AUSTRALIA

POVERTY MEASUREMENT IN AUSTRALIA:
The effect of government non-cash benefits and location

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Introduction

In Australia there has been a continuing interest in measuring the multi-dimensional aspects of poverty. The Commission of Inquiry into Poverty in the early 1970s examined a wide range of issues including links between poverty and illness, service delivery, location and disadvantage. (Commission of Inquiry into Poverty 1975)

The Australian Institute of Health and Welfare has undertaken analyses of the relationship of poverty and disadvantage to health and also to housing and community services as part of its core work reporting health and welfare assistance information in Australia. The Institute has examined poverty and housing costs in its series of biennial reports on Australia's welfare services and analysed relationships between health and income in the counterpart report on Australia's health. (AIHW 1996, AIHW 1995).

Current measurement issues

The paper presented by the Australian Bureau of Statistics (ABS) at this seminar discusses details of the Australian social security system and identifies the issues relating to poverty measurement. This paper further examines some of the issues raised in relation to broader measures of assistance.

Several aspects of the current Australian environment indicate the need for a multi-dimensional approach to poverty measurement that recognizes the effects of non-cash assistance and location. These include:

- the use by governments of both cash and non-cash assistance to address poverty;
- recent real growth in the size of government outlays in the area of health and welfare services including targeted assistance;
- an increase in the complexity of transactions between governments and individuals over time, often involving a mix of both cash and non-cash assistance;
- a growing trend to de-institutionalize services with more health and welfare services appearing in private dwellings and data collections are coming across increasing service rich/cash poor households; and
- recognition that the effectiveness of assistance to disadvantaged households often varies with location due to factors such as price and accessibility.

Increased complexity of transactions

In Australia, growth in the complexity of government transactions with households involving cash and non-cash assistance have made cash only poverty measures less useful. For example in health, the introduction of a co-payment for previously free pharmaceuticals has meant:

- for pensioners pharmaceuticals, under the Pharmaceutical Benefit Scheme(PBS) move from being free to $2.60 each;
- aged pensioners receives $5.20 extra cash per fortnight to cover this increased cost;
- there is an increase in cash income, these pensioners are apparently better off, but   their basket of goods costs more and on average is believed to be revenue neutral for households and government;
- a cash only analysis concludes an increase in income and possible shift in poverty levels.

The importance of fully measuring these effects is likely to increase in Australia where governments are currently reviewing and proposing reforms in several areas of assistance. These changes involve shifts in the mix of cash and non-cash assistance which traditional poverty measures have trouble compensating for.

Structural change

Australian governments, both national and State, are currently examining options to improve the effectiveness and efficiency of the assistance they provide. In the area of housing assistance, which has historically developed as two separate streams of assistance, one for private renters involving cash assistance and the other for public renters involving a non-cash rebate, structural change to improve the comparability and transparency of assistance may produce distortions to cash measures of poverty.

One current proposal for housing assistance could see the national government responsibility shift from capital funding for public housing to an income support role, providing cash rent assistance as it currently does for disadvantaged private renters. The implications for measurement are:

- in terms of government outlays there would likely be a revenue neutral transfer of around $1 billion from capital housing transfers to social security cash transfers;
- in terms of cash poverty measures approximately 300,000 public renters would appear better off by the amount of cash rent assistance they would receive(in place of their current non-cash rebate);
- their command over goods and services is likely to remain neutral if the cash subsidy is equal to their current non-cash rebate;
- in international comparisons it would improve Australia's standing in terms of cash poverty and income distribution analysis and see an increase in total outlays for the government purpose classification identifying social security and welfare outlays.

There is a need to ensure that changes in government roles and financing relationships do not create statistical artefacts in poverty measures.

