

Accounting for Social Transfers In Kind (STIK) in a New Poverty Measure: A Comparison of Australia and the U.S.

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Abstract

In all rich countries, households receive cash, noncash or in-kind social benefits from governments. Social Transfers In Kind (STIK) include a variety of goods and services such as health care, education, housing, long-term elderly and disability care, childcare and child welfare services, transport concessions, nutritional and home energy assistance. The goals of this research are to examine the impact of the important in-kind benefits on economic wellbeing and poverty in Australia and the U.S. The methodology followed is based on the methods used to construct the new U.S. supplemental poverty measure (SPM). In November 2013, the U.S. Census Bureau in cooperation with the U.S. Bureau of Labor Statistics released its third report on the SPM.¹ The SPM uses poverty thresholds that represent a dollar amount spent on a basic set of goods that includes food, clothing, shelter and utilities, and a small additional amount to allow for other needs. Adjustments reflect the needs of different family types and geographic differences in housing costs. These thresholds are compared to a measure of resources available to households (also referred to as economic/consumer units) to meet these basic needs. Resources include both cash and noncash benefits and subtract 'necessary expenses' such as taxes and expenses for health care and childcare. Subsidies provided to consumer units to help meet these needs reduce the amount spent for those who receive the benefit. This paper calculates similarly constructed SPM poverty lines and measures of consumer unity resources using Australian and U.S. survey data. Also included are comparisons of levels of need represented by the thresholds as well as comparisons of the effects of receipt of in-kind benefits and of tax policies. A comparison of the distribution of SPM resources as well as poverty rates indicates differences in economic wellbeing between the two countries that take account of in-kind benefits.

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¹ Short, K., the Research Supplemental Poverty Measure: 2012, *Current Population Reports* No P60-247 (November 2013), US Census Bureau.

1. Introduction

This paper presents a new poverty measure, the Supplemental Poverty Measure (SPM), for two countries, Australia and the U.S. that takes into account taxes, cash and noncash benefits received by households, and measures the effect of government programs on out-of-pocket spending for necessary items such as food, clothing, housing and health care. Comparing the measure for the two countries sheds light on the relative affordability of basic needs and the means that households have to meet those needs. Of particular significance, as the analysis in later sections shows, is the comparison of health care costs, overall, and among those defined as poor in the two countries.

The construction of the SPM for both Australia and the U.S. allows a comparative assessment of the effectiveness of noncash benefits in increasing economic wellbeing and reducing poverty rates in the two countries. An examination of necessary expenses, such as medical out-of-pockets spending or spending for childcare, further allows comparisons of Social Transfers In Kind (STIK) across countries insofar as spending for health care or childcare reflects the availability and generosity of benefits to meet these needs. Comparing private spending for these services for a country like Australia, that has a largely free at point of delivery national health care service and reasonably generous child care benefits to those in a country like the U.S., where there are none, can be seen as a measure of the effectiveness of these programs. However, STIK are supported by taxes. Torrey and Jacobs (1993) showed in their comparison of household spending in Canada and the U.S. that, while Canadian households spent more on taxes and U.S. households spent more on health care, combined taxes and health spending in the two countries was similar. More recent analyses (e.g., Huber and Orosz 2003; Garrett and Mitchell 2001), as well as our own interpretation presented below, shows diminishing evidence in support of this trade-off between health care expenses and tax expenses. Because the SPM also accounts for taxes, we examine differences between Australia and the U.S. in these necessary expenses across subgroups of the population and assess the redistributive effects of the tax and transfer policies with a particular focus on health care.

This paper is organized as follows. Section 2 discusses the role of social transfers in kind in supporting living standards and reducing poverty and how we might best take account of these for cross country comparisons. Section 3 describes the construction of the SPM, followed by a discussion of the data used to construct the thresholds and a measure of resources. The results section compares poverty rates using a relative poverty measure and the SPM for both countries, looks at the distribution of the resource measures for the whole population, and examines the individual elements of the SPM thresholds and resources across Australia and the U.S., including the incidence of transfers, taxes, and important necessary expenses.

2. Social Transfers in Kind

In this section we focus on both the valuation of social transfers in kind, and their incorporation in a poverty measure. We focus in particular on health care, which can take the form of a public or a private in-kind transfer, or as a paid-for service, in both Australia and the U.S.

Valuing social transfers in kind

Cross-country comparisons of economic wellbeing are important, in terms of understanding both policy effects on wellbeing and the impact of growing economic disparity in recent years. Generally, distributional comparisons across countries are made using cash income, though many scholars have noted that other resources also affect economic wellbeing. Families pay taxes and receive benefits in return in the form of public services. Benefits are in the form of cash transfers, noncash benefits and services such as health care, social housing, or national defense. In both Australia and the U.S., many of these services are provided at the national level, but there are also services provided at the state and local level such as fire, safety, sanitation services and education services.

