Measuring Income Distribution: The Case of New Zealand

Brian Easton

Analysis of income distribution[1] at the national or international level, such as is carried out in RwG, is complicated by the inadequacy of statistical data. This brief note discusses some of the limitations with respect to a particular country, New Zealand[2], and in so doing indicates the degree of caution required in handling income data in any country, especially for international comparisons.

Data on income are derived in New Zealand from tax returns, family expenditure surveys and the census. The last-named is a notoriously weak source of income data, and will not be discussed here.

Since 1953 the taxable unit in New Zealand has been the individual, not the married couple. As a result, tax data in New Zealand show a substantial number of low incomes which on casual analysis might indicate a high degree of income inequality. However, most low income earners are 'supplementing' the household income. They may be wives taking some part-time work, students on vacation work, or social security pensioners supplementing the generous (compared to many other western nations) state benefits. If the tail of the apparent income distribution is smoothed off, as a crude means of excluding supplementary earners, the Gini coefficient decreases from about .39 to .33, a substantial reduction.

Data from tax sources are dependent upon the legal definition of taxable income, which may not correspond to an economic definition. In New Zealand taxable income includes most factor income, but not capital gains, and some, but not all, transfer income.

Most transfer payments are excluded from the tax data. The situation is further complicated by subsidies such as cheap housing, and free education and health services. Presumably the community in which these are very big would be willing to tolerate a higher degree of inequality of the remaining income.

The omission from taxable income of the net imputed income from owner-occupied housing further distorts the apparent distribution. About 70 per cent of all New Zealand households own their own home, including many with the lowest apparent incomes, e.g. pensioners who purchased their house during their working life.

New Zealand's taxable income omits capital gains. In the mid-1960s nominal capital gains in New Zealand ran at about $390 million annually (compared to taxable income of $2,600 million) but real capital gains (i.e. with allowance for the rising price level) were actually negative, amounting to a loss of $30 million. This occurred because a large proportion of personal wealth in New Zealand is held in fixed interest assets. The distribution of this capital loss is rather complex since holdings of assets vary with the individual's economic status. It would appear that the capital loss is carried by those with low incomes, and as a consequence the actual income distribution is slightly less equal than the apparent distribution. It was only recently that New Zealand tax legislation made any allowance for the costs of employment borne by the worker (travel expenses, clothing, etc.); these are roughly 7 per cent of salary and wage payments. Little is known about the distribution of 'fringe benefits), which may be significant.[3]

Compulsory investments, such as contributions to social security funds, should be deducted from income. For some purposes so should voluntary contractual savings. For instance, in New Zealand mortgage repayments by farmers and home owners have a substantial impact when effective household incomes are being compared. In this writer's opinion, even voluntary expenditure on education, health and law should also be deducted in deriving effective household income.

Finally, income ought to be adjusted for differences in circumstances, such as cheaper (and free)

---

1 For a discussion on the concept of personal income see R. H. Parker and G. C. Harcourt, 'Readings on the Concept and Measurement of Income', particularly the essays by H. C. Simon (p. 63) and J. R. Hicks (p. 74). An earlier discussion of measurement problems of the distribution of income will be found in S. Kuznets 'Quantitative Aspects of Economic Growth of Nations, Distribution of Income by Size', **Economic Development and Cultural Change** (January) p. 1-80.

2 The material discussed here derives from a study of post-war New Zealand income distribution. A book on the factor and personal distributions is in the late stages of preparation, and it will be followed by a book on household distribution and policy issues. The New Zealand Institute of Economic Research has helped finance the project but is not in any way responsible for the views expressed.

3 Lydall, H. **The Structure of Earnings**, p. 267.

food, cheaper housing, less taxation, etc. For instance, in 1972 a self-employed farmer in New Zealand on an income of $2,465 p.a. before tax enjoyed the same standard of living as an urban dweller on $4,065 p.a.[4]

New Zealand has only recently instituted systematic household expenditure surveys, so it is not yet possible to reconcile these with other income data. There are two problems. First, on questionnaires, households are likely to report an income close to taxable income, but perhaps also omitting some of the investment income which accrues in separate accounts and only erratically swells household budgets. Secondly, seasonal work in New Zealand is very important, with the Christmas rush, the farming peak, and the holiday period all occurring at about the same time. The income receipts of household supplementary earners are consequently seasonal. This effect is compounded by the practice of many supplementary earners of working for short periods only. The consequence of this for income distribution is that the inequality in household earnings for any one week is likely to be greater than for annual incomes.

There are problems anyway in using the household as a unit. The tendency to treat them all as equal is clearly inappropriate. Households of different size and age structure have different consumption needs, so that the same size income has a very different effect for a single person than for a couple with young children. Moreover, treating households as the basic unit gives the individuals in a large household a lower weight in a distribution. Consequently it would appear more appropriate to use an individual as the basic unit, allocating to him a share of the household income. However, as children have different needs from adults, even this raises difficulties.

The second problem derives from household production and leisure. Obviously a full-time housewife may be 'productive', enabling the household to enjoy a higher material standard of living than would be possible without her contribution. Even in New Zealand in the 1960s about six per cent of food consumption was produced at home (including a quarter of fruit and vegetables) and this is likely to be fairly unevenly distributed.[5]

It also appears that part of the growth in income in New Zealand (and elsewhere) has been taken up in increased leisure on the part of the wife after the children have left home. As the next generation of mothers is liable to go out to work after child rearing, the apparent rise in income of these households is partly a conversion of potential into actual income.

The measurement problems discussed here are not simply the usual 'errors of measurement', due to inaccuracies in reporting income to tax authorities or to those taking surveys. They arise out of the very nature of the social and economic processes that people experience. As the economy grows, they become increasingly important, and different adjustments will have to be made in order to reflect more closely the changes in the true income distribution. These adjustments are not routine statistical tasks.

The conclusions should not, however, be entirely negative. Despite the data problems, RwG is an admirable attempt to incorporate the issue of distribution into discussions on the process of development. One can but endorse Montek Ahluwalia: "until better data become available, cautious use of existing data—with all their limitations—provides some perspective on the nature of the problem".[6]

---

6 RwG, p. 5.

---

4 Based on unpublished estimates by R. D. Plank of the Institute of Farm Management (Lincoln).

5 Easton, B. H. **Consumption in New Zealand 1954/5 to 1964/5.**