Measuring inequities

Related to this has been an increased awareness of inequities in assistance having major implications for poverty analysis. Over time, different rates of growth and degrees of

substitutability of government programs between similar cash and non-cash assistance or between areas have highlighted the need for a multi-dimensional approach to poverty. Examples of these concerns are:

- *Inequities between similar cash and non-cash benefits:* - the 1993 Industry Commission Public Housing Inquiry noted that the value of Department of Social Security cash rent assistance per recipient household was $1200 p.a. while the non-cash rebate for public housing tenants was $3020 p.a..(Industry Commission 1993)
- *Inequities in similar non-cash benefits over geographic or social class groups:* - The Audit Office of NSW noted that for children's services the Department of Community Services' Preschool subsidy per eligible child in 1992-93 was $437 in the most-disadvantaged 10% of local government areas while for the least-disadvantaged 10% of local government areas the subsidy was $563. (Audit Office of NSW 1994)

Data availability

The measurement of the effect of non-cash assistance and location aspects of poverty in Australia has been supported by three major Australian Bureau of Statistics (ABS) initiatives:

- the compilation and release of data on the effects of government benefits and taxes on household income (ABS 1996) - the first release of this data in 1987 meant Australia has an official set of income estimates covering the five income concepts covering all types of transactions between the state and the individual, namely cash and non-cash benefits and direct and indirect taxes, similar to the United Kingdom Central Statistical Office work regularly published there since the 1960s;
- the development of a set of socio-economic indexes from the 1986 ABS Population Census and their inclusion in subsequent data; and
- the increased availability of confidentialised unit record files from the suite of ABS household surveys and a one percent sample of the Population Census.

This has greatly helped organisations such as the Australian Institute of Health and Welfare (AIHW) to analyse and attempt to quantify complex issues surrounding poverty measurement.

This paper examines how this information has been used outside the ABS by government agencies and researchers to further develop broader poverty methodologies.

Measuring multi-dimensional aspects of poverty

In Australia, a range of agencies are undertaking the development of methodologies to improve information on poverty and income distribution issues. A major portion of this work has been carried out, or funded by, the two major Commonwealth social policy agencies, namely, the Department of Health and Family Services(DHFS) and the Department of Social Security(DSS).

In addition to undertaking in-house analysis both Departments fund external agencies including:

- the Australian Institute of Health and Welfare (AIHW);
- the National Centre for Social and Economic Modelling(NATSEM);
- the Australian Institute of Family Studies(AIFS); and
- the Social Policy Research Centre(SPRC) at the University of New South Wales.

This major focus of this paper is on the measurement work of the AIHW and related work previously undertaken at the Department of Health and Family Services.

The measurement of non-cash services in poverty

In Australia, governments (Commonwealth, State and local) use both cash and non-cash forms of assistance to address issues around poverty and living standards. While some assistance is directly aimed at reducing poverty other forms often have an indirect effect.

The Social Outlays Project undertaken at the Department of Health and Family Services, then titled Department of Health, Housing, Local Government and Community Services (DHHLGCS) in the early 1990s analysed the ABS Household Expenditure Survey data and produced three reports on these issues. The main results of the reports are summarised as follows.

Report 1, titled "The distribution of the health, housing and community service outlays of government amongst households, 1988-89" (DHHLGCS 1993a) found that:

- In 1988-89 the average weekly government outlay per household on health, housing and community services was $61.29 This represents a total of $22.04 per person a   week of which $16.91 or 77 percent was for health care.
- The per capita value of assistance to low income households is, on average, twice that for all households.
- The poorest 30 percent of households consumed over 40 percent of these government outlays. Over 60 percent of housing benefits and 56 percent of community service outlays were consumed by the poorest 30 percent of households.
- In 1988-89 a larger share of these outlays were directed to the lower income households than in 1984

The second report, "The distribution of government and household outlays on health care, 1988-89"(DHHLGCS 1993b) showed:

- Australian governments provide over 80 percent of health care expenses for low income households compared with an average of 68 percent for all households and 56 percent for the highest income households.