There are many issues involved in including noncash benefits and government services in measures of wellbeing, conceptual and methodological.³ The first task is to determine which benefits should be included. Some items benefit all households together, such as defense spending, while others benefit individual households differently such as health and housing expenditures. Second, how do we value these benefits? Respondents to household surveys often cannot report the value of the benefit and sometimes there are no market prices available on these items to determine value. A third challenge is how to distribute noncash benefits and services across families or individuals in a way that allows an improved understanding of resulting distributional effects. In general, our surveys may not adequately collect information on the use of publicly provided services.

Many studies have examined the impact of publicly provided benefits on the distribution of resources (e.g., Ruggles and O'Higgens, 1981, Smeeding, 1982, Garfinkel et al., 2006, Organization for Economic Cooperation and Development (OECD), 2008, Sutherland and Tsakloglou, 2009, Verbist et al., 2012). These studies show the importance of accounting for these benefits in changing the perception of the distribution of resources across households. Verbist et al. (2012) found that on average across OECD countries, spending on "in-kind" benefits accounted for about 13% of GDP, slightly more than spending on cash transfers. Broadening the income concept to account for in-kind benefits considerably increases households' economic resources and reduces inequality of their distribution.

Garfinkel et al., (2006), found that one-half of welfare state transfers in rich nations comprise in-kind benefits such as health care, education and other services. They showed that taking account of these at cost, and including indirect taxes used to finance transfers, substantially reduced cross-national differences in inequality. They show that the 'Anglo Saxon' nations, including Australia and the U.S., spend relatively more on noncash benefits relative to cash benefits, than other nations, and much of that spending is toward health care.

³ OECD (2008)

Due to the importance of health care in transfers, it is worth outlining differences in health care systems in Australia and the U.S. The United States is the only OECD country that lacks a universal health insurance system (Starfield 2010: 1035); although it does offer near universal care to the elderly (and select other populations like those receiving end-stage renal disease treatments) through Medicare, to the poor through Medicaid, and to veterans and military personnel and their families. The remainder of the U.S. health care system is for the most part funded by employer-based health insurance (Barr 2011: 262). For employer-provided medical insurance, employees usually pay part of the premium (through deductions from salaries or wages) and the employer pays part; although there are cases where the employer pays the full amount of the premium. Individuals with insurance will pay a set amount for each service received or a percentage of the total costs; benefits depend on the policy benefits and differ across employers and policy types. Australia is also unique among OECD countries, as it presents a mixed private-public system (Blendon et al. 2002: 182) where a universal public health system coexists with a publicly subsidized private health insurance system (Kay 2007: 580). In Australia, a publicintegrated model based on a wide network of public hospitals exists alongside a public-contract model that covers privately provided out of hospital medical services (Medical Benefits Scheme) and subsidizes prescription drugs (Pharmaceutical Benefits Scheme) and a largely voluntary private insurance/provider model (Cook and Dzator 2005: 5). Ultimately, however, private insurance duplicates the coverage already provided by the government and is mainly utilized to increase the choice of providers available to individuals and reduce waiting times (Docteur and Oxley 2004: 22).

Garfinkel et al. (2006) describe the difficulty with some of the issues in valuing noncash benefits in general, and health care in particular. They note in particular that employer-provided health insurance benefits, so important in the U.S. system, may be difficult to value. Further, while many studies value in-kind benefits at production cost or aggregate expenditures (this approach is taken in Australian fiscal incidence studies; see ABS, 2012), this neglects efficiency in the provision of services. In summarizing their results, Garfinkel et al. (2006) note that there are good reasons to believe that the value of in-kind benefits to recipients might be either higher or lower than cost. Indeed, while U.S. spending on healthcare is very high relative to other countries, there is evidence that health outcomes are not better than other countries that spend less.⁴

Radner (1997) criticizes the approach taken in the studies listed above, noting that not enough attention is paid to the importance of consistency between the specifications of resources and that of needs in these comparisons of economic wellbeing. He states that using the same equivalence scale regardless of the definition of resources is inappropriate.⁵ The addition of noncash benefits to income requires a respecification of equivalence scales that also incorporate differences in need for that benefit across subgroups of the population. Adding in the value of Medicare benefits, a program primarily available to the elderly population in the US, without also specifying the greater need this group has for those benefits, will overstate the wellbeing of this group when those benefits are included.

⁴ Schoen et al., 2013.

