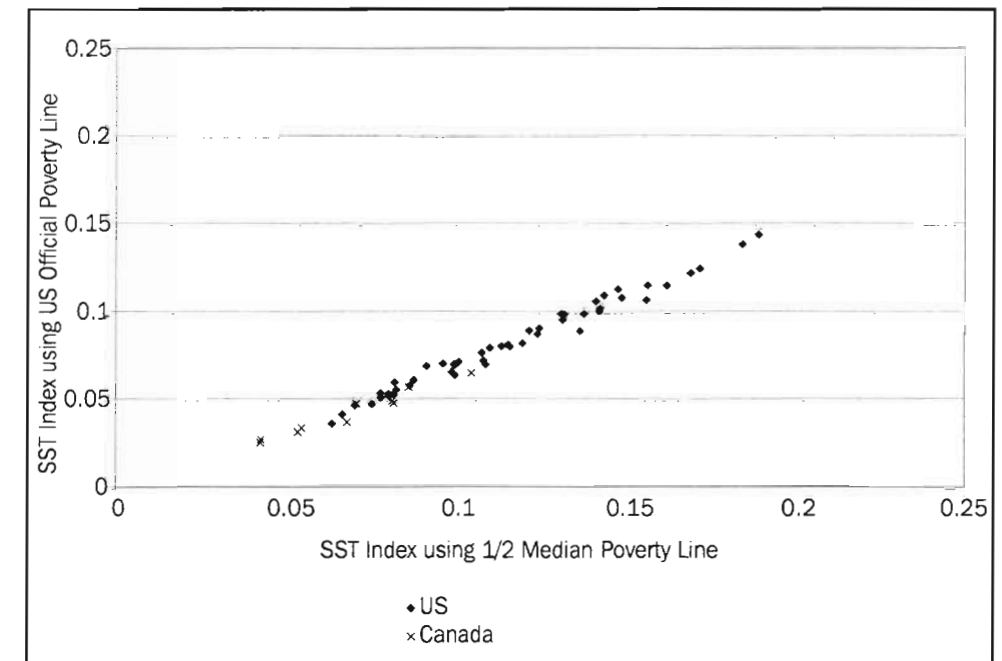
adopts the commonly accepted international standard of half the median equivalent income¹⁴ as the poverty line—but in practice this makes no appreciable difference to the regression results reported in the “Results” section below.

Since so much of the Canadian debate has used the Low Income Cut-Offs (LICO) of Statistics Canada, we can also use the LICO as an estimate of the “poverty line” and convert Canadian dollar estimates of the poverty line into U.S. dollars using a Purchasing Power Parity (PPP) estimate of the exchange rate for consumer expenditure.¹⁵ Alternatively, we can convert the U.S. official Social Security Administration (SSA) poverty line into Canadian dollars using the same PPP estimates. Although doing so changes the estimated level of the poverty rate and poverty gap, estimates of poverty intensity are almost perfectly correlated across provinces and states.

Figure 4A presents a plot of poverty intensity in 1994 in U.S. states and Canadian provinces (marked x) using the SSA poverty line and a poverty line equal to one half the median equivalent income. Figure 4B plots the 1997 level of poverty intensity in states and provinces using the LICO and one half the median equivalent income concepts. (Other plots are available on request and tell the same story.¹⁶)

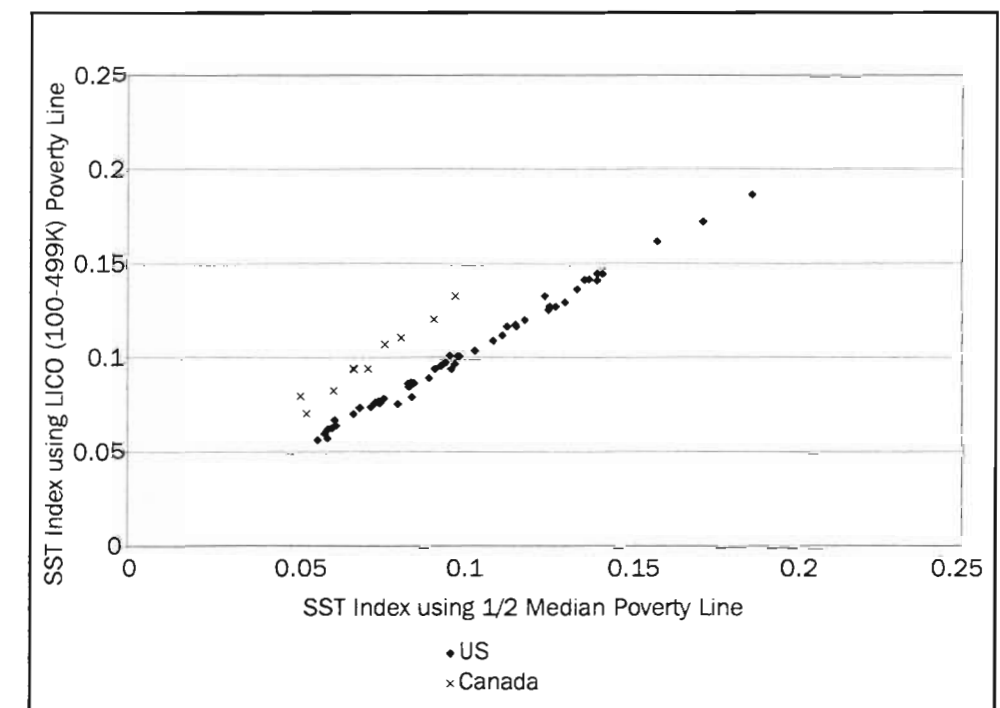
The use of different poverty lines can be quite important for perceptions of the overall level of poverty, or the prevalence of poverty by demographic group, or trends over time within countries—see Wolfson and Evans (1989) or Short et al. (1999). A particularly important issue is the dependence of many senior citizens on the same transfer programs. This implies that many senior citizens have much the same (low) income. Because that “spike” in the income distribution of senior citizens in Canada lay between the LICO and one half the median in 1994, poverty measurement among the over-65 cohort is quite sensitive to measurement choices—see Osberg (1997). (Since Social Security in the United States is more heavily earnings-related, the “spike” in U.S. data is less sharp.) However, across states and provinces the impact of changing measurement choices is nearly the same, because the proportion of elderly in the population does not vary enough to make much of a difference to aggregate poverty totals.¹⁷

Figure 4A. Correlation of Poverty Measure SST Index Using Official U.S. and 1/2 Median Poverty Line—1994



Sources: Authors' calculations using LIS (United States) and SCF-Households (Canada). Dollar values converted using purchasing power parities (US\$0.79 per Can.\$).

Figure 4B. Correlation of Poverty Measure SST Index Using LICO (100–499K) and 1/2 Median Poverty Line—1997



Sources: Authors' calculations using LIS (United States) and SCF-Households (Canada). Dollar values converted using purchasing power parities (US\$0.79 per Can.\$).

Similarly, the conceptual choice of an “absolute” poverty line which is updated only for price increases (such as the LICO or the SSA poverty line) or “one half the median equivalent individual income” (a “relative” poverty line which moves with median income) can imply different perceptions of trends over time—but at the national level. In the late 1990s, strong economic growth in the United States has raised family incomes, but in Canada average real family income has fallen. Since consumer prices have risen faster than family money incomes in Canada, the LICO is now significantly higher than “one half the median” in Canada—hence the measurement choices of an absolute or a relative poverty line does affect perceptions of the Canadian national trend. However, the impact of these measurement choices reflects events that are national in scope. Comparing jurisdictions within countries, at any point in time, poverty by one poverty line predicts almost exactly poverty by any other poverty line.

For the United States, we use the Luxembourg Income Study (LIS) data (based on the Current Population Survey), but for the Canadian inter-provincial comparisons we use the Survey of Consumer Finance household micro data of 1994 and 1997. We assume that within all provinces and states, at all dates: (i) family (after-tax) income is equally shared among all family members, (ii) the LIS equivalence scale adequately accounts for economies of scale in family consumption, and (iii) the poverty line is represented by half the median equivalent income.¹⁸

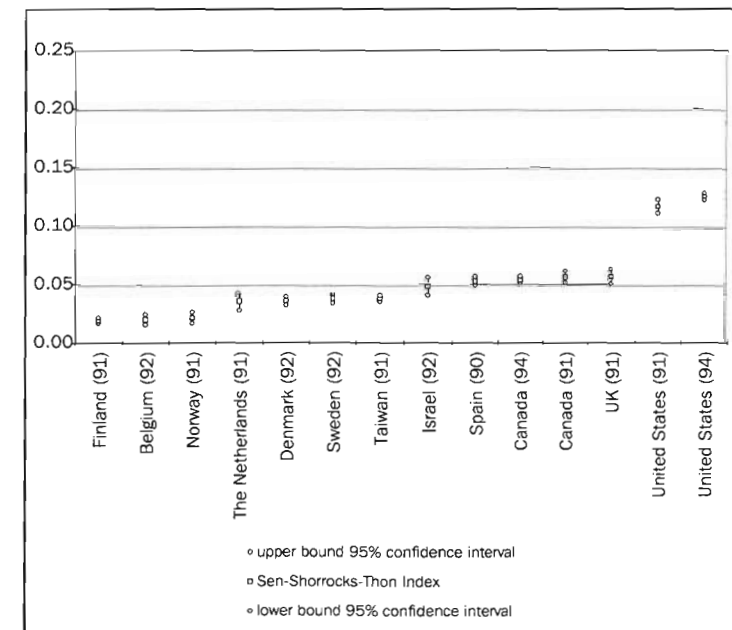
The Context for Poverty Comparisons between the United States and Canada

Before proceeding to an examination of the differences between Canadian provinces and U.S. states in the 1990s in poverty intensity, we first set the context by discussing the much larger differences in poverty intensity that can be observed among selected developed countries and over time. Figure 5 presents LIS data from the 1990s, to make the point that in 1994, poverty intensity in Canada was, overall,

comparable to the high end of the European poverty intensity spectrum—and quite different from that observed in the United States.

