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MEASURING ECONOMIC WELL-BEING OF RURAL CANADIANS USING INCOME INDICATORS

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Highlights

- ◆ Rural families have lower incomes.
- ◆ The rural-urban income gap has been closing over time.
- ◆ Rural families in the Atlantic Provinces and in Quebec have relatively lower incomes. Rural families in Ontario and British Columbia have relatively higher incomes.
- ◆ Rural areas have a smaller proportion of families with low incomes, if we use the Statistics Canada low income cut-off (LICO) indicator, which includes an adjustment for the cost of living across urbanisation classes.
- ◆ Rural areas have a larger proportion of families with low incomes, if we use the “low income measure” (LIM) that is one-half of the national median income, adjusted for family size.
- ◆ Within rural areas, the distribution of income is “more equal” than in urban areas.
- ◆ Communities with a larger proportion of families with low income (using either measure of low income) have less in-migration of young adults, 25 to 29 years of age.
- ◆ Rural residents receive relatively more in social transfers and pay relatively less in taxes.

Introduction

Improving the well-being of rural Canadians is one of the stated objectives of federal rural policy (Mitchell, 2000). There are many economic and non-economic components of “well-being”. The objective of this bulletin is to provide an overview of the economic well-being of rural Canadians using a variety of income indicators.



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Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

Definitions

Most of the income data reported in this bulletin has been tabulated from the former Survey of Consumer Finances (SCF). (This survey has been replaced with the Survey of Labour Income Dynamics.) The sample for the SCF was drawn from the Labour Force Survey (LFS) sampling frame. The target population for the survey is all families and individuals residing in Canada, with the exception of people in the territories, residents of institutions, and people living on reserves.

The definition of "rural" in the LFS is (generally) individuals living outside centres of 1,000 or more and who live outside the commuting zones of urban centres of 10,000 or more. Urban refers to those areas that are not rural.

"Family" is defined as a group of individuals (2 or more) sharing a common dwelling unit and related by blood, marriage or adoption. Thus, all relatives living together are considered to comprise one family whatever the degree of family relationship. This definition of family is the "economic family" definition.

The term "individual" in this bulletin refers to any person 15 years of age and over who received some money income during the reference year.

Average incomes for families

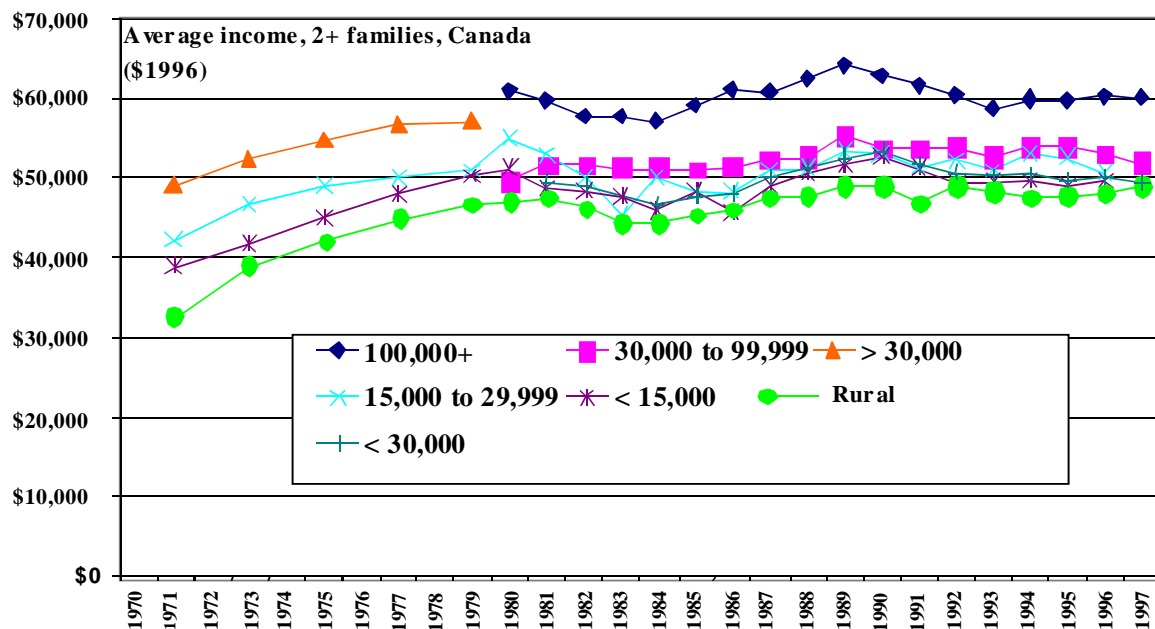
Incomes are lower in rural areas. For the past three decades, rural families have had the lowest average incomes and the most populated areas (100,000 or more) have had the highest incomes (Figure 1).

In 1997, the average income for families living in rural areas was \$48,850 while in areas with a population of 100,000 or more, the average family income was \$59,920 (in constant 1996 dollars).