- Targeted health programs such as the Pharmaceutical Benefits Scheme (PBS) provide valuable subsidies for low income households and the aged:

    - the value of government provision of pharmaceuticals for aged pensioner households was on average $14.15 per week.
    - the high use of prescription medicines by low income households, particularly the aged, is not reflected in high household expenditure on prescriptions by these households; and
    - the PBS has an important income effect with an estimated value for aged pension households of approximately 8 percent of their gross income.

- The omission of the redistributive characteristics of the Australian health care system underrates the contribution of government services in redirecting scarce resources to assisting those most in need.

    The third report titled, "The distribution and impact of government rental housing, 1988-89" (DHHLGCS 1993c) reported:

- Government rental dwellings are mostly occupied by households from low income groups with 58 percent of all government renters in the lowest three income deciles ((the poorest 30 percent of all households).
- Housing costs for government renters were 70 percent of the average housing costs for all households in 1988-89. In 1984 they were 83 percent of the average housing costs.
- Government renters spent only 15 percent of their total expenditure on goods and services on housing, compared with 20 percent for private renters.
- Low income government renters have greater purchasing power, reflected in a higher cash income remaining after housing costs, than do private renters on a similar income.
- Single parent households are the government renter group that, on average, receive the highest level of government rental subsidy.

Issues for poverty measurement:

    The three reports concluded that:

- Government non-cash outlays on health, housing and community services have an income replacement effect, by reducing the cash budget commitment of households, they contributes significantly to their level of well-being.
- This income effect causes changes to household demand functions effectively changing their budgetary constraints and allowing a command over goods and services that is higher than apparent from household cash income alone.
- The effect of this becomes apparent when comparing the budget or income effect of government renters, which has an average value of $28.40 per week, with government pensioners and beneficiaries in private rental markets who in 1988-89 received extra cash assistance to a maximum of $15 per week.
- The case is more complex for community services where a range of benefits from total care in nursing homes to subsidised child care are provided, but to a very narrowly defined group

of recipients. Child care fee relief in 1993 had a recipient value of $4625 p.a. and this assistance is not included in cash income analysis.

- While no detailed Australian analysis has been undertaken, due to the lack of an official poverty line, the significance of non-cash transfers is highlighted by the U.S. Congressional Budget Office which estimates that the inclusion of in-kind benefits in income statistics would cause the number of people in poverty in the U.S. to decline to approximately 9 million compared with the official poverty statistics showing nearly 25 million people in poverty. (US Department of Commerce 1984)
- The inclusion of social wage benefits in poverty analysis can change the relative and absolute income levels of certain households and thus alter the outcomes of income redistribution and poverty analysis. Conversely the exclusion of non-cash benefits can lead to the relative disadvantage of different groups being misrepresented.

The Institute is currently updating this work and the following section provides a summary of the work currently under way (forthcoming discussion paper).

The effect of housing, health and community services outlays on households in 1993-94

In 1993-94 the size of government non-cash social outlays across all levels of government in Australia was:

- Health: $23,537 million
- Housing: $3,820 million
- Community services: $6,319 mill
- Education services: $19,748 mill

For health, housing and community services outlays this represents a subtotal of $33,676 million. This compares with cash income support outlays of the Department of Social Security(DSS) and Department of Veteran's Affairs(DVA) of cash transfers of $40,133 million in the same period.

Main results from the 1993-94 analysis show:

- In 1993-94, government outlays on health, housing and community services for households averaged $84.76 per household per week.
- The average per capita government outlay for people in the 20% of households with the lowest incomes was just under twice that for all people.
- Out of pocket health expenses for disadvantaged households were low. Governments provided 79% of total health care expenses for low income households compared with an average of 69% for all households.
- Housing costs for government renters were 76% of the average housing costs for all households .
- Households which had disability support pensions as their principal source of income received over three times the average benefit from community services.
- The value of government provision of pharmaceuticals for aged pensioner households was on average $9.65 per week.