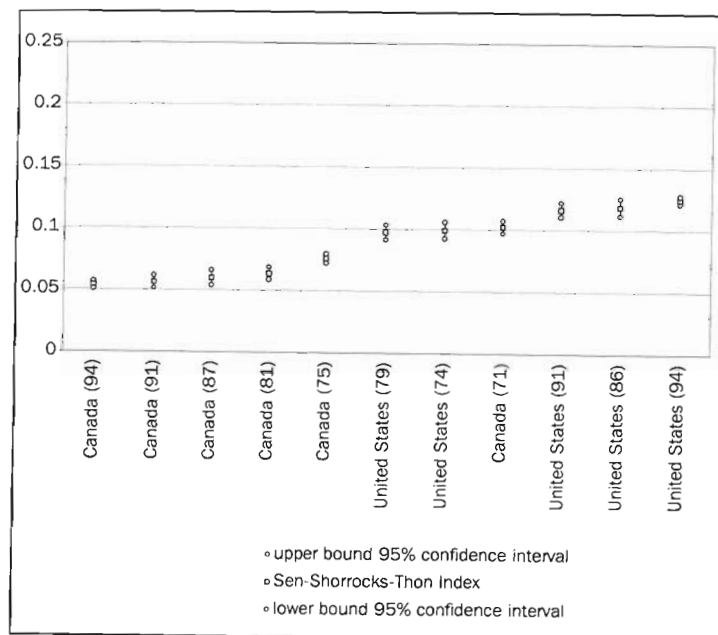
Figure 6 is also based on LIS data and is presented to make the point that differences in national poverty intensity between the United States and Canada only emerged within the last 30 years. Canada and the United States were statistically indistinguishable in poverty intensity in the early 1970s (indeed Canada’s point estimate of poverty intensity in 1971 exceeds the U.S. 1974 point estimate). Over the period 1971 to 1994, Canadian social policy diverged from that in the United States [see Card and Freeman (1993)], and Canadian and American poverty intensity moved in different directions. By the mid 1990s Canadian poverty intensity was clearly less than in the United States at the national level. However, within both

Figure 5. 1990s—Country Rankings by SST Index



Source: Authors' calculations using the Luxembourg Income Study. Sen-Shorrocks-Thon Index of poverty intensity.

Figure 6. Poverty Intensity Over Time
Canada–United States Comparison



Source: Authors' calculations using the Luxembourg Income Study. Sen-Shorrocks-Thon Index of poverty intensity.

Canada and the United States, it is the larger subnational jurisdictions¹⁹ that dominate national totals. Since the decisions of a few provincial and state lawmakers dominate national averages, differences in poverty that emerge in a decade can, presumably, disappear just as quickly. As Figure 2 indicated, by 1997 Canadian provinces were spread throughout the distribution of U.S. states. The point of this paper is to try to explain why.

Unemployment Rate

During the 1990s, U.S. and Canadian unemployment rates have diverged substantially. In explaining this, Fortin (1996) and Riddell

(1999) have laid primary emphasis on the divergent monetary policies of the U.S. Federal Reserve and the Bank of Canada. The adoption of an explicit target range of 1 to 3 percent for inflation in Canada has not been emulated by the United States and the Federal Reserve continues to emphasize the costs to output and employment of such a one-dimensional perspective on monetary policy.²⁰ For present purposes, this divergence in policy choices is important, because it may be that the insecurities that are popularly associated with greater trade liberalization would be better focused on monetary policy choices.

To account for the influence of macroeconomic conditions, we use the male unemployment rate (all ages) for each province/state for 1994 and 1997.²¹ However, the impact of aggregate labor demand on poverty is unlikely to be linear. When unemployment rates are high, a one percentage point shift may largely produce changes in the employment probability of middle-class workers, but as the labor market tightens up, employers have to start to consider more seriously the job applications of the disadvantaged. Hence, our preferred specification is the natural logarithm [$\ln(\text{unemployment})$], since that gives greatest weight (in reducing poverty) to changes in unemployment that occur at low levels of unemployment.

Unemployment Insurance Generosity

There is an enormous literature on unemployment insurance and its impacts. For example, Atkinson and Micklewright (1991) and Osberg (1996) have surveyed international evidence on the connection between unemployment compensation and unemployment and have stressed the complexity of UI systems and the inadequacy of a simple story of UI disincentives. Myatt has surveyed the macro time-series studies on Canada which assess the impact of the 1971 UI revisions on unemployment, half of which find no impact. As he comments, "A more evenly divided result could not be imagined." (1996, p. 109). Sargent (1995) has noted that a variety of indices of UI generosity have been used in the Canadian literature, often

imposing arbitrary assumptions, such as the time horizon over which labor/leisure choices are made.

Researchers face difficult choices in attempting to summarize a complex system such as Canadian UI in a small number of variables.²² However, that difficulty is magnified when the system changes structurally (as in 1996) and when the point at issue is a comparison with the “generosity” of an amalgam of 50 heterogeneous state systems, which differ somewhat from each other and have had a quite different structure from Canadian UI. As a consequence, direct comparisons of U.S. and Canadian UI are surprisingly rare²³—Moorthy (1990) is one of the few to attempt a pooled state/province regression.

The price of comparing jurisdictions with different structures to their UI systems is a necessity to simplify the characterization of those systems. Data are to enable calculation of the ratio of total UI benefits in the province/state to the total number of unemployed for 1994 and 1997. The second concept of generosity used in this paper is total UI benefits divided by total earnings. This variable has been used by Moorthy (1990) [and criticized by Osberg (1996, p. 93)].

Social Assistance Generosity

If anything, social assistance systems in Canada and the United States are even more complex than UI, with a host of provisions for earnings disregard, maximum asset holdings allowed, supplementary benefits, etc. However, there are also plausible comparable measures of the generosity of social assistance.

Our first measure of social assistance generosity is the maximum amount a single parent with one child would receive in assistance, as a fraction of average local earnings. For the United States, the amount is the dollar amount of maximum Aid to Families with Dependent Children (AFDC) for a family of two for each state. The National Council of Welfare reports the benefits for a single parent with one child across all the provinces in Canada. These amounts are divided by 52 to obtain a weekly amount and then by the average

weekly earnings in states/provinces. These figures were obtained for 1994 and 1996 (1997 data are not yet available).

The second concept looks at welfare generosity in terms of national, not local, norms. It is similar to the first but rather than dividing by the average earnings, the divisor is the poverty line of one-half the median equivalent income for each country. Both these concepts of “generosity” measure the legislated provisions open to an individual with given characteristics, but not the value of benefits actually paid. Our own opinion is that such a measure of the generosity of social assistance is desirable, since it is not endogenous to the choices of individuals to apply for welfare, or the other local factors that might push people onto welfare. (A disadvantage is that benefits change infrequently in most states, implying there is little identifying variation in fixed effects models.) However, one could also argue that jurisdictions may differ in the ease with which applicants are approved for benefits and in the demographic structure of the applicant pool (which would argue for the use of actual benefits paid per person).

We therefore experiment with a third measure of social assistance generosity—average social assistance benefits for all individuals receiving benefits. In Canada, this is the total annual social assistance paid by each province divided by the total number of recipients (i.e., all those in a household receiving social assistance) per province estimated in March of 1994 and 1997 (which is then divided by 12 for a monthly amount). For the United States, we take the average monthly AFDC for all households plus the average monthly value of food stamps for all recipient families and divide this total by the average household size for the state.

Trade Exposure

Our trade openness variable measures the exposure of a state or province to international trade as the product of the industrial composition of the labor force and the trade exposure of industries. Although we prefer a measure of trade exposure (exports plus

imports), popular discussion often focuses on the impact of imports on employment. Hence, we also construct a measure of import exposure. The variable consists of each country's exports plus imports (or imports alone) by industry as a proportion of the output of that industry, weighted by the proportion of the state's or province's labor force working in that industry. Export and import data are obtained for two-digit categories, using the 1980 industrial classification system for Canada and the major groupings industrial classification system for the United States. The trade data include agriculture, mining, and manufacturing industries, but do not include services.

The industry-level labor force data uses the same industrial classifications. For Canada, the Monthly Labour Force Survey is used, with an average being taken for the 12 months of 1994 and 1997. For the United States, non-farm employment rather than the total labor force is used. For each state or province, the proportion of the labor force in each industry as a percentage of all employment is calculated. Finally, the proportions of the labor force in each industry are multiplied by the share of trade (or imports alone) in output, and then summed for each province or state.

The Canada Effect

In cross-national comparisons, one always faces the concern that there may be real or nominal differences between countries that are not captured in measured explanatory variables. Differences in statistical procedures or the measurement of variables (such as welfare benefits) may create the perception of difference where none exists, but it may also be that some variables (e.g., the percentage of black or Hispanic individuals) are plausibly omitted in one context, but important in another. It could also be that in Canada–United States comparisons, Canada is just “kinder and gentler” in some set of unspecified ways that are not captured by differences in unemployment, trade and social policy (specifically, welfare and UI). We therefore include a dummy variable to denote “Canadian”—but to anticipate the discussion of results below, it is almost never statistically significant.

Results

Tables 1A and 1B present the main results. Column 1 presents our preferred specification because it (1) enters the logarithm of the local unemployment rate (implying that changes in unemployment at low rates have greater impacts on poverty); (2) measures UI in the same manner as Moorthy (1990); (3) focuses on statutory entitlements to social assistance as a fraction of average local earnings; and (4) measures trade exposure (not just import exposure). However, columns 2 to 7 are included to give readers a feeling for the robustness of our results.²⁴

It is clear that a rise in the unemployment rate is strongly associated with an increase in poverty. This result is noteworthy since there was a time when analysts emphasized the proportion of the poverty population (elderly, single parents and handicapped) who are permanently outside the labor force and declared: “Poverty... is no longer a phenomenon closely related to the labour market” [Economic Council of Canada (1976, p. 122)]. By contrast, Tables 1A and 1B emphasize the importance of macroeconomic policy for poverty outcomes. The tight labor markets produced by a continuing expansion in the United States have had a significant impact on poverty—but in Canada the poor have paid the price of the policy choice to de-emphasize the importance of unemployment.²⁵

The generosity of social assistance benefits is also clearly associated with lower poverty. Although it has been argued that cutting social assistance benefits is an act of “tough love” which increases work incentives, gets people off welfare and reduces poverty, Tables 1A and 1B are instead consistent with the more obvious idea that cutting social welfare benefits deepens the deprivation of the disadvantaged, and is consistently associated with more intense poverty—not less.

In most specifications, more generous UI benefits are associated with lower poverty—but not for our preferred specification. We are not happy with the construction of our UI variables, and are therefore, cautious in our interpretation—perhaps the most accurate

Table 1A. Determinants of Poverty Intensity¹ in Canada and the United States—1994
Estimation Method = GLS²

	1	2	3	4	5	6	7
Intercept (0.026)	0.079* (0.002)	0.109* (0.022)	0.058* (0.023)	0.063* (0.216)	0.087* (0.017)	0.148* (0.012)	0.126* (0.002)
Male Unemployment – Rate		0.008* (0.002)				0.005* (0.002)	0.007* (0.002)
– Ln (Rate)	0.040* (0.014)		0.059* (0.013)	0.058* (0.013)	0.067* (0.013)		
Unemployment Insurance – Benefits/unemployed (In 000s)			–0.047** (0.013)	–0.048** (0.023)		–0.063** (0.024)	–0.063* (0.023)
– Benefits/ Monthly Earnings	0.118 (0.194)	–0.261 (0.253)			–0.709* (0.175)		
Social Assistance – Parent + 1 Child Benefits/Earnings	–0.197* (0.052)	–0.209* (0.051)	–0.155* (0.048)	–0.157* (0.048)			
– Average Benefits (000 Can.\$)					–0.306* (0.049)	–0.167* (0.050)	–0.080* (0.018)
– Parent + 1 Benefits/ SSA Poverty Line							

Trade							
–Import Exposure			–0.069 (0.070)		–0.073 (0.062)	–0.050 (0.070)	0.001 (0.068)
–Import and Export	–0.005 (0.047)	–0.014 (0.046)		–0.052 (0.045)			
Canada Effect	–0.006 (0.024)	0.001 (0.023)	–0.002 (0.020)	0.007 (0.024)	–0.022 (0.014)	–0.028 (0.056)	–0.014 (0.016)
R ²	0.564	0.588	0.592	0.594	0.681	0.589	0.633
n	61	61	61	61	61	61	61

* significant with 99 percent confidence

** significant with 95 percent confidence

¹ Sen-Shorrocks-Thon Index; Poverty Line = ½ median equivalent disposable income after tax and transfer; LIS equivalence scale (=N .5).