Incomes reached lows near the end of the recession in 1983. Through the eighties, incomes recovered back to pre-recession highs. In the nineties, incomes declined for urban areas but remained essentially flat for rural areas. As a result, by 1997 urban area incomes had not increased much from recession lows, while rural area incomes remained near pre-recession highs. This resulted in a narrowing of the gap between rural and urban incomes.

Figure 1

Rural families have the lowest average incomes



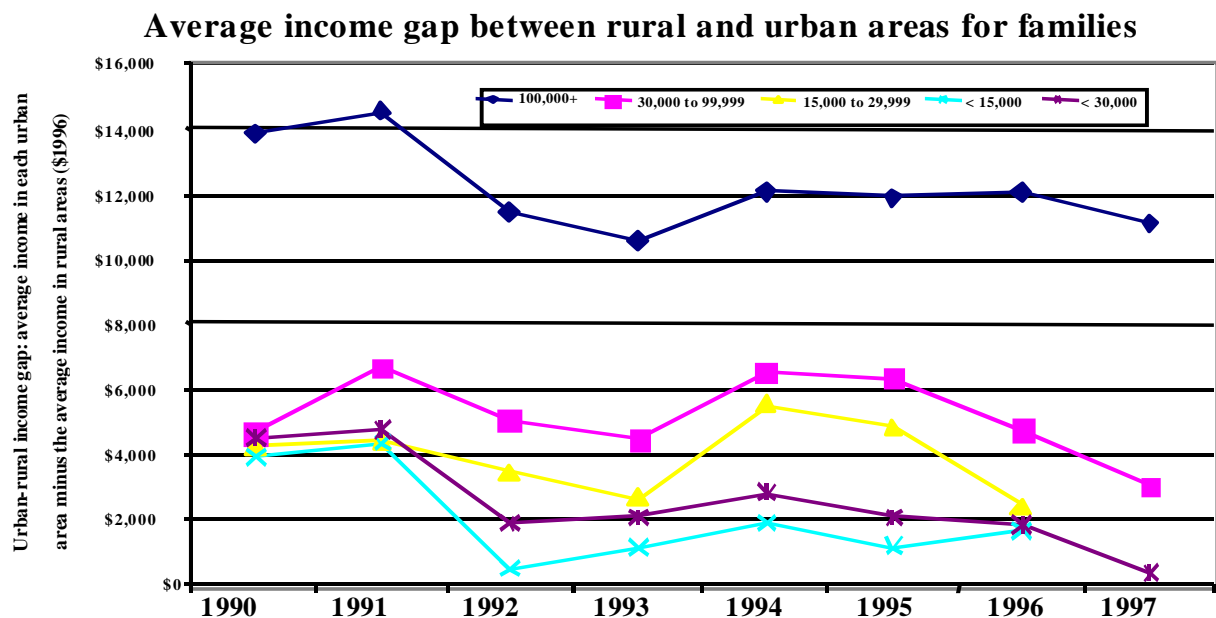
Source: Statistics Canada. Income Distribution by Size in Canada (Cat. No. 13-207).

The income gap between rural areas and smaller urban centres has been falling the most, when we compare rural incomes to the incomes in each urbanisation class (Figure 2). Since 1990, the average income gap between rural areas and cities under 15,000 population fell by 58 percent. Even against the 100,000 and over urbanisation class, the rural-urban income gap has fallen by 20 percent. By 1997, the average income for a rural family was only \$359 below that of a family living in an urban area with a population less than 30,000.

Similar patterns are seen for median family incomes (Rupnik et al., 2001). Rural families have lower median incomes and the rural-urban median income gap has been closing over time.

The pattern is also similar for individuals with income (Rupnik et al., 2001). Rural individuals lag their urban counterparts in terms of average and median incomes. Also, similar to the case for family incomes, the income gap between rural and urban individuals has been declining in the nineties.