- Approximately 14% of households in the lowest quintile were government renters. Their average benefit was equal to $59.80 per household.
- The average value to all government renters was estimated to be $54.23 per week.
- Household renting public housing in New South Wales received the highest benefits of all States which were equal to $66.99 per week. The lowest benefits were received by households in the Northern Territory who received benefits of $40.24 per week.
- Community services contributed $19.38 per household per week, with over two thirds of the total outlays being directed to the lowest two income quintile groups. The largest average value of $35.48 was in the second lowest income quintile and the smallest average weekly benefit of $4.68 occurred in the highest quintile.
- Households which had government pensions and allowances as their principal source of income received more than double the average benefit from community services. Households which had age pensions and disability support pensions as their principal source of income received particularly high benefits of $54.03 and $63.64 per week respectively.

Changes to income distribution

- Non-cash benefits enhanced rather than offset the redistributive effect of government cash transfers.
- The gap between the incomes of the richest and poorest was less when health and welfare outlays are included.
- The average income of the poorest 20% of the population rose by 30% from $152 to $217 a week while the average income of the top 20% rose by only 3% when non-cash health and housing benefits were added to income.

   Ignoring how this mix affects poverty measurement can create significant problems. Changes over time in the mix of cash and non-cash benefits going to particular groups will impact on the reliability of either absolute or relative measures of poverty.

Measurement issues:

   There are a number of issues that are currently being examined:

- The use of expenditure /income ratios and relationships
- Household level analysis and income unit data
- Measuring amenity aspects such as security of tenure in public housing
- improved concepts and methods
- data availability

Problem areas

   Particular issues that need further examination are:

- the quality of allocations for community service areas - child care, aged and disability;
- concerns regarding quality of the 1993-94 HES data - it reports 470,000 public renter households while housing authorities report only 380,000 households;

- allocating benefits to persons in non-private dwellings

The effect of location and distance on disadvantage

An important concern relating to poverty has been measuring the impact of geography in terms of prices and access to services and opportunities. This has been a most problematic are due to:

- poor availability of detailed data on prices, income and expenditure for small areas; and
- a lack of established analytical concepts and methods for interpreting the large numbers of variables and observations for summary or surrogate measures that may be available from data from population censuses.

Currently, the best source of data providing comparable and consistent coverage for small areas is the ABS Population Census. This section of the paper examines approaches that provide a measurement of location into the analysis of poverty. Two approaches are discussed:

- the use of socio-economic indexes from the Population Census to examine the effect of location on disadvantage; and
- incorporating variations in costs into the analysis of housing and poverty.

The ABS socio-economic indexes

For the 1986 Population Census the ABS produced four sets of socio-economic indexes to provide a summary or overview of areas. Each index summarised a different set of underlying variables from the 1986 Population Census. Three of the ABS indexes have been used to study issues around locational disadvantage:

- Index of relative socio-economic disadvantage;
- Economic resources index; and
- Index of education and occupation

The indexes are derived using principal component analysis of 1986 Census data. Each index has been designed to have an average across all Collectors Districts (CDs) in Australia of 1000 and a standard deviation of 100 index points. A similar set of indexes was produced for the 1991 Population Census.

The indexes reflect the status of an area , rather than the status of individuals. It is possible for a person possessing high-status attributes to be resident in a CD which may have a low score on some or all of the indexes. It is not appropriate to make inferences regarding a particular individual on the basis of the index scores. For example, the Relative Socio-economic Disadvantage Index summarises 21 variables related to economic resources of

households, education, occupation, family structure and ethnicity. An area has a low value on the index if it contained a large proportion of households with low status attributes.

In the 1986 Census there was an average of 350 dwellings in each urban CD, with this declining in rural areas as population densities decreased. This standard figure reduced to 250 for the 1991 Census, which reduced the ease of any inter-Censal comparisons between CDs based on their sizes. A detailed definition of CDs and their structure is to be found in the ABS 1986 and 1991 Census Dictionaries Catalogue, ABS Catalogue Number 2901.0. More detail on the derivation and application of these indexes is contained in the ABS publication, Socioeconomic Indexes for Areas, ABS Catalogue No. 1356.0.