² Generalized Least Squares estimates using bootstrap standard errors.

Table 1B. Determinants of Poverty Intensity¹ in Canada and the United States-1997
Estimation Method=GLS²

	1	2	3	4	5	6	7
Intercept	0.054** (0.022)	0.091 (0.015)	0.055* (0.016)	0.059* (0.018)	0.058* (0.018)	0.119* (0.015)	0.115* (0.012)
Male Unemployment							
-Rate		0.010* (0.002)				0.007* (0.002)	0.007* (0.001)
-Ln (Rate)	0.052* (0.012)		0.061* (0.010)	0.059* (0.010)	0.070* (0.012)		
Unemployment Insurance							
- Benefits/unemployed (In '000s)			-0.079* (0.022)	-0.076* (0.022)		-0.099* (0.024)	-0.096* (0.023)
- Benefits/Monthly Earnings	-0.215 (0.225)	-0.799* (0.030)			-0.789* (0.199)		
Social Assistance							
- Parent + 1 Child Benefits/Earnings	-0.162** (0.061)	-0.176* (0.060)	-0.105*** (0.055)	-0.105*** (0.055)			
-Average Benefits (000 Can \$)					-0.203* (0.042)	-0.065	(0.044)
- Parent + 1 Benefits/SSA Poverty Line							-0.047** (0.022)

Trade							
-Import Exposure			-0.073 (0.060)		-0.031 (0.059)	-0.031 (0.063)	-0.026 (0.062)
-Import and Export	-0.039 (0.040)	-0.024 (0.039)		-0.046 (0.036)			
Canada Effect	0.009 (0.025)	0.015 (0.024)	-0.007 (0.021)	-0.002 (0.023)	-0.034* (0.012)	-0.031** (0.013)	-0.020 (0.015)
R ²	0.408	0.433	0.509	0.510	0.524	0.459	0.482
n	61	61	61	61	61	61	61

* significant with 99 percent confidence

**significant with 95 percent confidence

***significant with 90 percent confidence

1 Sen-Shorrocks-Thon Index; Poverty Line = ½ median equivalent disposable income after tax and transfer; LIS equivalence scale [N .5].

2 Generalized Least Squares estimates using bootstrap standard errors.

phrasing would be that Tables 1A and 1B offer qualified support for the anti-poverty role of Unemployment Insurance.

The literature on trade and income inequality has been contentious, but a consensus has slowly emerged that, while trade is undoubtedly to blame for a significant part of the rise in inequality over the last generation, it is not the sole or even strongest factor. Borjas, Freeman, and Katz (1997) found that trade and immigration contributed up to 20 percent of the rise in the skilled-to-unskilled wage ratio, while Borjas and Ramey (1994a, 1994b) theorized that in sectors weakened by imports, unskilled workers lost their monopoly power, resulting in a rise in wage inequality. Wood's (1995) exhaustive study attributed almost the entire rise in the skill premium to North-South trade. However, Lawrence and Slaughter (1993) stressed that, according to the Stolper-Samuelson theorem of the Heckscher-Ohlin model, rising wage inequality could not be attributed to trade, given that neither the relative price of unskilled labor-intensive imports nor the skilled-to-unskilled employment ratio has fallen. Krugman's (1995a, 1995b) general-equilibrium analysis suggested that North-South trade is sufficiently small (non-oil imports from low-wage countries to the U.S. amounted to just 2.8 percent of U.S. GDP in 1990) that it could not possibly explain the rise in inequality. Finally, Cline's (1997) summary and analysis of the evidence states that only one-fourth to one-fifth of the rise in the skilled-to-unskilled wage ratio is attributable to trade or immigration.

The literature on trade and risk focuses on the rise in instability caused by increased openness. This rise in instability may have many possible sources, such as increased exchange-rate risk [see, for example, Gagnon (1993)]. Gottschalk and Moffitt (1994) find that a rise in the instability of earnings can account for one-third of the widening in the U.S. earnings distribution between the 1970s and the 1980s. Rodrik (1997) provides many examples of increased risk due to globalization, such as a rise in the elasticity of demand for unskilled workers. This is caused by an asymmetry between groups that can more easily cross borders (such as capital and highly skilled

workers) and those that are locked in (such as less-skilled workers), and results in greater instability in incomes when there are shocks to labor demand. Rodrik (1998) points out that openness might be thought to lower risk, given that any one economy must be more volatile than the overall world economy. However, openness causes risk by encouraging specialization, which leads to less diversification—and the stability of domestic production is what matters, not the stability of the world. Empirically, Rodrik finds that greater exposure to external risk (measured by the terms of trade or the product concentration of exports) does lead to greater volatility in income.

Tables 1A and 1B indicate that the cross-sectional level of trade exposure is statistically insignificant as an explanatory variable—i.e., states (provinces) that are more highly trade-dependent have, all else being equal, much the same poverty intensity as those that are less trade-dependent. In other work (not reported here) we have looked at the change between 1994 and 1997 in poverty intensity as a function of the change in unemployment, UI, social assistance and trade exposure. These fixed effects regressions are marred by the fact that in 42 states and two provinces, statutory benefits for a single parent did not change from 1994 to 1997, hence there is little identifying variation, and we do not report these results. However, we note that the fixed effects regressions do show a statistically significant positive association between an increase in trade exposure and increased poverty intensity. When combined with the statistically insignificant effect of the level of trade exposure in the cross section, this could be read as indicating that the dislocations produced by a change in trade regime produce greater poverty, but the effects are temporary.

It is notable that with only five variables we are able to explain a substantial part of the variance in poverty across provinces and states—the range in R^2 in 1994 is .56 to .63 and in 1997 is .41 to .51—but the dummy variable for Canada is almost always statistically insignificant. There is, therefore, little support in this data for any “Canada effect” that is not captured by differences in social assistance benefit levels, unemployment and unemployment insurance. Overall, the parameter estimates of Tables 1A and 1B provide quite reason-

able approximate explanations of poverty trends. For example, between 1994 and 1997 the SST index in Ontario increased from .044 to .063. In late 1995, a 21 percent cut in social assistance benefits was enacted in Ontario. Columns 1 and 2 of Table 1A imply that such a cut would have, by itself, produced an increase in the SST index to approximately .085.²⁶ (Columns 3 to 5 imply a smaller impact on increase poverty intensity—to about .076.) However, since a low exchange rate and continuing expansion in the United States fueled substantial expansion of Ontario's exports, resulting in a 1.8 percentage point decline in the male unemployment rate over the same period, about .01 of that increase in the SST index has been offset by lower unemployment.

Implicitly, Tables 1A and 1B also provide an estimate of the extent to which one can hope for macroeconomic expansion to fill the gap created by welfare cuts. In order to fully recoup the increase in poverty intensity that occurred in Ontario from 1994 to 1997, for example, a decline in unemployment rates of about 7.2 percentage points (i.e., to 2.7 percent) would have been required—something that the Bank of Canada is unlikely to permit to happen.

Implications—Choices to Make

Some social policy analysts have advanced the hypothesis that the combination of trade openness and the substantial welfare state observed in the northern European countries represents a form of societal risk pooling that attempts to maintain long-run political stability by finding a balance across the population of the greater rewards, and greater risks, of being open to international trade. If this is true, and if long-run social stability requires a link between greater trade and a larger welfare state, there may be a long-term endogeneity of the evolution of the explanatory variables used in this paper.

However, during the 1990s in Canada and the United States there has been rapid growth in trade and little sign of any general expansion of the welfare state. Instead, a common theme in both countries

has been overall cuts, in the context of a devolution to states (provinces) of responsibility for social policy. The basic message of this paper is the heterogeneity of poverty outcomes across states and provinces and the importance of the decisions that are being made at those levels. In the United States, states will soon begin to encounter the implications of the five-year time limits to social assistance receipt legislated in 1996. Nobody yet knows how much deprivation will be produced and how the states will respond in the administration of existing programs, design of new supports or neglect. In Canada, there is no evidence of political pressures to undo the social assistance cuts of recent years, but there is continued lobbying to reduce taxation. In both countries, there is widespread uncertainty over how long the current economic expansion can continue, and the prospects for unemployment if it does not. Hence, although it is clear that in both countries the income determination process for poor people is in flux, it is far from clear where it will end up.

It is, however, possible to say what has happened, up to 1997. It is clear that Canada's distinctiveness in poverty outcomes has eroded dramatically. Cross-sectional results do not support the hypothesis that greater levels of trade exposure can be blamed for higher poverty. Instead, this paper argues that decisions that were made in Canada—on macroeconomic policy, social assistance generosity and unemployment insurance—are the ones that mattered. The basic conclusion is that the choices made by Canadian provinces and American states in the future will be of great importance in determining the intensity of poverty and the type of society that Canadians and Americans will live in.

Appendix

Table A1. Sen-Shorrocks-Thon Index, Poverty Rate and Relative Poverty Gap—1994

Province/State	12 Median Equivalent Income N ⁵ scale				U.S. Poverty Line		
	SST	Rate	Gap	Standard Error (SST)	SST	Rate	Gap
Canada	0.059	0.111	0.273	0.0013	0.036	0.069	0.264
Alberta	0.055	0.104	0.271	0.0037	0.032	0.065	0.254
British Columbia	0.056	0.105	0.275	0.0039	0.035	0.067	0.265
Manitoba	0.072	0.124	0.300	0.0051	0.049	0.084	0.299
New Brunswick	0.083	0.141	0.307	0.0056	0.050	0.094	0.278
Newfoundland	0.106	0.184	0.305	0.0069	0.066	0.128	0.271
Nova Scotia	0.083	0.157	0.277	0.0051	0.049	0.097	0.261
Ontario	0.044	0.082	0.274	0.0024	0.028	0.048	0.297
PEI	0.044	0.109	0.207	0.0065	0.026	0.051	0.265
Quebec	0.069	0.140	0.258	0.0028	0.038	0.086	0.227
Saskatchewan	0.087	0.147	0.311	0.0056	0.058	0.106	0.285
United States	0.126	0.185	0.360	0.0015	0.091	0.130	0.367
Alabama	0.158	0.230	0.368	0.0160	0.116	0.149	0.412
Alaska	0.093	0.133	0.359	0.0156	0.070	0.085	0.424
Arizona	0.149	0.206	0.386	0.0146	0.114	0.142	0.421
Arkansas	0.138	0.223	0.332	0.0115	0.090	0.153	0.311
California	0.145	0.213	0.363	0.0058	0.110	0.151	0.386
Colorado	0.083	0.115	0.374	0.0100	0.061	0.078	0.401
Connecticut	0.089	0.126	0.369	0.0141	0.062	0.102	0.314
Delaware	0.084	0.139	0.313	0.0125	0.056	0.080	0.363
District of Columbia	0.173	0.247	0.382	0.0175	0.126	0.201	0.337