Figure 2

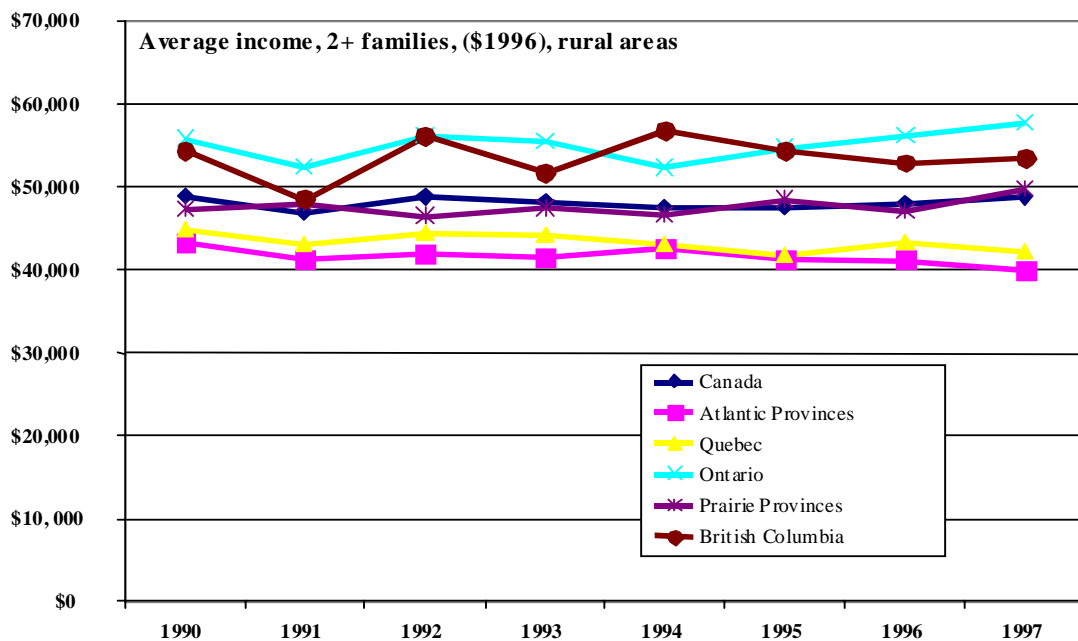


Source: Statistics Canada. *Income Distribution by Size in Canada*. (Cat. No. 13-207).

Reflecting the national trend, provincial rural average family incomes have generally remained flat through the nineties (Figure 3). Rural families in Ontario and British Columbia have the highest average incomes while rural families in the Atlantic Provinces and Quebec have the lowest average incomes.

Figure 3

Rural families in Ontario and British Columbia have the highest average incomes

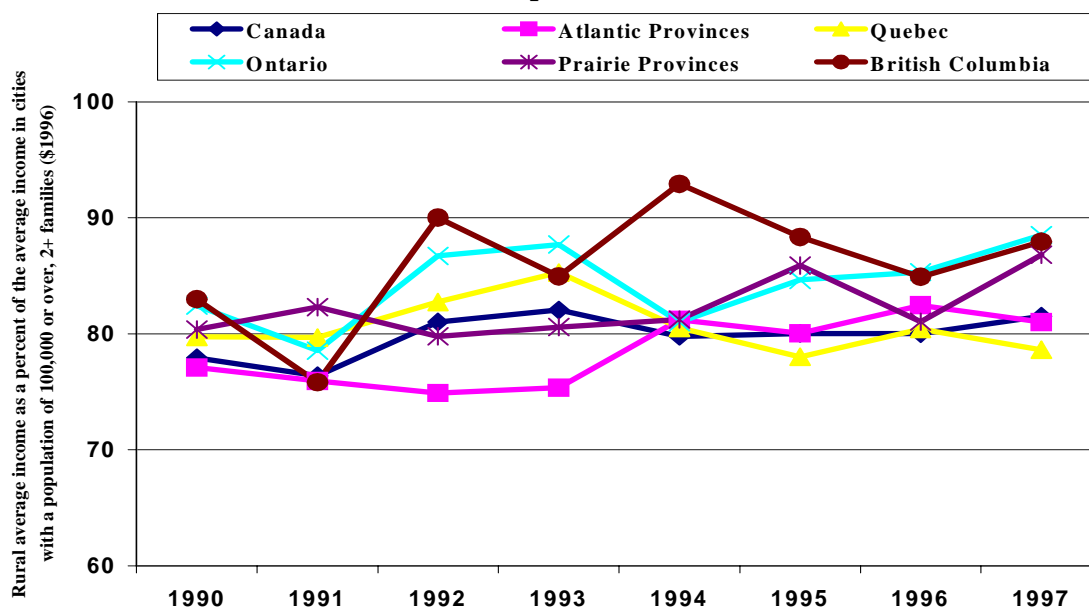


Source: Statistics Canada. Survey of Consumer Finances.

In addition to having the highest incomes among rural areas in Canada, rural family incomes in Ontario and British Columbia are closer to the family incomes in the large cities in their respective provinces, compared to the situation of rural families in other regions (Figure 4). Rural family incomes in Ontario and British Columbia have generally been between 10 to 15 percent lower than family incomes in areas with a population of 100,000 or more within their province. In contrast, rural family incomes in Quebec are approximately 20 percent lower compared to the urban areas with 100,000 or more population in Quebec. In recent years, Quebec is the province where rural families have been the furthest behind the income levels of families in the larger cities.

Figure 4

Rural families in Ontario and British Columbia have the closest incomes to families in cities with 100,000 or more population in their province



Source: Statistics Canada. Survey of Consumer Finances.

The proportion of families with incomes below the low income cut-off (LICO)

Through the 1990s, within each community size, the proportion of families with low income has not fluctuated significantly. The proportion of families with income below the LICO is lower in rural areas (Figure 5). The proportion of families with low income is higher in larger cities. For families living in rural areas, the proportion with low income remained at slightly below 10 percent while for those living in areas with a population of 500,000 and over, the rates ranged from 16 to 18 percent.

This is an indicator that rural communities are better off than urban communities in the sense that a lower proportion of their residents is restrained in the relative ability to purchase necessities.