The index of relative socio-economic disadvantage

This index provides a broad indication of the overall socioeconomic profile of an area. The main limitation of this index is that while it recognises some aspects of income and expenditure the data are not detailed and several questions regarding their quality have been raised. The index also excludes factors such as inherited wealth, savings, indebtedness, and differences in property values and living costs between regions.

The variables used to compile the index of relative socio-economic disadvantage focus on attributes such as the percentage of:

- families with incomes of less than $12,000 pa,
- households with no cars,
- houses with one or no bedrooms,
- households renting, both privately and in public housing,
- private dwellings housing two or more families,
- households in improvised accommodation,
- the population without formal qualifications,
- the population who left school before the age of 15,
- employed people in a range of occupational categories,
- unemployed people,
- sole headed families,
- people over 15 years old who are separated or divorced, and
- people with a range of ethnic backgrounds and those lacking fluent English.

Economic resources index

The index of economic resources reflects the economic profile of families, using a range of variables which include the percentage of:

- households purchasing the dwelling,
- households with three or more motor vehicles,
- households with four or more bedrooms,

- the average number of bedrooms per person,
- households renting privately,
- single parent families with incomes greater than $40,000,
- two parent families with incomes greater than $40,000,
- mortgages greater than $600 per month,
- rent more than $l50 per week, and
- group households.

Education and occupation variables were excluded because they were highly correlated with the income variables. Generally a high score indicates households with high incomes and mortgages in large houses, while a low score means that the CD has a high proportion of people on low incomes in small dwellings.

Index of education and occupation

The variables used to derive the index of education and occupation include the percentage of the population:

- with degrees or higher education, trade, other qualifications or none;
- who never attended school or who left at 15 years of age;
- aged 15 years and older who are at school, at TAFE, at CAE or university;
- employed as managers or administrators, professionals, para-professionals, trade-people, clerks, sales or personnel workers, labourers, both men and women,
- unemployed, men and women.

This index was designed to classify the educational and occupational structure of each CD. It does not distinguish between current activities and completed educational qualifications and contains no income component.

The Local Area Research Studies on Locational Disadvantage

One of the first applications of these Census indexes to the issue of poverty was in the Local Area Research Studies (LARS), conducted as part of the Commonwealth Government's 1990/91 Social Justice Strategy. (Department of Health, Housing and Community Services 1991) These studies examined the relationship between the planning and provision of services and infrastructure and locational disadvantage. The approach was similar to the area studies conducted as part of the Henderson Inquiry (Commission of Inquiry into Poverty 1975a,b).

Their principal aim was to examine how socioeconomic disadvantages are exacerbated by where people live because of differing levels of access to affordable housing, employment, training and education opportunities, and physical and social infrastructure. The studies sought to assess the way in which inequity or inefficiencies in the provision of infrastructure and services may worsen the situation of disadvantaged groups.

Locational disadvantage was defined as:

"disadvantage, primarily as a result of geographic location, in gaining physical access to employment and training, community, health and education services and facilities such as public transport and physical infrastructure."

In relation to poverty measurement the interest is in the attempt to combine data on populations, services and infrastructure. A major component of the studies was the examination of the range of nationally comparable and locally specific data for the 10 LGAs in which the studies were undertaken. Six studies were undertaken in urban fringe areas and four in non-metropolitan areas.

In each of the areas a series of colour maps were produced showing values for each CD in the LGA for each of the three ABS indices. The following page presents a copy of the map for the area of Elizabeth in South Australia. Maps of population density were also produced.

Population density is defined as the number of people per square kilometre. Because CD boundaries encompass similar numbers of dwellings they can provide more detailed picture of population density within the LGA. Areas of greatest socioeconomic disadvantage in the study areas did not always correspond with areas of densest population, although there tended to be more disadvantage in the more densely settled areas.

