

REPLY TO CHAWLA AND OJA

BY P. L. ARYA

Saint Mary's University, Halifax, Canada

Three methods of measuring economic growth were discussed by Fell and Greenfield in their note.¹ They are: (1) growth rates in different income groups weighted by income weights; (2) growth rates in different income groups weighted by population weights; and, (3) growth rates in different income groups weighted by inverse of income weights. In my critique,² I pointed out that (i) these methods have theoretical flaws and (ii) the empirical results derived from them cannot be interpreted as measuring economic growth. These conclusions were supported by many arguments which were incorporated in a section of my critique with sub-heading, "Evaluation of These Methods." Somehow, Chawla and Oja managed to ignore the entire section and based their critique on calculations which, I had already stated, do not lead to any meaningful interpretation. As a result, their critique of my critique and support of Fell and Greenfield's methods is based on misunderstanding of both the methods and the application.

Fell and Greenfield assumed that population size and structure should be identical for the different comparisons made. Chawla and Oja quote my criticism of the above assumption, "It may seem difficult to keep components of these groups stable in real terms over time. Moreover, relating income categories to number of families, instead of number of persons may be more meaningful."³ After this quote from my critique, they write, "It is not clear from the highly abstract note by Fell and Greenfield on which concepts their suggested technique should be applied."⁴ This is not true. The numerical example given by Fell and Greenfield takes stable population groups and it does not require any expertise to know it, if one works out their example. Fell and Greenfield reiterate this assumption in their reply.⁵

Further, Chawla and Oja adhere to my suggestion of taking family income categories in their application of Fell and Greenfield's methods and come out with results which are different from those of my calculations based strictly on the concepts used by Fell and Greenfield. This is what I had suggested in my critique. Does it mean that Chawla and Oja have made my case stronger? Not only do they agree with my views but also lend further support by pointing out additional problems which beset the application of Fell and Greenfield's technique.

¹Fell, H. A. and Greenfield, C. C., Measuring Economic Growth, *Review of Income and Wealth*, 29 (2) 205-208, 1983.

²Arya, P. L. Measuring Economic Growth—A Critique of the Views of Fell and Greenfield, *Review of Income and Wealth*, 30 (3), 377-382, 1984.

³*Ibid.*

⁴*Ibid.*

⁵Fell, H. A. and Greenfield, C. C., Measuring Economic Growth—A Reply to Arya, this issue.

If I understand them correctly, as is apparent in their paper, the main concern of Chawla and Oja is to point out that the “low income group in Canada fared best in terms of income growth during 1980–81.” However, the low income group showed a negative growth rate when the methods developed by Fell and Greenfield, with their own concepts, are applied. I noted in my critique, “This is so because we assign population weights of the base year population and ignore the current year’s changes in group formation. Thus the low income group in Canada shows a negative growth rate using both the income weights and the population weights even though the *per capita* income grew at the rate of 4.64 percent (Table 6). This was because the population in this group fell at a faster rate than total income, as a result of economic growth.” Chawla and Oja restate the same, “The number of individuals receiving less than \$12,000 income in 1981 decreased compared to 1980. Aggregate income for the remaining smaller group also decreased, but it is misleading to conclude that income in current dollars for ‘low income’ category of individuals decreased.” This again is not a critique of my results and analysis.

On the other hand, Chawla and Oja restricted their calculations to the estimation of growth rates of Canada and did not calculate, for comparison, the growth rate of Atlantic provinces. Neither did the analysis of their results go beyond the statement that the low income category did best in Canada during 1980–81.

The scanty analysis is far from satisfactory. Chawla and Oja have used six of their seven tables for growth estimates using different techniques and have come up with different growth rates. It is much desired of them to show how would they interpret these different growth rates for same income category. For example, the growth rate estimation of low income group varies from 24 percent in Table 2 to 3.5 percent in Table 3. Why are there such staggering differences? Which technique gives them the best result and why? Since they have applied techniques developed by Fell and Greenfield, which have several weaknesses as pointed out by me in their critique, do they feel comfortable with their own results? Chawla and Oja’s calculations cannot be interpreted meaningfully and have inherited the defects of Fell and Greenfield’s methods.