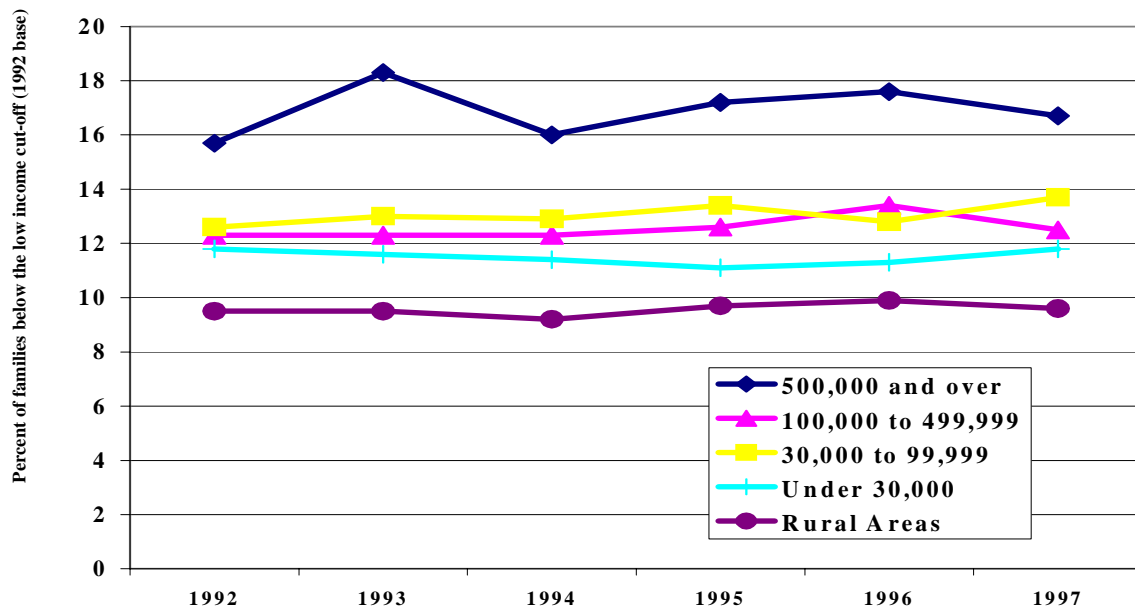
Low income cut-offs (LICOs) are established using data from Statistics Canada's Family Expenditure Survey, now known as the Survey of Household Spending. The LICO conveys the income level at which a family may be in straitened circumstances because it has to spend a greater proportion of its income on necessities than the average family of similar size. Specifically, the threshold is defined as the income below which a family is likely to spend 20 percentage points more of its income on food, shelter and clothing than the average family. There are separate cut-offs for seven sizes of family – from unattached individuals to families of seven or more persons – and for five community sizes – from rural areas to urban areas with a population of more than 500,000. Rural areas have the lowest LICOs for each family size. This is (largely) due to the lower cost of housing in rural areas.

To calculate the proportion of individuals with low incomes, the family size and community size are used to find the appropriate cut-off.

The proportion of families with income below the LICO level gives an indication of the economic well-being of a community in terms of the proportion of its residents who are restrained in their relative ability to purchase necessities.

Figure 5

Rural areas have the lowest proportion of families with low income (based on LICO)



Source: Statistics Canada. *Income Distribution by Size in Canada (Cat. No. 13-207)*.

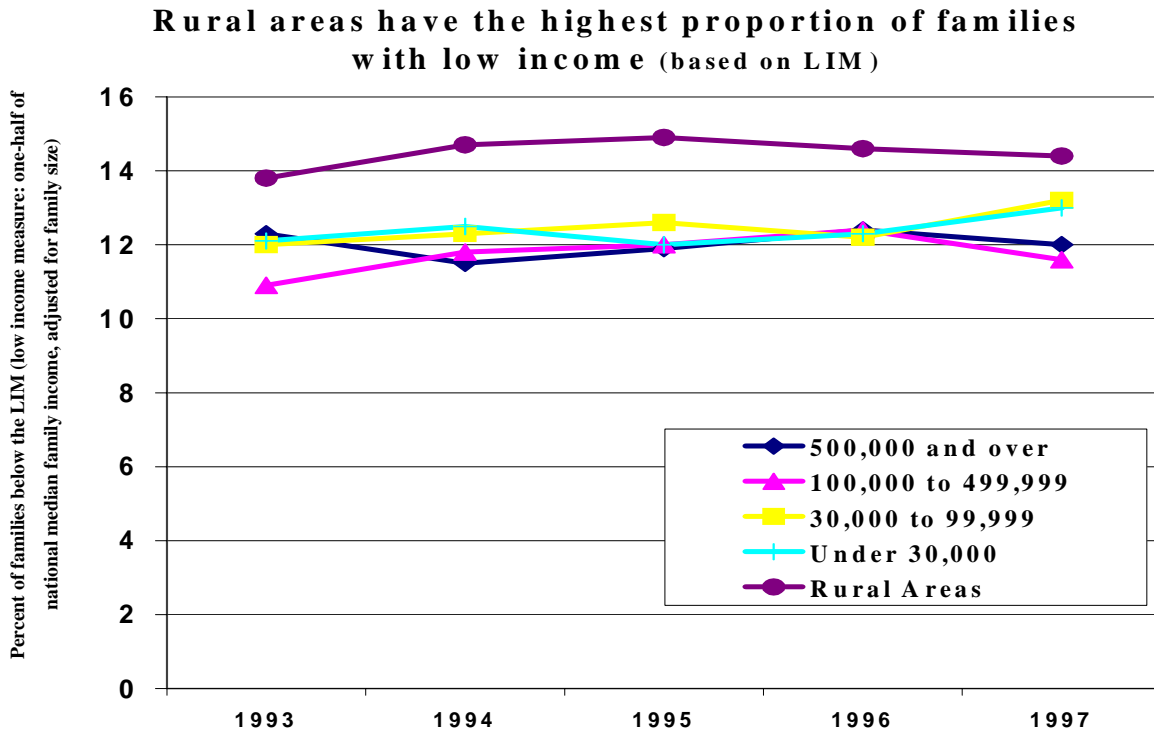
Proportion of families with income below the low income measure (LIM)