Table A1. (continued)

Province/State	12 Median Equivalent Income N ⁵ scale				U.S. Poverty Line		
	SST	Rate	Gap	Standard Error (SST)	SST	Rate	Gap
Florida	0.133	0.180	0.389	0.0073	0.100	0.133	0.392
Georgia	0.117	0.179	0.345	0.0114	0.081	0.122	0.348
Hawaii	0.081	0.126	0.333	0.0118	0.054	0.076	0.364
Idaho	0.101	0.183	0.291	0.0120	0.065	0.101	0.332
Illinois	0.115	0.173	0.351	0.0068	0.081	0.119	0.357
Indiana	0.139	0.196	0.379	0.0162	0.100	0.142	0.370
Iowa	0.097	0.133	0.381	0.0126	0.071	0.100	0.371
Kansas	0.144	0.210	0.366	0.0132	0.101	0.147	0.365
Kentucky	0.164	0.235	0.378	0.0138	0.116	0.181	0.343
Louisiana	0.191	0.275	0.378	0.0168	0.145	0.207	0.379
Maine	0.083	0.139	0.309	0.0117	0.054	0.078	0.354
Maryland	0.081	0.128	0.331	0.0110	0.053	0.077	0.354
Massachusetts	0.088	0.132	0.347	0.0056	0.059	0.090	0.336
Michigan	0.123	0.178	0.366	0.0069	0.090	0.135	0.351
Minnesota	0.100	0.159	0.330	0.0116	0.067	0.105	0.329
Mississippi	0.158	0.262	0.327	0.0147	0.108	0.183	0.313
Missouri	0.133	0.206	0.344	0.0166	0.096	0.152	0.336
Montana	0.110	0.173	0.334	0.0110	0.071	0.109	0.337
Nebraska	0.079	0.123	0.332	0.0108	0.052	0.067	0.400
Nevada	0.102	0.145	0.367	0.0137	0.072	0.101	0.372
New Hampshire	0.065	0.116	0.289	0.0094	0.037	0.065	0.292
New Jersey	0.079	0.118	0.346	0.0058	0.055	0.078	0.358
New Mexico	0.186	0.267	0.379	0.0146	0.140	0.199	0.376
New York	0.143	0.199	0.382	0.0066	0.107	0.148	0.382
North Carolina	0.121	0.184	0.348	0.0073	0.083	0.120	0.362

(Table continues on the following page.)

Table A1. (continued)

Province/State	1/2 Median Equivalent Income N ⁵ scale				U.S. Poverty Line		
	SST	Rate	Gap	Standard Error (SST)	SST	Rate	Gap
North Dakota	0.109	0.161	0.355	0.0127	0.078	0.099	0.408
Ohio	0.126	0.182	0.367	0.0067	0.091	0.128	0.374
Oklahoma	0.144	0.228	0.338	0.0135	0.103	0.148	0.366
Oregon	0.109	0.175	0.329	0.0118	0.073	0.115	0.332
Pennsylvania	0.111	0.162	0.362	0.0068	0.081	0.116	0.363
Rhode Island	0.101	0.147	0.356	0.0147	0.071	0.090	0.406
South Carolina	0.126	0.199	0.336	0.0137	0.088	0.126	0.368
South Dakota	0.117	0.178	0.348	0.0124	0.081	0.113	0.375
Tennessee	0.134	0.185	0.383	0.0149	0.099	0.138	0.379
Texas	0.150	0.231	0.350	0.0070	0.109	0.163	0.354
Utah	0.071	0.116	0.318	0.0107	0.048	0.061	0.398
Vermont	0.068	0.121	0.289	0.0096	0.042	0.075	0.289
Virginia	0.101	0.145	0.363	0.0108	0.071	0.100	0.368
Washington	0.117	0.170	0.362	0.0119	0.082	0.121	0.354
West Virginia	0.171	0.256	0.361	0.0154	0.123	0.172	0.382
Wisconsin	0.077	0.122	0.325	0.0100	0.048	0.077	0.323
Wyoming	0.101	0.150	0.351	0.0117	0.071	0.095	0.383

Table A2. Sen-Shorrocks-Thon Index, Poverty Rate
and Relative Poverty Gap—1997

Province/State	1/2 Median Equivalent Income N ⁵ scale				U.S. Poverty Line		
	SST	Rate	Gap	Standard Error (SST)	SST	Rate	Gap
Canada	0.070	0.118	0.306	0.0018	0.048	0.081	0.306
Alberta	0.055	0.088	0.322	0.0037	0.037	0.060	0.314

Table A2. (continued)

Province/State	1/2 Median Equivalent Income N ⁵ scale				U.S. Poverty Line		
	SST	Rate	Gap	Standard Error (SST)	SST	Rate	Gap
British Columbia	0.073	0.115	0.330	0.0039	0.054	0.079	0.350
Manitoba	0.069	0.129	0.278	0.0051	0.045	0.084	0.274
New Brunswick	0.083	0.155	0.282	0.0056	0.052	0.104	0.261
Newfoundland	0.099	0.197	0.267	0.0069	0.063	0.122	0.271
Nova Scotia	0.093	0.166	0.295	0.0051	0.062	0.112	0.288
Ontario	0.063	0.099	0.328	0.0024	0.046	0.069	0.340
PEI	0.053	0.126	0.219	0.0065	0.030	0.071	0.220
Quebec	0.078	0.144	0.285	0.0028	0.051	0.099	0.268
Saskatchewan	0.069	0.127	0.283	0.0056	0.046	0.081	0.293
United States	0.106	0.168	0.333	0.0099	0.063	0.094	0.345
Alabama	0.144	0.214	0.360	0.0160	0.088	0.122	0.375
Alaska	0.064	0.101	0.325	0.0156	0.040	0.055	0.366
Arizona	0.128	0.226	0.303	0.0146	0.070	0.112	0.322
Arkansas	0.160	0.254	0.342	0.0115	0.096	0.142	0.354
California	0.118	0.191	0.328	0.0058	0.069	0.112	0.319
Colorado	0.063	0.097	0.332	0.0100	0.038	0.054	0.358
Connecticut	0.071	0.087	0.418	0.0141	0.048	0.057	0.427
Delaware	0.076	0.108	0.361	0.0125	0.048	0.071	0.350
District of Columbia	0.188	0.248	0.414	0.0175	0.126	0.173	0.386
Florida	0.118	0.176	0.351	0.0073	0.071	0.098	0.375
Georgia	0.128	0.193	0.353	0.0114	0.081	0.112	0.375
Hawaii	0.098	0.163	0.316	0.0118	0.056	0.079	0.366
Idaho	0.099	0.190	0.277	0.0120	0.049	0.099	0.256
Illinois	0.086	0.145	0.312	0.0068	0.047	0.078	0.313

(Table continues on the following page.)

Table A2. (continued)

Province/State	1/2 Median Equivalent Income N ⁵ scale				U.S. Poverty Line		
	SST	Rate	Gap	Standard Error (SST)	SST	Rate	Gap
Indiana	0.062	0.120	0.264	0.0162	0.033	0.045	0.371
Iowa	0.082	0.139	0.309	0.0126	0.045	0.060	0.385
Kansas	0.076	0.130	0.303	0.0132	0.042	0.060	0.356
Kentucky	0.120	0.201	0.320	0.0138	0.062	0.119	0.273
Louisiana	0.136	0.213	0.343	0.0168	0.080	0.132	0.319
Maine	0.093	0.152	0.321	0.0117	0.050	0.073	0.352
Maryland	0.059	0.095	0.317	0.0110	0.031	0.054	0.286
Massachusetts	0.101	0.138	0.380	0.0056	0.062	0.085	0.380
Michigan	0.087	0.141	0.323	0.0069	0.051	0.076	0.343
Minnesota	0.078	0.123	0.331	0.0116	0.047	0.075	0.323
Mississippi	0.140	0.234	0.320	0.0147	0.082	0.124	0.348
Missouri	0.100	0.151	0.348	0.0166	0.057	0.087	0.337
Montana	0.130	0.204	0.340	0.0110	0.072	0.107	0.347
Nebraska	0.074	0.142	0.272	0.0108	0.035	0.076	0.239
Nevada	0.077	0.139	0.288	0.0137	0.036	0.072	0.254
New Hampshire	0.064	0.117	0.281	0.0094	0.037	0.052	0.359
New Jersey	0.077	0.117	0.339	0.0058	0.046	0.070	0.335
New Mexico	0.174	0.250	0.378	0.0146	0.109	0.167	0.346
New York	0.139	0.199	0.370	0.0066	0.087	0.123	0.370
North Carolina	0.097	0.153	0.331	0.0073	0.059	0.086	0.351
North Dakota	0.098	0.157	0.326	0.0127	0.054	0.094	0.299
Ohio	0.085	0.144	0.309	0.0067	0.050	0.078	0.329
Oklahoma	0.114	0.183	0.328	0.0135	0.063	0.098	0.331
Oregon	0.087	0.153	0.296	0.0118	0.043	0.062	0.352
Pennsylvania	0.092	0.155	0.309	0.0068	0.050	0.084	0.306
Rhode Island	0.127	0.175	0.382	0.0147	0.083	0.111	0.388

Table A2. (continued)

Province/State	1/2 Median Equivalent Income N ⁵ scale				U.S. Poverty Line		
	SST	Rate	Gap	Standard Error (SST)	SST	Rate	Gap
South Carolina	0.095	0.182	0.275	0.0137	0.050	0.084	0.305
South Dakota	0.133	0.177	0.397	0.0124	0.084	0.116	0.375
Tennessee	0.115	0.192	0.317	0.0149	0.067	0.086	0.402
Texas	0.142	0.217	0.351	0.0070	0.089	0.127	0.368
Utah	0.061	0.109	0.288	0.0107	0.034	0.057	0.302
Vermont	0.069	0.113	0.315	0.0096	0.036	0.050	0.370
Virginia	0.105	0.163	0.338	0.0108	0.065	0.084	0.398
Washington	0.086	0.134	0.332	0.0119	0.052	0.071	0.377
West Virginia	0.142	0.235	0.326	0.0154	0.079	0.126	0.327
Wisconsin	0.061	0.107	0.295	0.0100	0.030	0.047	0.316
Wyoming	0.111	0.178	0.329	0.0117	0.065	0.088	0.383

Table A3. Independent Variables—1994

Province/ State	Male U. Rate	Unemployment Generosity		Social Assistance Generosity			Trade Exposure	
		Ben./ Unemp.	Ben./ Earn.	Ben./ Earn.	Ave. SA	Ben./ P Line	Imports/ Imports	Exports
Alberta	8.2	564.9	0.026	0.420	460.5	0.836	0.179	0.494
British Columbia	10.2	617.7	0.031	0.496	394.7	1.049	0.118	0.291
Manitoba	9.5	459.2	0.027	0.497	346.2	0.877	0.185	0.396
New Brunswick	13.4	1279.5	0.099	0.508	300.4	0.813	0.126	0.305
Newfound- land	21.3	1050.3	0.139	0.678	231.4	1.005	0.116	0.310
Nova Scotia	13.5	845.4	0.070	0.577	281.2	0.949	0.147	0.349
Ontario	9.9	485.4	0.023	0.600	410.8	1.302	0.295	0.571

(Table continues on the following page.)