⁵ See Daley et al., 2014 for a discussion of differences in equivalence across countries with difference social welfare programs and economies.

Callan and Keane (2008) are also critical of typical approaches. They note that using the average cost of the provision of benefits is problematic. If teachers' salaries increase, for example, the average cost of education rises and more benefits are added to income even though there is no real increase in 'output'. This point is relevant in the comparison of Australia and the U.S., as salaries paid to health care workers in the latter country are higher than those in the former (Banthin et al. 2008: 188; Anderson et al. 2003: 98). However, that does not necessarily mean that the quality of health care staff in the U.S. is higher.

Callan and Keane (2008) further stress the notion of consistency, that applying education benefits to families with children should also include a change in the equivalence scale that adds additional need for these services by such families. In their study, Verbist et al. (2012) address the equivalence scale problem by testing two approaches, one used by Aaberge et al. (2010) and another by Paulus et al. (2010). They show that the effects of including noncash benefits in income on inequality measures are sensitive to assumptions made about needs for those benefits.

Incorporating the value of social transfers in-kind into a poverty measure

Discussions surrounding the importance of publicly provided health care benefits were a part of the proposed improved poverty measure in the U.S. by a National Academy of Sciences (NAS) panel.⁶ The NAS panel was concerned that a poverty measure would overstate the extent of poverty if these transfers were not included as part of household income. The discussion centered on maintaining consistency between poverty thresholds and the resources used in their proposed measure. The NAS panel reviewed previous studies that had included health care benefits to income (Bureau of the Census, 1988a and 1988b) and noted that these estimates, in which the value of public and private health insurance benefits is added to families' income, violate the consistency principle. They noted that "... to add the value of health insurance benefits to income (in whole or in part) but not to add any amount to the poverty thresholds—to allow either for medical care needs that would be covered by insurance or for higher out-of-pocket expenses—is to ignore completely the increased costs of medical care and to assume the fungibility of medical care benefits." This approach is perverse, particularly for people with high health care needs (who may also have above-average out-of-pocket costs)."⁷

Instead, the NAS panel proposed an approach that separates the measurement of economic poverty from the measurement of medical care needs and the adequacy of resources to meet those needs. They cited several participants in the Census Bureau's 1985 Conference on Measurement of Noncash Benefits, including Ellwood and Summers (1985), Ward (1985) and Smolensky (1985), who had taken similar positions. The NAS panel followed the suggestions of Moon (1993), who recommended a two-index poverty measure that would have a nonmedical needs threshold that would be compared with income minus actual out-of-pocket medical care expenditures (the SPM) and a second index that would represent the sufficiency of basic insurance to meet a family's health care needs. The NAS panel proposed, rather than adding medical insurance benefits to income, MOOP expenses should be subtracted from cash income. They argued that this approach captures the effect of the health care system and health status on economic wellbeing and is sensitive to differences in health care financing

⁶ Citro and Michael, 1995.

⁷ Citro and Michael, p. 231.

systems. As health care subsidies increase, MOOP expenses should fall. Further, since no health care benefits are added to income, there is no lack of consistency with the measure of need that does not include needs for health care. The NAS panel stressed the importance of consistency across the threshold and resource measures. Garner and Short (2010) discussed the importance of consistency in the NAS proposed measure.

Some studies have proposed this alternative approach in an international context: rather than adding aggregate public expenditure to income and making assumptions about distributions, they compare outof-pocket expenses incurred by households.⁸ Torrey and Jacobs (1993) looked at spending from a household perspective in Canada and the U.S. rather than aggregate administrative costs to compare the two countries. While this approach does not control for quality or efficiency, it may more directly answer questions about household economic wellbeing. They noted that on average, Canadian households paid about half what U.S. households paid for health care out of pocket but that Canadian households paid more in taxes, about twice the amount. The biggest differences they found were for the elderly where in the U.S. expenditures fell more heavily on this group as they aged than for the Canadian elderly. More recent aggregate-level studies show, however, that in the last few years MOOP expenses as a share of total household consumption have steadily risen in most OECD countries, including Canada and Australia. Recent OECD data shows that MOOP expenses accounted for 2.9 per cent of total household consumption in Australia and in Canada, and 3.1 percent in the United States (OECD 2011).