Through the 1990s, like the low income rates based on LICO, the incidence of low income rate based on LIM have not fluctuated significantly within each community size. However, across different community sizes, LIM rates have exhibited the opposite pattern of LICO rates. Unlike LICO rates, LIM rates are highest for rural families – families in the most populous areas (500,000 and over) have the lowest proportion of families with income less than the LIM (Figure 6). LIM rates for families living in rural areas were approximately 15 percent while for those living in areas with a population of 500,000 and over, approximately 12 percent have incomes below LIM.

The low income measure (LIM) equals one-half of the national median family income, adjusted for family size. The adjustment for family size assumes that each additional adult increases the family's needs by 40 percent of the needs of the first adult. Each child (less than 16 years of age) is assumed to increase family needs by 30 percent of the first adult, except in a family with only one adult, where the first child is assumed to increase the family's needs by 40 percent of the needs of the only adult. Note that there is no adjustment for the differences in cost of living across urbanisation classes.

The proportion of families with income less than the LIM gives an indication of the economic well-being of a community in terms of the proportion of its residents who have income below one-half of the adjusted national median income.

Figure 6



Source: Statistics Canada. Survey of Consumer Finances.

This indicator suggests that rural communities are worse off than urban communities in the sense that a higher proportion of its residents has income below a low income level determined by LIM.

The main reason for this observation is that, in the LIM methodology, all families are compared to the national-level median income. Because rural people have lower incomes, rural areas have the highest proportion of families with income below this measure. The LIM does not incorporate an adjustment for the cost of living. However, wages in rural areas are often lower because the cost of living is lower. As a result, incomes would be lower but the LIM would show a higher incidence of low income in these areas. However, the (lower) income level in areas with a lower cost of living may have the same real value as the (higher) income in a higher cost of living area. Thus, even if the real value of income were the same in these two areas, the LIM would be higher in the low income area.

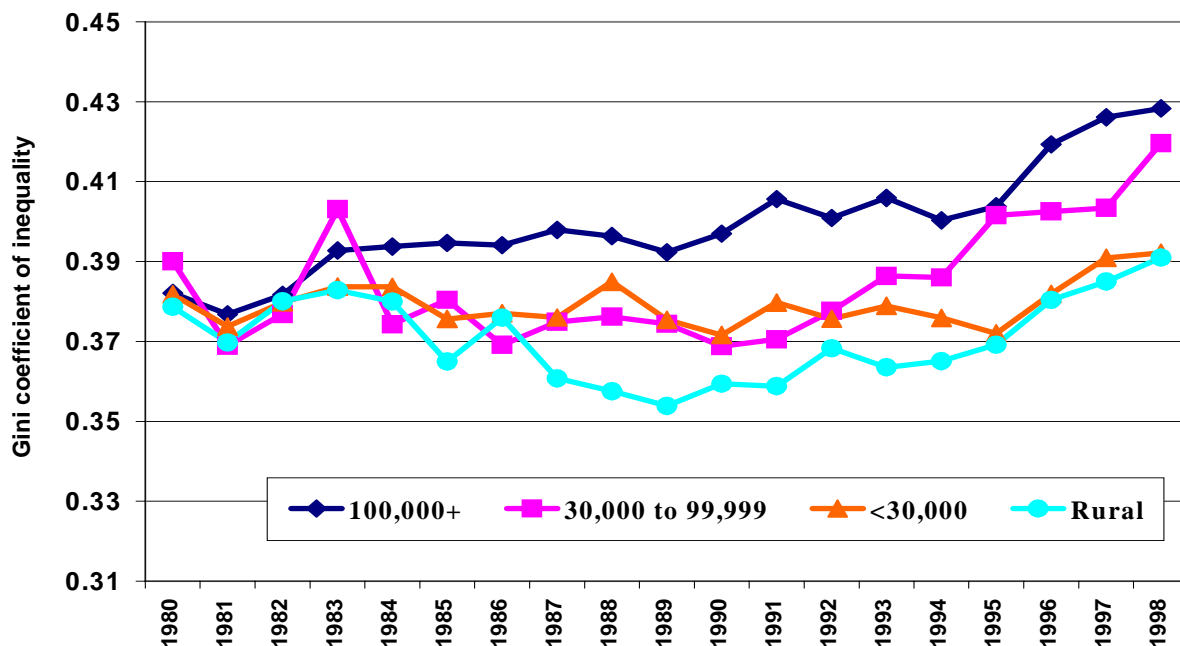
Gini coefficient of inequality

The Gini coefficient of inequality is lower in rural areas. Since the 1980s, rural areas have had the lowest degrees of income inequality while areas with a population of 100,000 and over have had the highest (Figure 7).