Table A3. (continued)

Province/ State	Male U. Rate	Unemployment Generosity		Social Assistance Generosity			Trade Exposure	
		Ben./ Unemp.	Ben./ Earn.	Ben./ Earn.	Ave. SA	Ben./ P Line	Imports/ Imports	Exports
PEI	17.5	1061.0	0.142	0.717	289.7	0.973	0.126	0.327
Quebec	12.9	744.8	0.053	0.538	367.0	1.013	0.261	0.503
Saskatche- wan	7.0	552.9	0.027	0.546	312.0	0.935	0.153	0.381
Alabama	4.7	150.4	0.006	0.078	161.7	0.174	0.133	0.206
Alaska	9.1	501.1	0.021	0.351	434.4	1.045	0.046	0.064
Arizona	5.7	131.4	0.005	0.149	225.8	0.350	0.072	0.123
Arkansas	4.7	236.9	0.009	0.104	166.4	0.206	0.135	0.217
California	8.7	258.6	0.011	0.218	323.4	0.624	0.089	0.146
Colorado	4.4	226.0	0.005	0.142	228.3	0.358	0.060	0.102
Connecticut	5.3	534.0	0.012	0.183	324.5	0.602	0.100	0.176
Delaware	4.5	327.6	0.008	0.125	237.4	0.344	0.059	0.107
District of Columbia	8.3	369.2	0.008	0.119	280.4	0.428	0.002	0.004
Florida	6.3	161.1	0.006	0.135	221.8	0.307	0.047	0.078
Georgia	5.0	143.7	0.004	0.121	203.0	0.299	0.096	0.153
Hawaii	7.1	518.4	0.017	0.289	418.3	0.719	0.017	0.026
Idaho	5.6	249.3	0.010	0.152	211.8	0.319	0.073	0.130
Illinois	5.8	323.9	0.008	0.125	230.2	0.354	0.084	0.145
Indiana	4.5	155.1	0.004	0.120	195.9	0.291	0.144	0.242
Iowa	3.9	260.1	0.007	0.214	240.1	0.459	0.097	0.170
Kansas	5.6	215.5	0.006	0.203	230.1	0.448	0.099	0.171
Kentucky	5.8	231.4	0.008	0.114	184.6	0.249	0.123	0.198
Louisiana	7.3	98.7	0.005	0.077	161.1	0.176	0.074	0.113
Maine	8.3	239.1	0.012	0.187	262.2	0.397	0.137	0.201
Maryland	5.7	250.2	0.008	0.140	243.9	0.372	0.045	0.076
Massachu- setts	6.6	434.6	0.011	0.205	329.5	0.619	0.083	0.138

Table A3. (continued)

Province/ State	Male U. Rate	Unemployment Generosity		Social Assistance Generosity			Trade Exposure	
		Ben./ Unemp.	Ben./ Earn.	Ben./ Earn.	Ave. SA	Ben./ P Line	Imports/ Imports	Exports
Michigan	5.9	312.3	0.009	0.163	264.8	0.472	0.123	0.211
Minnesota	4.6	346.2	0.007	0.217	290.1	0.556	0.078	0.138
Mississippi	6.3	114.4	0.005	0.063	136.4	0.122	0.166	0.254
Missouri	4.9	244.0	0.007	0.125	200.7	0.298	0.099	0.160
Montana	5.3	254.1	0.009	0.222	230.8	0.423	0.040	0.062
Nebraska	2.5	168.8	0.003	0.182	219.0	0.373	0.065	0.114
Nevada	5.9	279.1	0.008	0.151	230.3	0.367	0.030	0.047
New Hampshire	4.4	149.1	0.004	0.246	293.3	0.612	0.108	0.184
New Jersey	6.8	465.8	0.013	0.127	261.1	0.410	0.064	0.108
New Mexico	7.1	136.3	0.006	0.186	232.2	0.387	0.063	0.094
New York	7.5	355.8	0.011	0.180	340.2	0.596	0.071	0.112
North Carolina	4.0	174.9	0.004	0.133	193.9	0.300	0.131	0.210
North Dakota	4.4	219.1	0.007	0.223	243.0	0.424	0.048	0.080
Ohio	5.6	237.1	0.007	0.140	247.7	0.355	0.109	0.189
Oklahoma	6.2	124.2	0.005	0.150	218.3	0.319	0.096	0.151
Oregon	5.8	391.1	0.013	0.213	270.7	0.503	0.080	0.136
Pennsylvania	6.5	426.0	0.014	0.156	246.5	0.402	0.092	0.149
Rhode Island	7.6	512.8	0.022	0.241	313.6	0.571	0.134	0.199
South Carolina	5.6	159.6	0.006	0.094	169.9	0.202	0.129	0.211
South Dakota	3.1	105.5	0.003	0.270	217.1	0.484	0.086	0.146
Tennessee	4.4	201.0	0.005	0.078	161.8	0.181	0.139	0.216
Texas	6.3	170.3	0.006	0.081	162.7	0.207	0.083	0.131
Utah	3.4	181.7	0.004	0.201	241.1	0.435	0.087	0.142

(Table continues on the following page.)

Table A3. (continued)

Province/ State	Male U. Rate	Unemployment Generosity		Social Assistance Generosity			Trade Exposure	
		Ben./ Unemp.	Ben./ Earn.	Ben./ Earn.	Ave. SA	Ben./ P Line	Imports/ Imports	Exports
Vermont	5.0	351.6	0.011	0.299	318.3	0.654	0.099	0.163
Virginia	4.7	135.2	0.004	0.119	223.6	0.294	0.076	0.125
Washington	6.5	498.3	0.018	0.225	307.8	0.560	0.087	0.148
West Virginia	10.1	188.4	0.011	0.117	201.8	0.256	0.075	0.128
Wisconsin	5.2	300.5	0.008	0.240	268.6	0.560	0.119	0.205
Wyoming	5.4	202.9	0.008	0.192	222.6	0.407	0.055	0.083

Table A4. Independent Variables—1997

Province/ State	Male U. Rate	Unemployment Generosity		Social Assistance Generosity			Trade Exposure	
		Ben./ Unemp.	Ben./ Earn.	Ben./ Earn.	Ave. SA	Ben./ P Line	Imports/ Imports	Exports
Alberta	5.8	408.1	0.012	0.407	362.7	0.771	0.219	0.562
British Columbia	8.9	496.2	0.021	0.481	402.0	0.978	0.126	0.315
Manitoba	6.6	447.6	0.017	0.471	358.1	0.809	0.194	0.415
New Brunswick	13.6	896.3	0.070	0.520	296.9	0.804	0.126	0.321
Newfound- land	19.9	911.7	0.113	0.627	291.6	0.928	0.147	0.385
Nova Scotia	13.4	615.7	0.046	0.575	327.8	0.876	0.158	0.378
Ontario	8.1	370.5	0.015	0.472	411.6	0.977	0.316	0.601
PEI	15.7	990.2	0.114	0.623	290.1	0.854	0.135	0.360
Quebec	11.9	565.1	0.036	0.499	365.8	0.934	0.276	0.536
Saskatche- wan	6.2	420.3	0.016	0.515	333.8	0.863	0.170	0.435
Alabama	4.4	186.0	0.005	0.070	162.0	0.161	0.136	0.230

Table A4. (continued)

Province/ State	Male U. Rate	Unemployment Generosity		Social Assistance Generosity			Trade Exposure	
		Ben./ Unemp.	Ben./ Earn.	Ben./ Earn.	Ave. SA	Ben./ P Line	Imports/ Imports	Exports
Alaska	9.2	510.5	0.020	0.344	452.0	0.965	0.051	0.074
Arizona	4.3	148.9	0.003	0.132	216.1	0.323	0.078	0.165
Arkansas	5.7	300.0	0.009	0.093	171.1	0.190	0.137	0.242
California	6.2	276.1	0.007	0.191	321.9	0.563	0.106	0.212
Colorado	3.2	244.1	0.003	0.122	255.8	0.329	0.064	0.144
Connecticut	5.9	439.9	0.007	0.147	371.1	0.521	0.105	0.232
Delaware	4.4	478.2	0.007	0.108	231.7	0.317	0.058	0.126
District of Columbia	7.2	416.7	0.006	0.099	317.6	0.383	0.004	0.008
Florida	4.7	201.0	0.005	0.121	220.5	0.283	0.051	0.108
Georgia	4.1	166.3	0.003	0.104	225.3	0.276	0.097	0.174
Hawaii	7.2	455.3	0.015	0.276	499.7	0.664	0.029	0.048
Idaho	5.2	291.6	0.010	0.138	209.1	0.295	0.074	0.142
Illinois	4.8	422.3	0.008	0.109	248.9	0.327	0.088	0.175
Indiana	3.5	251.0	0.004	0.107	218.2	0.269	0.147	0.282
Iowa	3.5	370.2	0.007	0.191	259.5	0.424	0.092	0.192
Kansas	3.4	259.7	0.005	0.185	247.9	0.414	0.105	0.202
Kentucky	4.6	227.4	0.007	0.115	194.7	0.264	0.130	0.224
Louisiana	5.4	120.9	0.004	0.069	167.0	0.162	0.085	0.134
Maine	5.7	287.2	0.010	0.167	320.7	0.367	0.136	0.220
Maryland	5.1	248.4	0.006	0.124	268.5	0.343	0.047	0.103
Massachu- setts	4.4	583.8	0.008	0.175	357.2	0.571	0.097	0.226
Michigan	4.2	460.3	0.008	0.146	311.5	0.436	0.118	0.224
Minnesota	3.7	435.4	0.006	0.187	366.5	0.514	0.079	0.184
Mississippi	4.7	167.0	0.006	0.056	135.7	0.113	0.159	0.263

(Table continues on the following page.)