If our interest is in a measure of economic well being of households, this alternative approach may be a more effective method. Rather than imputing values of aggregate costs of supplying services to individual households, one can examine differences in spending by households for the services of interest. Other elements are also treated in this *indirect* way in the SPM. The SPM subtracts amounts spent by families with small children on childcare services, and expenses directly associated with working, as well as out of pocket spending on health care. Subsidies to child care, work-related transportation, and health care reduce out of pocket spending by households, and as such, subsidies are accounted for, albeit indirectly, in the SPM. Other in-kind benefits added to income include free and reduced school meals, free food for pregnant women and young children, housing benefits, and energy costs. These too reduce out of pocket spending for households. Given this treatment of in-kind benefits (of these, only housing benefits represent a significant subsidy in the Australian case), we turn to an examination of the SPM as a tool to compare economic wellbeing that takes account of in-kind benefits across Australia and the U.S.

3. The U.S. Supplementary Poverty Measure (SPM)

Concerns about the adequacy of the official U.S. poverty measure have increased over the past decades (e.g., Ruggles, 1990), culminating in a Congressional appropriation in 1990 for an independent scientific study of the concepts, measurement methods, and information needed for a poverty measure. In response, the National Academy of Sciences (NAS) established the Panel on Poverty and Family

⁸ Gardiner et al., 1995.

Assistance, which released its report, titled *Measuring Poverty: A New Approach*, in the spring of 1995 (Citro and Michael, 1995). Much research ensued over the next 15 years on the NAS measure; this included work at the federal, state, and in one case, the city level (New York City). Assumptions varied and suggestions for improvements in the measure were made.

In March of 2010, the Interagency Technical Working Group on Developing a Supplemental Poverty Measure (ITWG) listed suggestions for research on the SPM. The ITWG was charged with developing a set of initial starting points to permit the U.S. Census Bureau, in cooperation with the U.S. Bureau of Labor Statistics (BLS), to produce a report on the SPM that would be released along with the official measure each year. Their suggestions included:

- The SPM thresholds should represent a dollar amount spent on a basic set of goods that includes food, clothing, shelter, and utilities (FCSU) and a small additional amount to allow for other needs (e.g., household supplies, personal care, non-work-related transportation). This threshold should be calculated with five years of expenditure data for consumer units with exactly two children using Consumer Expenditure Survey data, and it should be adjusted (using a specified equivalence scale) to reflect the needs of different consumer unit types and geographic differences in housing costs. Adjustments to thresholds should be made over time to reflect real change in expenditures on this basic bundle of goods at the 33rd percentile of the expenditure distribution.
- *SPM family resources* should be defined as the value of cash income from all sources, plus the value of noncash benefits that are available to buy the basic bundle of goods (FCSU) minus necessary expenses for critical goods and services not included in the thresholds. In-kind benefits include nutrition assistance, subsidized housing, and home energy assistance. Necessary expenses that must be subtracted include income taxes, Social Security payroll taxes, childcare and other work-related expenses, child support payments to another household, and contributions toward the cost of medical care and health insurance premiums, or medical out-of-pocket costs (MOOP).⁹

Following the recommendations of the NAS report and the ITWG, for this analysis SPM resources have been estimated as the sum of cash income; plus any federal government noncash benefits that consumer units can use to meet their FCSU needs; minus taxes (plus tax credits), work expenses, and out-of-pocket expenditures for medical expenses. These are adjusted by a three-parameter equivalence scale, and a factor that accounts for geographic differences in housing costs 9see below). Table 1 summarizes the differences in the construction of the SPM, and a relative measure of poverty. The relative measure used extensively in international research on poverty (for example, see OECD, 2008) compares household disposable income (defined as cash income minus taxes paid on that income) to a relative threshold. In-kind benefits are not included as income. However, tax credits, such as the U.S. Earned Income Tax Credit are included. Calculations use the square root of family size as an equivalence scale and set the poverty threshold at 50 percent of the median disposable income.

⁹ For information, see ITWG, *Observations from the Interagency Technical Working Group on Developing a Supplemental Poverty Measure* (Interagency), March 2010, available at <u>www.census.gov/hhes/www/poverty/SPM_TWGObservations.pdf</u>, accessed July 2014.

	Supplemental Poverty Measure	Relative Poverty
Measurement Unit	All related individuals who live at the same address, any co-resident unrelated children who are cared for by the family (such as foster children), and any cohabiters and their children. (consumer unit)	Household
Resource Measure	Sum of cash income, plus any federal government in-kind benefits that families can use to meet their food, clothing, shelter, and utility needs (FCSU), minus taxes (or plus tax credits), minus work expenses, minus out-of-pocket expenditures for medical expenses.	Disposable Income
Poverty Threshold	The mean of the 30 st to 36 th percentile of FCSU expenditures of all consumer units with exactly two children	50 % median equivalized disposable income
Threshold Adjustments	Three parameter equivalence scale Adjust for geographic differences in housing costs using 5 years of ACS data	Square root of household size
Updating thresholds	Five year moving average of expenditures on FCSU within the 30 th to 36 th percentile	Annual update