The Gini coefficient, as applied to incomes, measures the degree of inequality in an income distribution. The Gini coefficient is constructed in such a way that it ranges in value from 0 to 1 where higher values are associated with greater income inequality. A value of zero indicates income is equally divided among the population with all units receiving exactly the same amount of income. At the opposite extreme, a Gini coefficient of 1 denotes a perfectly unequal distribution where one unit possesses all of the income in the economy. A decrease in the value of the Gini coefficient can be interpreted as reflecting a decrease in inequality, and vice versa. A difference of 0.01 or more between two Gini coefficients is considered statistically significant.

Figure 7

Rural areas have a lower degree of income inequality



Source: Statistics Canada. Survey of Consumer Finances.

This indicates that incomes are more equally distributed within rural areas – those earning lower incomes are not as far behind higher income earners within rural areas, as compared to the situation within more populous areas. In this sense, the economic well-being within rural areas is “better” than within urban areas.

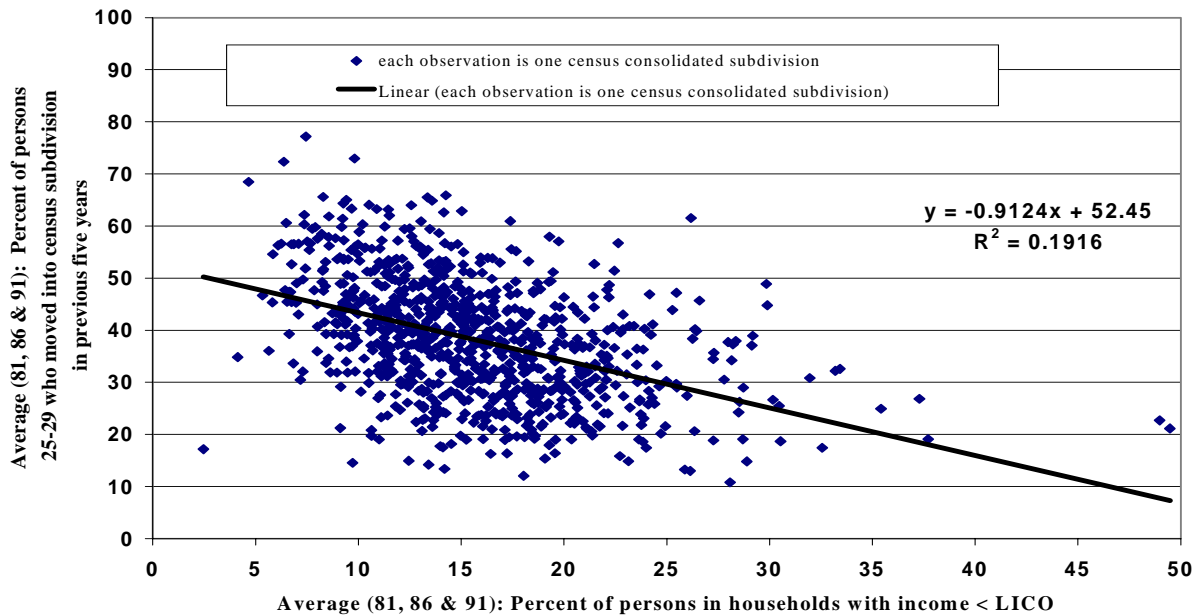
Correlation of migration into a community and the measured incidence of low income

The analysis above is based on income as a measure of economic well-being. However, there are many other aspects of “well-being”. Thus, there is a question whether our measure(s) of well-being reflect the situation as perceived by rural residents. If the behaviour of rural residents is correlated with our measure(s) of economic well-being, then we would argue that our measures reflect (at least in part) the level of well-being as perceived by rural residents. We chose “migration” as an observed behaviour of rural residents – if our measures show a community to have a higher proportion of families with low incomes, we would expect a behavioural response such as a lower rate of migration into these communities.

Specifically, we consider the gross rate of migration into a community for persons 25 to 29 years of age and we look to see if this migration rate is higher or lower into communities with a higher proportion of families with low incomes. If our measure(s) of the incidence of low incomes are indicating “less prosperous” or “poorer” communities, we would expect the rate of migration into these communities to be less. In fact, whether we use LICO or LIM as the measure of the incidence of low incomes, we find a lower rate of migration into communities with a higher incidence of low income families (see Figure 8 for the LICO case; see Rupnik et al. (2001) for the LIM case). Fewer people move into areas with higher low income rates indicating that measured low income rates are indicating a perceived lower level of living.