Table A4. (continued)

Province/ State	Male U. Rate	Unemployment Generosity		Social Assistance Generosity			Trade Exposure	
		Ben./ Unemp.	Ben./ Earn.	Ben./ Earn.	Ave. SA	Ben./ P Line	Imports/ Imports/	Exports
Missouri	4.6	235.8	0.005	0.110	225.7	0.275	0.107	0.197
Montana	6.0	246.1	0.009	0.215	269.9	0.410	0.064	0.109
Nebraska	2.6	224.2	0.003	0.158	244.7	0.344	0.063	0.135
Nevada	4.1	512.8	0.008	0.135	255.4	0.340	0.056	0.109
New Hampshire	3.0	179.3	0.003	0.211	334.9	0.565	0.119	0.274
New Jersey	5.2	558.7	0.010	0.112	290.6	0.378	0.078	0.158
New Mexico	6.2	155.1	0.006	0.171	250.8	0.364	0.080	0.151
New York	6.3	326.9	0.008	0.153	368.8	0.550	0.086	0.171
North Carolina	3.4	270.9	0.005	0.116	212.4	0.277	0.130	0.228
North Dakota	2.6	445.4	0.008	0.200	265.3	0.391	0.051	0.089
Ohio	4.4	278.2	0.006	0.125	253.2	0.328	0.109	0.212
Oklahoma	3.6	137.5	0.003	0.130	222.3	0.280	0.099	0.172
Oregon	5.9	378.1	0.011	0.183	335.7	0.464	0.090	0.183
Pennsylvania	5.3	485.0	0.012	0.138	299.4	0.371	0.100	0.191
Rhode Island	5.2	589.9	0.017	0.215	333.0	0.528	0.271	0.509
South Carolina	3.4	204.9	0.005	0.084	168.1	0.187	0.127	0.226
South Dakota	2.9	140.6	0.003	0.237	229.8	0.447	0.109	0.205
Tennessee	5.8	220.4	0.005	0.069	183.8	0.167	0.140	0.244
Texas	5.2	187.7	0.005	0.070	167.7	0.192	0.087	0.161
Utah	3.1	247.2	0.004	0.177	246.1	0.402	0.111	0.235
Vermont	4.1	397.6	0.010	0.260	363.5	0.584	0.131	0.250
Virginia	3.5	146.1	0.003	0.104	232.3	0.271	0.079	0.149
Washington	4.7	518.5	0.012	0.188	362.5	0.517	0.104	0.226

Table A4. (continued)

Province/ State	Male U. Rate	Unemployment Generosity		Social Assistance Generosity			Trade Exposure	
		Ben./ Unemp.	Ben./ Earn.	Ben./ Earn.	Ave. SA	Ben./ P Line	Imports/ Imports/	Exports
West Virginia	7.6	255.1	0.011	0.109	212.0	0.236	0.076	0.141
Wisconsin	3.7	452.2	0.008	0.212	284.6	0.517	0.118	0.228
Wyoming	4.7	219.1	0.007	0.182	223.5	0.376	0.061	0.096

Table A5. Explained Variance in SST Index

$$(SST | POVLIN1) = a_0 + a_1 (SST | POVLIN2) + a_2 (CANADA)$$

	Official U.S.	Canada LICO (100-499K)	½ Median
Official U.S.	1	1994 Adj R ² = 0.9709	1994 Adj R ² = 0.9844
Canada LICO (100-499K)	1997 Adj R ² = 0.9481	1	1994 Adj R ² = 0.9955
½ Median	1997 Adj R ² = 0.9588	1997 Adj R ² = 0.9911	1

The top right panel represents the adjusted R² when 1994 values of SST are regressed on each other; the bottom left panel presents 1997 R².

Table A6. Poverty Lines
1997 Canadian Dollars

	Persons in household					
	1	2	3	4	5	6
1994 U.S. Official Poverty Line (before tax) ¹	10,148	12,990	15,895	20,359	24,069	27,208
Statistics Canada LICO (before tax) ²	14,823	18,529	23,044	27,895	31,182	34,469
½ median equivalent (after tax) ³						
United States	11,773	16,649	20,391	23,546	26,325	28,837
Canada	11,705	16,553	20,273	23,410	26,173	28,671
1997 U.S. Official Poverty Line (before tax) ¹	10,358	13,257	16,205	20,759	24,532	27,704
Statistics Canada LICO (before tax) ²	14,931	18,664	23,213	28,098	31,409	34,720
½ median equivalent (after tax) ³						
United States	13,143	18,587	22,764	26,286	29,389	32,194
Canada	11,765	16,638	20,377	23,530	26,307	28,818

¹ Weighted average—actual values vary with the number of household members who are under 18.

See: <http://www.census.gov/hhes/poverty/threshld.html>.

² Low-income cut-off for cities 100,000–499,999 used throughout.

See: Statistics Canada, *Income Distributions by Size in Canada, 1994, 1997*. Catalogue number 13-207-XPB.

³ Equivalent scale used is N^{-5} where N = the number of people in the household.

Authors' calculation using the Luxembourg Income Study (United States) and the Survey of Consumer Finance (Canada).

Data Sources

SST INDEX

United States - *The Luxembourg Income Study* - income years 1994, 1997

Canada - *The Survey of Consumer Finance, Household Income* - income years 1994, 1997

LOW INCOME CUT-OFFS (LICOS)

Statistics Canada, *Income Distributions by Size in Canada, 1994, 1997*. Catalogue number 13-207-XPB

U.S. POVERTY THRESHOLDS

United States Census Bureau,

<http://www.census.gov/hhes/poverty/threshld.html>

PURCHASING POWER PARITIES

Statistics Canada, CANSIM Matrix 8631, series d23283.

THE MALE UNEMPLOYMENT RATE

United States - U.S. Census Bureau, *Statistical Abstract of the United States 1995, 1999*.

<http://www.census.gov/prod/www/statistical-abstract-us.html>

Canada - Statistics Canada, *Labour Force Historical Review, 1998*. (CD-ROM) 71F0004XCB.

UNEMPLOYMENT INSURANCE GENEROSITY

UI Benefits

United States - U.S. Census Bureau, *Statistical Abstract of the United States 1996, 1999*.

<http://www.census.gov/prod/www/statistical-abstract-us.html>

Canada - Statistics Canada, CANSIM Matrix 5702, series d730284 to d730293

Unemployed

United States - U.S. Census Bureau, *Statistical Abstract of the United States 1995, 1999*.

<http://www.census.gov/prod/www/statistical-abstract-us.html>

Canada - Statistics Canada, CANSIM Matrix 3473 to 3482, various series.

Total Earnings

United States - The U.S. Department of Labor, Employment and Training Administration, *Unemployment Insurance Financial Data Handbook*

http://www.itsc.state.md.us/ui_manage/HDBK394_99/home.htm

Canada - Statistics Canada, CANSIM Matrix 5730, Work Earnings, various series.

SOCIAL ASSISTANCE GENEROSITY

Benefit Amount, single parent, one child

United States - Urban Institute, Assessing the New Federalism State Database

<http://newfederalism.urban.org/nfdb/index.htm> [variable ADCM02]

Canada - National Council of Welfare, *Welfare Incomes, 1994, 1996*.

Minister of Public Works and Government Canada. Cat. No. H68-27.

Average Weekly Earnings

United States - The U.S. Department of Labor, Employment and Training Administration

Unemployment Insurance Financial Data Handbook

http://www.itsc.state.md.us/ui_manage/HDBK394_99/home.htm

Canada - Statistics Canada, *The Survey of Consumer Finances, Individuals*. Income years 1994, 1996.

Average Benefits per Person

United States (1994) - Department of Health and Human Services, *Aid to Families With Dependent Children, 1994 Report*.

<http://www.acf.dhhs.gov/programs/afdc/reports/1994/overview/ovrw22.htm>

Urban Institute, Assessing the New Federalism State Database <http://newfederalism.urban.org/nfdb/index.htm> [variables FSS, FSRCF]

United States (1997-1999) - Cody, Scott, and Laura Castner. *Characteristics of Food Stamp Households Fiscal Year, 1997*. Report for United States Department of Agriculture.

<http://www.fns.usda.gov/oane/menu/Published/fsp/FILES/char97.pdf>

Canada (recipients) - National Council of Welfare. 1998. *Profiles of Welfare: Myths and Realities*. Minister of Supply and Services Canada.

<http://www.ncwcnbes.net/htmldocument/reportprowelfare/repprowelfare.htm>

(payments) - HRDC, data collected from Inventory of Income Security Programs.

TRADE EXPOSURE

Imports and Exports

United States and Canada - Industry Canada Strategis, The Trade Data Online

http://strategis.ic.gc.ca/sc_mrkti/tdst/engdoc/tr_ind.html

Labor Force/Employment

United States - U.S. Census Bureau, State and County QuickFacts <http://www.census.gov/>

Canada - Statistics Canada, Labour Force Survey Monthly Micro Data, 1994, 1997.

Output by Industry

United States - Bureau of Economic Analysis, National Accounts Data. <http://www.bea.doc.gov/bea/dn2/gpoc.htm#1992-97>

Canada - Statistics Canada, CANSIM Matrix 4765, various series; CANSIM Matrix 9475, various series.

Notes

¹ See Osberg and Xu (1999).

² Aggregated to the national level, differences in poverty remain, because national totals are dominated by the larger states (provinces) and some of the larger U.S. states have relatively high poverty. Nationally, when the poverty line is set at half the median, the U.S. poverty rate fell from 18.5 percent in 1994 to 16.8 percent in 1997, while Canada's rose, from 11.1 percent to 11.8 percent. Using the official U.S. poverty line, the poverty rate in the United States fell from 13.0 percent to 9.4 percent, while Canada's rose from 6.9 percent to 8.1 percent. See Appendix Tables A1 and A2 for more details.

³ See Knack and Keefer (1997) for a discussion of why social cohesion may be important for long-run economic growth.

⁴ For poverty, see Appendix Tables A1 and A2. Bernstein et al. (2000, Table 10) note that during 1996-1998, the ratio of the before-tax incomes of the top quintile of families to that of the bottom quintile varied from 7.3:1 in Indiana to 14.1:1 in New York.

⁵ See Appendix, Tables A3 and A4—for example, in 1994, average AFDC and Food Stamp Benefits per recipient were \$161 (Cdn) in Alabama and \$268 in Wisconsin.

⁶ The 1996 reforms to Unemployment Insurance (UI) in Canada included a change of name—to "Employment Insurance"—but this paper will simply refer to UI in both Canada and the United States.

⁷ Smith, Adam. *Wealth of Nations*, Cannan Edition, Book V, Ch. II, Art IV, p. 399; see also Atkinson (1998).

⁸ A linear tax/benefit schedule would break even (save for administration costs) if shocks were symmetric. However, the Empirical Issues section will discuss how, in reality, social insurance and welfare programs are anything but simple.

⁹ Canadian UI (now called EI—Employment Insurance) is a federal program, but its provisions vary with local unemployment, which differentiates its impact by province.

¹⁰ For surveys of the literature see Hagenaars (1991) or Zheng (1997).

¹¹ The Sen-Shorrocks-Thon (SST) index of poverty intensity can be calculated as $I = (\text{rate}) * (\text{gap}) * (1 + G(x))$ where "rate" is the percentage of the population with incomes below the poverty line (sometimes called the head count ratio), "gap" is the average percentage gap between the incomes of the poor and the poverty line and $G(x)$ is the Gini index of inequality of the poverty gap among all people.

In practice, as Osberg and Xu (1997) demonstrate using Luxembourg Income Study data, changes over time and differences across countries in the inequality of poverty gaps are relatively small, compared to differences in the poverty rate and average poverty gap. Hence, for practical purposes the percentage change in poverty intensity can be approximated as the sum of the percentage changes of the poverty rate and the average poverty gap ratio.

For further details on the SST index, and its trends over time in Canada, see Osberg and Xu (1999) or Myles and Picot (1999). For international comparisons, see Osberg and Xu (1997, 1999).