The use of a single variable, or index, which reflects several aspects of the disadvantage in the study areas was seen a useful aid to assist in the social and economic analysis being undertaken. Many aspects of the socioeconomic profile of a community cannot be measured directly but there may be several variables which are recognised as contributing to a particular dimension.

The studies found that in both urban fringe and non-metropolitan areas, disadvantaged groups were further disadvantaged due to their location. Factors underlying this 'double disadvantage" were:

- inadequacies in the regional or urban planning and development process;
- poor public transport;
- limited regional employment opportunities;
- failure to match service provision to population growth; and
- general service delivery problems.

Insert Elizabeth LGA CD map

While such studies have policy implications they also raise several poverty measurement issues:

- how can detailed data about an area be related to the well-being of individual households?
- can measures such as the ABS indices be incorporated into mainstream cash poverty analyses?

While work is progressing in Australia in examining how to make better use of such data in measuring poverty it has opened up a range of measurement issues on how to relate cash household poverty measures to broader notions of disadvantage.

Incorporating variations in costs into the analysis of housing and poverty: the 1995 AIHW model of housing needs

The issues surrounding the effects of non cash benefits and locational variations on poverty measurement are illustrated in an analysis of housing need undertaken by the institute and published in its bi-ennial report, "Australia's Welfare Services and Assistance 1995".

The analysis incorporated concerns that the relationship between poverty and housing costs was more complicated than a purely financial one. The study quantified several important components of the relationship namely, affordability, location and adequacy of dwelling.

The model used 1991 Population Census data to analyse housing needs and poverty allowing for the effects of:

- different family sizes and types;
- regional differences in living expenses;
- the cost of non-housing items;
- non-financial aspects of housing and poverty.

The AIHW undertook this analysis on the 1991 Census data using the Henderson after-housing poverty line and the Canadian National Occupancy Standard to identify those requiring housing assistance. The restrictions of using the limited range of Census data items on housing and income and two measures, the Henderson poverty line and the Canadian National Occupancy Standard, both of which are only one of several possible methods, means that the analysis can be considered only indicative.

Following the analysis the high number of households with incomes below the statutory levels of assistance in Australia raised the question of whether Census data is a reliable source for income analysis of the detail required. This issue is difficult to solve as eligibility periods, the duration of spells in and out of cash poverty and lack of data on assets of the type used to determine eligibility are not recorded for the Census.

A problem with the 1991 Census was the collection of only range data rather than actual dollar values for income and housing costs. This was addressed by the development of techniques to model the range distribution to derive point estimates.

The major assumptions incorporated into the model were:

- Affordable housing costs vary with household size and composition
- a low-income benchmark be incorporated dependent on household size and composition and household location; and
- households with no capacity to pay housing costs due to income being below a pre-determined amount should be separately identified.

The analysis produced from the 1995 AIHW model of housing needs is still widely used by some agencies to provide indications of those requiring assistance. While the assumptions used in this model have been criticised its underlying approach provides the breadth of variables relevant to examining housing assistance issues. The model is still the only Australian model that examines affordability, appropriateness and adequacy allowing for variations in household size and regional variations in rents.

The Institute is currently examining the components of the model in light of these criticisms to develop a series of modules that would be able to examine the issues of affordable, appropriate and adequate housing, under different sets of assumptions. The Institute is also examining ways of incorporating other aspects which are difficult to quantify such as amenity, physical quality, location and security of tenure. Similarly the issue of including data on homelessness into such analysis is yet to be addressed.

Summary

While Australia has no official poverty measure there is continuing data development and analysis being undertaken by statistical agencies, government policy makers and researchers to provide improved measurement and debate on how Australia should examine poverty. This interest extends both locally and internationally as further development of poverty measure relies heavily on the experience of all others who have grappled with these statistics.

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