Figure 8

In-migration of persons 25-29 is NEGATIVELY correlated with community incidence of low income, based on LICO
(for communities in predominantly rural regions)



Source: Statistics Canada. Census of Population, 1981, 1986 and 1991.

It should be noted that the degree of correlation is weak but it appears to indicate the general pattern. For any level of the measure of the incidence of low income, there is a wide range (from 10 to 70 percent) in the proportion of individuals aged 25 to 29 that moved into the communities in the previous five years. The highest correlation was found for the individuals aged 25 to 29 – the correlation for other age groups was lower (graphs not shown).

Governmental impact on incomes through transfers and taxes

The average person in rural and small urban areas receives more social transfers per dollar of income and pays less tax per dollar of income than the average urban person. In Figure 9¹, we see that the transfer / income ratio is higher in rural and small urban areas and the tax / income ratio is lower in these areas. On average, rural and small urban area individuals tend

1 This graph updates the analysis provided by Murphy (1992), which is summarised in Figure 23 of Bollman and Biggs (1992). Transfers refer to cash transfers to households such as unemployment insurance, social assistance, and through the Old Age Security program. Taxes refer to personal income taxes, sales taxes, and payroll taxes that are borne directly by households.

to receive relatively more transfers because:

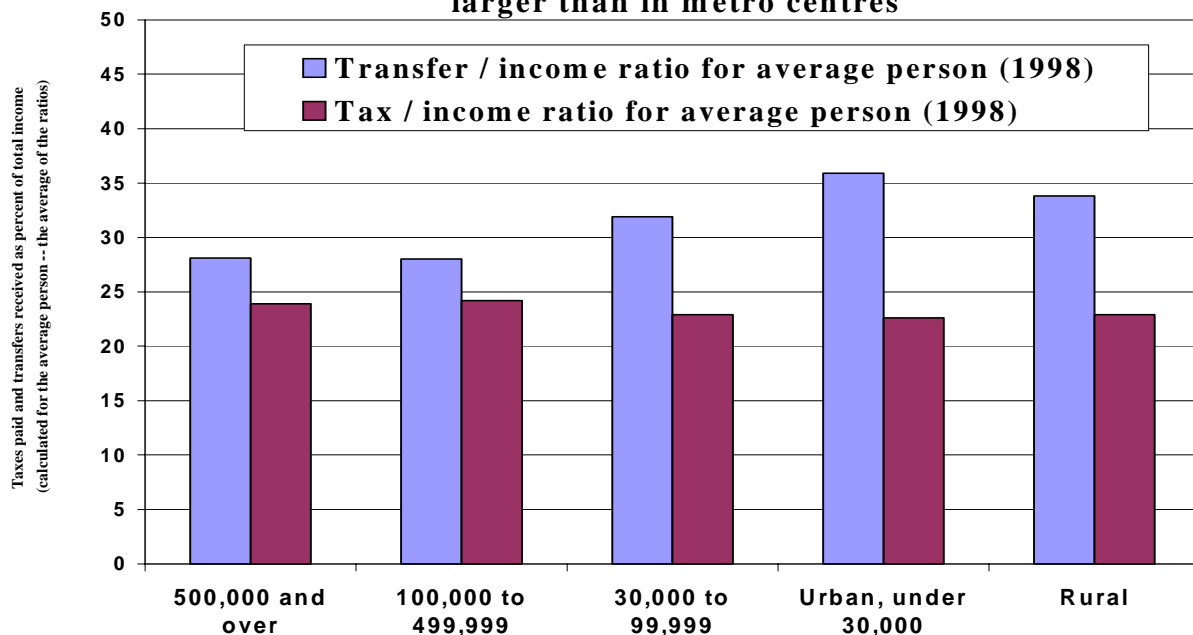
- their unemployment rates are higher;
- there is a higher proportion of children (and thus residents receive more from the child tax credit); and
- there is a higher proportion of retired people which receive Canada and Quebec Pension Plan benefits.

On average, rural and small urban area individuals pay lower taxes because their incomes are lower. (Subsidies to farms and other businesses are not included.)

Note that within each urbanisation class, the average person receives more transfers than is paid in taxes.

Figure 9

The average rural and small city person receives more in transfers than he/she pays in taxes and the difference is larger than in metro centres