¹² U.S. data are based on a sample of 66,014 households in 1994 and 50,320 in 1997, while Canada used 37,475 households in 1994 and 33,843 in 1997. Because the U.S. data are spread over 50 states, smaller states have relatively large sampling errors (see Appendix Tables A1 and A2). Although the point estimate of poverty intensity is unbiased, this sampling error implies that the ordering of states in poverty intensity is possibly sensitive to sample selection—hence this paper places no emphasis on the ranking of particular states.

¹³ To compute the bootstrap standard deviation of the modified SST index estimator, we resample randomly both equivalent incomes and corresponding sampling weights. The new sample is used to compute a new SST index estimate. Repeating this process T times (e.g., $T=300$) gives T SST index estimates. The bootstrap variance is computed as the sample variance of the T SST index estimates from the resampling. Under the assumption of normality, one can approximate a 95 percent confidence interval by adding two bootstrap standard deviations on each side of the SST index estimate when ranking provinces. Alternatively, a distribution-free estimate of the 95 percent confidence interval is given by ordering all 300 bootstrap estimates by size, and selecting the 8th and 293rd largest. Both methodologies give highly similar results [see Osberg and Xu (1997) and the references therein].

¹⁴ Note that using half the median equivalent income within each country presumes that poverty norms differ between countries, while the use of an absolute poverty line across countries could be justified with reference to the continental consumption norms induced by U.S.-dominated media.

¹⁵ Since the U.S. data available to us do not have a coding for an urban area whose size is comparable to that found in Canadian data, we cannot assign a different

LICO for different city sizes, and must use throughout the Canadian LICO for cities of size 100,000 to 499,999.

¹⁶ Almost all the variance in poverty across jurisdictions by one poverty line can be explained by poverty measured using a different poverty line—see Table A4 in the Appendix.

¹⁷ The percentage of the population aged over 65 lies in the range 10 percent to 14 percent, with the exception of Florida (18.4 percent) and Alaska (4.6 percent).

¹⁸ Sharif and Phipps (1994) have demonstrated the sensitivity of child poverty in Canada to alternative assumptions about the intra-family distribution of resources, and sharing norms within families may vary over time and across provinces and states. Pendakur (1998) has argued for consumption rather than income as a measure of adequacy, and has criticized the use of price-insensitive equivalence scales. There is a considerable literature on intra-household allocation, equivalence scales and poverty lines, but we make these assumptions in order to focus attention on issues that have, thus far, been neglected in the literature.

¹⁹ Ontario is almost 40 percent of Canada's population; California, Texas, New York and Florida account for 31 percent of the United States.

²⁰ See Federal Reserve Bank of New York (1998). In practice, the Bank of Canada has achieved inflation rates that are generally in the 0 to 2 percent range (at the cost of a national unemployment rate that has been about 4 percentage points above U.S. rates, through much of the decade).

²¹ The unemployment rate for males 25 to 54 by state was not available in time for this paper, but will be used in the revision.

²² U.S. UI systems are arguably even more complex. A summary of the systems of the 50 states and Washington, D.C. can be obtained by consulting the U.S. Department of Labor's *Significant Provisions of State Unemployment Insurance Laws*—found on the web at http://www.itsc.state.md.us/ui_manage/SIGPRO/adobe_intro.htm

We quote, without further comment, footnote three, which purports to explain the column headed "Weekly benefit amount": "When States use weighted high-quarter, annual-wage, or average weekly-wage formula, approximate fractions or percentages figured at midpoint of lowest and highest normal wage brackets. When da provided, fraction applies to basic wba. In States noted variable amounts above max. basic benefits limited to claimants with specified number of dep. and earnings in excess of amounts applicable to max. basic wba. In Ind. da. paid only to claimants with earnings in excess of that needed to qualify for basic wba and who have 1–3 deps. In Iowa, and Ohio claimants may be eligible for augmented amount at all benefit levels but benefit amounts above basic max. available only to claimants in

dependency classes whose hqw or aww are higher than that required for max. basic benefit. In Mass. for claimant with aww in excess of \$66 wba computed at 1/26 of 2 highest quarters of earnings or 1/13 of highest quarter if claimant has no more than 2 quarters work."

²³ Osberg and Phipps (1995) used a micro simulation methodology to compare Canadian UI with the New York and Texas systems, and also examined international comparisons, concluding that in 1994 UI played an important anti-poverty role in Canada, partly because of the relatively large size of UI in the social assistance system, compared to other countries. The 1996 reforms to UI paid no noticeable attention. In Canada, the percentage of the unemployed who get UI/EI has since declined precipitously—to about 25 percent in 1997 (HRDC 1998).

²⁴ Tables 1A and 1B do not exhaust all the combinations of specification choices we have experimented with, but they all give much the same result.

²⁵ See Fortin (1996) or Riddell (1999) for a discussion of why high unemployment in Canada cannot be blamed on social transfer or minimum wage generosity, which has (broadly speaking) trended down as unemployment has trended up.

²⁶ $.085 = .044 + .21 \cdot 197$.

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** Article is available at <http://is.dal.ca/~osberg/home.html>.

Panel Discussion

Edited by Leonard Bierman
Texas A&M University

STEVE HERZENBERG: I'm Steve Herzenberg from the Keystone Research Center in the U.S. Just a very quick and fairly straightforward comment/question about the independence of social policy, monetary policy especially, and to some extent, social policy and free trade. I think it's not hard to argue that the social policy is obviously a function of overall budget situations and that overall budget situations are, you know, very much influenced by monetary policy. So I guess, I'd ask you to comment a bit more and, I think there are certainly folks who would also argue that free trade, you know, doesn't determine social policy—there is still some autonomy that provinces and states perhaps should use more than they do—but I think there's certainly a perception that trade forces states and provinces to be less generous in terms of social policy, partly to keep down taxes, partly to attract investment.

TOM PALLEY: Well, I was gonna actually take over Lars' presentation here... well Lars, it needs, this needs a bit of work, I think. I've read many of your papers and I think we share an outlook on issues and your papers are thought-provoking and this one is too. I'm amazed that you stayed with it; it's so rich in detail, but I do have some quite, some big difficulties with it. Let me say what I welcome most of all up-front: I welcome the focus on choices. We have in our societies choices to make about the social safety nets we provide, and those social safety nets really do matter for people and it's welcome to see that stated. However, I am very much more troubled by your tack on trade and internationalization of the economy. I don't expect to see the effects of trade in the poverty rate. You lose a manufacturing job which pays 16, 18 dollars an hour, you move to a service job that pays

nine dollars an hour; you're not gonna become a poverty statistic, but your family well-being is going to suffer and that's the problem in the U.S. today—we're losing high-paying manufacturing jobs and that's where the policy hits the road, and this paper therefore doesn't get to that. What I can't do with what I have in front of me here, you talk about a "Canada effect" and I was very struck by that, but there's a little sleight of hand here—you start off with one series and indeed, if you look at that series' Figure 1 and Figure 2, you do find that Canada, Canadian provinces are all at the low end of the poverty rate in 1994, and then in 1997 they're spread through the distribution. But then in all your regression work you move to this SST index which...*

LARS OSBERG: No, it's the same index.

TOM PALLEY: No, no, Figure 2 is not.

LARS OSBERG: No, it is. I know. I made it.

TOM PALLEY: [...] the one you just showed—you've got two, you've got two distributions. Here's the, the SST index [...]

LARS OSBERG: The SST index is used throughout.

TOM PALLEY: Well, what's Figure 4A? What's that?

LARS OSBERG: Figure 4A, that is the SST index, using a poverty line, a path to median, in the SST index calculated using the social security [...]

TOM PALLEY: Right, but when you look at Figure 4A and 4B, Canada stays at the bottom end of the... in 4A and 4B the Canadian provinces are all clustered at the bottom end of the distribution.

* In the following section, some dialogue was lost in the recording (E.N.)

Compare that with Figure 1. Figure 1 shows what—if anyone has a paper in front of them, I think I'm right on this—Figure 1 shows what happens when you use half the median level...

LARS OSBERG: [...]1994 [...]

TOM PALLEY: Yes, and compare 1994 with 1997. I don't think there's a change in Canada if you use your Figure 1, which is the Poverty Intensity giving the LICO or the median equivalent after tax. That's the figure that you've showed.

LARS OSBERG: [...] then Figure 2 [...]

TOM PALLEY: Yes, so Figure 1, indeed there is a change: Canada does become like the U.S. Figure 4: Canada remains the same...

LARS OSBERG: ...no, no, no...the Figure 4 is '97...against...

TOM PALLEY: No, you've got a 4A and a 4B. 4A is '94—here it is—and 4B is '97.

LARS OSBERG: That's right.

TOM PALLEY: And then Canada remains at the bottom of the distribution on both sides. I don't think, in the data you used, you will find a Canada effect and for good reason because it's not in that particular construction of the index. But I will go on... there's other things, I mean, I find that in the reporting of your regression results your own interpretation I find rather problematic... let me get my notes out here... the UI coefficient is negative at the 99 percent confidence interval and I counted 12 out of the 14 regressions. Why, in the text then, do you say that the UI system is unimportant for poverty? The regressions are, again, the Canada effect is negative every time and I do believe it's negative even though you're using a dependent variable that I'd have problems with because it is masking the Canada effect

and finally, the change in poverty, the effect on Canada, you're finding, you don't report the results, though you do comment on them, the differences...you again find that trade does have a significant effect on the change in poverty, and so therefore trade really is mattering and it isn't to be brushed aside in that way.

Anyway, I think there's one other thing I would compare, that the two measures of poverty seem to behave very differently. If you look at Figure 1 and Figure 2 and superimpose them on top of each other, Figure 1 shows poverty levels in '94 and Figure 2 shows poverty in '97. Superimpose them on top of each other and you find poverty has declined. Everything shifts down, and that's the story I'm telling our folks. We have had a good recovery since '94 to '97 and yet when you use your SST index, that is shown in Figures 4A and 4B, and you superimpose them on top of each other, then you find the measure of poverty has increased. And so you really have to go, "What is the difference between those two indexes?" and I think it's something to do with the Genie coefficient. The SST is a multiple, it's a rate times a level of poverty times a spread of poverty and I think what's happened there, the spread of poverty, the Genie thing, is confusing things. Distribution has gotten worse, even as poverty has decreased, which is a very problematic issue for us: how to stay on policy message when these complicated changes are taking place in the economy?

LARS OSBERG: Well, I really have to respond to some of that. All right, working from the back to the front, the Sen-Shorrocks-Thon index poverty index is the poverty rate times the average poverty gap ratio among the poor times the term which involves the Genie index. In practice, across jurisdictions there is very little variation in that Genie index number. It's essentially a constant so it has no impact on the measure one way or another. All the action is, in fact, in the poverty rate, in the poverty gap. The SST index is used throughout and the regression results which use the SST index are calculated as according to the half the median equivalent income concept of poverty. What's happening in Canada and the U.S. between '94 and '97 is that the poverty fell in the United States and rose in Canada—fell at

different rates in different states, rose at different rates in different provinces, and so that's why you start from a situation with Canadian provinces sitting at the bottom of the distribution and you end with a situation with Canadian provinces spread throughout the distribution.

Now, as to other issues through here, inequality and insecurity, absolutely, I agree they're important issues and conceptually distinct from the issue of poverty. I think insecurity is something that affects the non-poor quite significantly in their lives and it's really an *ex ante* concept as opposed to job instability which is an *ex post* concept, but it really is an important aspect of modern labor markets over and above trends in poverty. Inequality—also a different issue. What we're talking about here is poverty. This is about the low end of the distribution. It is not about the distribution as a whole. We may or may not get different results in terms of aggregate inequality. In fact, somewhere in this now messed pile of overheads, is a plot of the relationship between inequality and poverty. They are not at all well predicted by one another because poverty is about the low end of the distribution. The issue of unemployment insurance: is there or isn't there an impact? I don't particularly like the variable that we've got in there. The Canada effect—the Canada effect will be overstated by the way we're doing it, if it's at all there in the data, because what we're using in the end is the half the median conception of equivalent income, as a measure of the poverty line.

TOM PALLEY: Lars, here's your Figure 1, '94. Now let's superimpose Figure 2.

LARS OSBERG: You have to line them up exactly, because...

TOM PALLEY: ...exactly...

LARS OSBERG: And what you note...

TOM PALLEY: What's happened, the line that's shifted down...

LARS OSBERG: No, line them up exactly and you'll get a better idea.

TOM PALLEY: ...the squares have shifted...

LARS OSBERG: No, no...and what's happening, what's happening there, and that is very clear to explain, the ones at the top—there is an absolute poverty line. If you have strong growth in the U.S. and weaker growth in Canada, then poverty, according to an absolute poverty line will have different trends and that's what shows up also in Figure 4B.

TOM PALLEY: No, I know, but the general point here, which I want to get across and I want you to agree with, [general laughter], the square dots... The square dots have shifted down.

LARS OSBERG: Yes!

TOM PALLEY: So poverty has decreased...

LARS OSBERG: In the United States.

TOM PALLEY: No, it's for everyone because the crosses have shifted down—that whole sort of ranking which you're using has shifted down. Okay, hold on. And in this diagram also, we know that Canada has become more like the U.S. This is, this is basically where you start. Now let's go to Figure 4A and 4B, which is the basis for your regression results. This is which one? 4A is '94—look where Canada is. Canada's all clustered. The crosses are at the bottom and now let's impose Canada on top and Canada is still clustered all at the bottom. All the crosses are Canadian ones and so they're all at the bottom. Canada is still more, has a better...has a lower intensity of poverty and is rather interestingly...here—this series is moving in the opposite way in that the increase is a shift upwards of poverty... there. Which is running against what the Figure 1 and Figure... no?

LARS OSBERG: No, because what you're getting a little misled by is the slope which depends in part on how big you draw the axes. The basic issue is that they are linearly related—poverty, by one poverty line compared to poverty by another. Now, there is a difference—if we have a period of strong growth in one country compared to a period of no growth in another country, then poverty trends by an absolute poverty line or poverty trends by a relative poverty line won't differ between those two, so there will be an intercept shift. But, the line is controlling for that national shift. The one is predicted almost entirely by the other, so in effect, by including a Canada dummy we're allowing the data to try and pick up what could be just purely a difference in growth.

TOM PALLEY: Okay, well I'll leave it. We should persist with this afterwards.

LARS OSBERG: Well, let me come back to the first discussions because they're rather important. And that was the relationship between social policy budgets and monetary policy—and which I absolutely, entirely, agree. I think what we've proved in Canada over the decade of the 1990s is that it's a really bad idea to mess up in monetary policy. If you have a really high interest rate as we did through the period 1988 to 1990, to squeeze inflation down in Canada, then you can put your economy into a major recession. If the debt-to-GDP ratio at that point in time is high, interest rates in real terms skyrocketing and growth rates plummeting, then the debt-to-GDP ratio compounds with quite dramatic speed and you suddenly have not only the immediate impact in terms of monetary policy on aggregate economic activity, but you have a lagged impact, because governments have to go into expenditure cut mode to solve the debt problem a few years down the road. So, an error in monetary policy at a point in time when the debt-to-GDP ratio is already high has both an immediate impact and a lagged impact through the fiscal policy side and that's had a major impact on social policy changes in Canada, and certainly was the main driver of the very dramatic cuts

in Canadian unemployment insurance that occurred after 1996. So, there certainly is an inter-relation of those two. Whether in fact free trade in the long term is harmful or not to the welfare state is something which I think is much more problematic. There's a whole discussion in the social policy area of why is it that the Scandinavian economies have been characterized for decades by very generous social welfare states and also very high trade dependence. And the argument there has been that in order to maintain social peace, basically, there had to be some sort of implicit social contract in which everybody recognizes there are a lot of risks involved in getting heavily dependent on international trade but those risks, in some sense, had to be shared throughout society, and so you can think of a welfare state as a sort of coinsurance mechanism to spread the risks—and the benefits—of involvement in the international economy. Now obviously that's a very long-term argument and in the 1990s we've seen increased trade dependence coincident with cuts in the welfare state in both Canada and the United States. But whether or not that's true in the very long run, whether trade dependence requires some coparticipation of the state in the risks and benefits of international trade I think is still a useful hypothesis to think about.

DIANE-GABRIELLE TREMBLAY: Yes, I'm going to demonstrate the distinct character of Quebec, beyond Canadian social policy, by speaking French, and also to give work to the translators. I wanted to bring the discussion back to what Lars was talking about. The debate is slightly more political perhaps. It seems to me that the first paper led us to a conclusion about the importance of macroeconomic variables and, well, the author concluded with a proposal that a single currency was practically the only answer. And when you come right down to it, employment policies, social assistance policies seem virtually ineffectual. Here again, there seems to be a parallel with the European debate over fiscal policy versus social policy. I would have preferred it if the author had elaborated on this issue. Since we are talking about North American integration here, can we really imagine that certain employment policies could play a role in bringing

about unification or rapprochement? With regard to employment policies, would that be helpful? Or is that really more his point of view? Obviously, I think there are different views on this. But his viewpoint may have more to do with monetary policy. And personally, what I also liked was the emphasis on heterogeneity and differentiation in the American states. This applies to Canada as well. I think that this is extremely important in this type of debate because we often talk about Canada, the United States and Mexico as if they were homogeneous, even though we are well aware that this is not the case. This is what I would have liked to hear a bit more about.

LARS OSBERG: With regard to monetary policy, I would say that I think the best monetary policy is a policy that promotes full employment, full performance, but if a choice has to be made between the Bank of Canada's current monetary policy and the Federal Reserve's current monetary policy, it's clear that the Federal Reserve's monetary policy is better for full employment and for all these social justice issues and all the other political goals of the governments of Canada. For Canada, it's a very big thing to say, Is it possible to reform the Bank of Canada? We don't know whether it's possible at all. This is an institution that has a key place in Canadian federal policy, that is outside the control of government, that has an internal policy focused solely on controlling inflation, that can never think about other goals or other social issues.

RICHARD LONG: Good morning, I'm Richard Long. I work for the Communications, Energy and Paper Union out of Toronto, Canada. I'm feeling some frustration around both papers because they don't square with some level of common sense that I know in my gut, that I trust, and because both papers suggest somehow that poverty and the inequality measure of the earlier paper this morning aren't necessarily or not measurably connected to the free trade deal that we were all involved in a decade ago. I think, from the perspective of the people that I work with and deal with and my own perception, that there is a perception that's common, fairly common in Canada, that num-

ber one, we are becoming more homogeneous with the United States in terms of laws, in terms of trade laws, labor laws, even attitudes. You know I feel the attitude—and Lars talked about it a little earlier, that there is this perception amongst Canadians that we were kinder and gentler and that we had broader safety nets for people and when we looked south we saw things differently, that we didn't particularly like, and we prided ourselves in this kind of society that we built with caring health care, etc. I think there's a general perception in Canada that we are making gains in our exports at the cost of devaluing our dollar and so that has an impact—when you devalue the Canadian dollar, you might be able to sell more product to the United States and Mexico and other parts of the world, but at the end of the day, your dollar buys you less and so when you lose the value of your dollar, you have to make up for that. So, in Canada a lot of people are working as much overtime as they can work. The pace of life has increased dramatically. They're trying to just keep even from where they were maybe seven, eight, nine years ago. Some people are working two jobs, three jobs. Some people work part-time jobs, two or three part-time jobs or a full one and a part-time. So, I think in general that there's something that doesn't square with my level of common sense. And I guess for me, maybe we're just, we haven't found the proper measure. You know, Lars is measuring using certain tools, James this morning was measuring the inequality factor using different tools, but there is something wrong, I think, with the process because free trade is having an impact and I think it's having a major impact on poor people and people on the lower end of the scale who are working or employed and I just know that. Somehow I can't articulate the measurements around that but I don't think you have to be a rocket scientist to know it is having a serious impact on people and it's not sustainable. If you look at the two measures of Canada and Mexico, you know, apparently getting poorer, that's not sustainable. Something's going to happen. These are my comments. Thank you.

LARS OSBERG: Well, Could I just respond to that briefly? In 1988 Canada signed the Free Trade Agreement with the United States, but

in 1988 the Bank of Canada also decided to adopt a zero inflation objective, and so, we have a couple of major issues going on at the same time. Now, monetary policy is something that's extremely hard to discuss in the broader political debate—national differences in trade and the impact on specific plants being moved south of the border—that's easier to see in a media sense, but the decisions that really have affected Canadian economic life and really have affected Canadian social policy over the last decade were decisions that were fundamentally made in Canada. We can't blame other people for them—they were made by a Canadian political institution, and in some sense I'm going to end up being more hopeful than you are because I always like to end on a hopeful note, and that is that I think one of the real problems that we often see around the world is the famous argument: there is no alternative. That if you're in this world of increased trade flows—and it's very hard to see how individual nation-states can get out of that world once they've got in—that there is no alternative to going this route of meaner and nastier all the way down the line. And I think that actually isn't true. I mean, we see a lot of countries that have been very trade-dependent for a long time that have developed very, quite strong welfare states—the Scandinavian countries, for an example—you don't have to produce every good that's produced in the world in order to trade in the world. There are some advantages to being small and specializing in what you want to produce and trading that with the rest of the world. Within the United States, being a very large free trade zone for a couple hundred years now, we don't see compulsive homogenization. We see very significant differences in the welfare benefits that poor people get in different states. And, you know this, there's never been a restriction of movement between states and the U.S. is a significantly more centralized federation than Canada. So, I'm gonna resist the homogenizing argument because I think there are alternatives and they can be chosen.

LEN BIERMAN: One second. The only thing I'd really like to talk about—as Mr. Long said—is the real world here. Just mention the underground economy and whether that's getting picked up,

because there are people who are hoarding money and that is not all getting reported. I know that in the United States. I don't know if that's true in Mexico but I bet it is true in Canada. Anyway, I was just talking about the underground economy and that's all I need to say. Thank you.

UNIDENTIFIED: It's become "overground." [laughter]

LARS OSBERG: Small, and not much evidence of a trend.