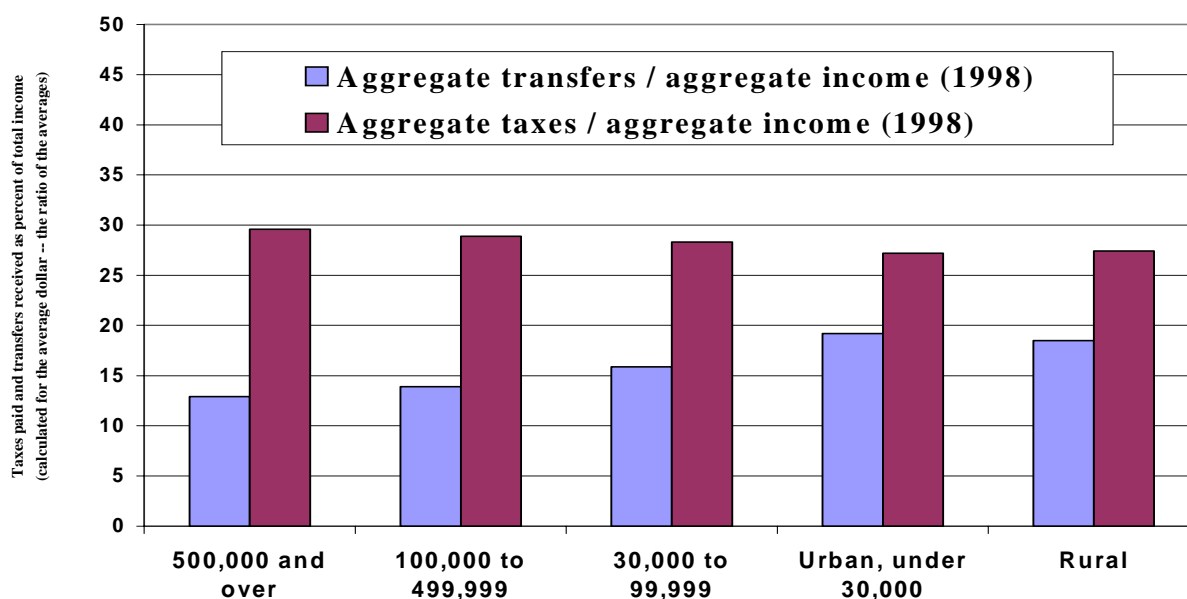


Source: Statistics Canada. Social Policy Simulation Data Base / Model.

Interestingly, when the transfers and taxes are assessed in terms of the proportion of aggregate income in a region, the aggregate transfers / aggregate income ratio is higher in rural and small urban areas and the aggregate taxes / aggregate income ratio is lower in rural and small urban areas (Figure 10).

Figure 10

The rural and small city population pays more in taxes than it receives in transfers but the gap is smaller than in metro areas



Source: Statistics Canada. Social Policy Simulation Database / Model.

Interestingly, in each urbanisation class, total taxes exceeded total transfers even though it was previously seen that the average person receives more transfers than one pays in taxes. Due to an income distribution with a small proportion of individuals with high income coupled with a progressive income tax system, more total taxes are collected than are paid in transfers. However, the average person (in the middle of the income distribution) receives more transfers than is paid in taxes.

Summary

Rural families have lower incomes. The rural-urban income gap has been closing over time. Rural families in the Atlantic Provinces and in Quebec have relatively lower incomes. Rural families in Ontario and British Columbia have relatively higher incomes.

Rural areas have a smaller proportion of families with low incomes, if we use the Statistics Canada low income cut-off (LICO) indicator, which includes an adjustment for the cost of living across urbanisation classes. Rural areas have a larger proportion of families with low incomes, if we use the “low income measure” (LIM) that is one-half of the national median income, adjusted for family size.

Within rural areas, the distribution of income is “more equal” than in urban areas.

Communities with a larger proportion of families with low incomes (using either measure of low incomes) have less in-migration of young adults, 25 to 29 years of age.

On average, rural residents receive relatively more in social transfers and pay relatively less in taxes.

Differences in population size and access to markets, among other things, have led to differences in the economic well-being between rural and urban residents. Collectively, the income indicators show inconclusive evidence regarding the relative economic well-being of rural residents. Some indicators have shown that rural residents are worse off. For example, average incomes are lower in rural areas. However, the indicator that measures the proportion of families with low incomes suggests that rural areas have a higher proportion (using the LIM measure) and, at the same time, a lower proportion (using the LICO measure). The mixed evidence elicited from these indicators makes it difficult to determine a conclusion regarding the relative economic well-being of rural residents. Overall, perhaps the best conclusion is that it is inconclusive, depending on the indicators used and the value attributed to them.

References

- Bollman, Ray D. and Brian Biggs. (1992) "Rural and Small Town Canada: An Overview". Chapter 1 in Bollman, Ray D. (ed.) **Rural and Small Town Canada** (Toronto: Thompson Educational Publishing).
- Mitchell, Hon. Andy. (2000) **Working Together in Rural Canada: Annual Report to Parliament**. (Ottawa: Agriculture and Agri-food Canada, Rural Secretariat).
- Murphy, Brian B. (1992) "The distribution of federal-provincial taxes and transfers in rural Canada." Chapter 17 in Ray D. Bollman (ed.). **Rural and Small Town Canada** (Toronto: Thompson Educational Publishing, 1992), pp. 337-356.
- Rupnik, Carlo, Margaret Thompson-James and Ray D. Bollman. (2001) **Economic Well-being of Rural Canadians: Income Indicators** (Ottawa: Statistics Canada, Agriculture and Rural Working Paper Series, Working Paper No. 45, Catalogue no. 21-601-MIE01045).

For background details, refer to the working paper: **Economic Well-being of Rural Canadians: Income Indicators** (Ottawa: Statistics Canada, Agriculture and Rural Working Paper Series, Working Paper No. 45, Catalogue no. 21-601-MIE01045).

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