Table 1: Supplemental and relative poverty measures compared

The information in Table 1 therefore suggests how not only poverty estimates, but also the characteristics of people defined as being in poverty, could vary across the two definitions. Both thresholds are relative to some degree, although the SPM threshold includes significant 'absolute' elements, and is calculated from a subset of total expenditure rather than total income. Both resource measures count cash income, net of tax, as the (likely) principal resource measure. But the SPM measure additionally subtracts some costs that could be substantial, depending on households' demographic characteristics, their relationship to the labour market, and policy provision. As argued above, for example, MOOPs are likely to be higher for people (such as the elderly, or households with very young children) who use health care services more; but they are also likely to be associated with the degree to which countries socialize health care costs. It is possible, therefore, that the SPM can identify in a policy-useful way categories of households that are vulnerable to poverty, and that may be overlooked by the summary relative measures conventionally used in international comparisons.

4. Data

The work presented in this paper uses three large nationally represented surveys, one for the Australian estimates, and two for the U.S. estimates.

Australia - Household Expenditure Survey and the Survey of Income and Housing (HES-SIH)

The main purpose of the Household Expenditure Survey (HES) is to collect detailed and nationally representative information on patterns of expenditure among Australian households. It is conducted at roughly six-yearly intervals, the most recent being the survey carried out in 2009-10. The Survey of Incomes and Housing Costs (SIH) is conducted every two years, and every six years it is run jointly with the HES on a partially overlapping sample - the HES sample is a subset of the SIH sample, which in turn is drawn from the larger sample drawn for the monthly Labour Force Survey. The HES and SIH, while aiming to be nationally representative, exclude people who live in institutions, including nursing homes for the elderly and prisons.

As the title of the HES suggests, the household is the basic unit of analysis because it is assumed that the sharing and use of goods and services occurs at this level. Information is collected on housing tenure and costs, and household structure, including different income units and families living together. Respondents are also asked to record all their personal expenditure over a two week period in a special diary. The SIH collects information on income and social transfers received. Age, sex, martial status, relationship to other household members, education and employment situation of individual household members aged over 15 is also recorded in personal interviews. Information on the value of different in-kind benefits provided through public services calculated for the Australian Bureau of Statistics' (ABS) fiscal incidence studies are attached to the information for each household. This includes information on the imputed value of health care, education, welfare services, housing and other services provided to households, with the value of these services imputed based on household characteristics, incomes and location.

In this analysis, the HES from 2003-04 and 2009-10 are used to derive a poverty threshold using the SPM method. The total size of the two combined datasets is 16,731 observations. Of these, 1,989 comprise households with two adults and exactly two persons aged under 18 years, the specific group from which SPM thresholds are calculated. Values for food and clothing are calculated from detailed two week diaries completed by all sampled household members aged 15 years and over. Values for shelter and utilities are derived mostly from information given by the household reference person in personal interviews, usually relating to most recent bills paid (for example for rent, mortgage, phone or energy). Data from both the HES and the SIH 2009-10 are used to calculate household incomes (with data gathered from each household member aged over 15 years) and costs that are subtracted from those incomes, including child care (expenses over three months prior to interview), work expenses (mostly two-week diary) and MOOP (two-week diary, and interview data on recent health insurance payments).

U.S. - Annual Social and Economic Supplement (ASEC) of the Current Population Survey (CPS)

The estimates in the report *The Research Supplemental Poverty Measure: 2010* come from the 2011 Annual Social and Economic Supplement (ASEC) of the Current Population Survey (CPS). The U.S. Census Bureau conducts the ASEC over a 3-month period, in February, March, and April, with most data collection occurring in the month of March. The ASEC uses two sets of questions, the basic CPS and a set of supplemental questions. The CPS, sponsored jointly by the U.S. Census Bureau and the U.S. Bureau of Labor Statistics, is the country's primary source of labor force statistics for the entire population. The U.S. Census Bureau and the U.S. BLS also jointly sponsor the ASEC.

The monthly Basic CPS collects primarily labor force data about the civilian non-institutionalized population living in the United States. The institutionalized population, which is excluded from the population universe, is composed primarily of the population in correctional institutions and nursing homes (98 percent of the 4.0 million institutionalized people in Census 2010). Interviewers ask questions concerning labor force participation about each member 15 years old and over in sample households. Typically, the week containing the nineteenth of the month is the interview week. The week containing the twelfth is the reference week (i.e., the week about which the labor force questions are asked).

In addition to the basic CPS questions, interviewers asked supplementary questions for the ASEC. They asked these questions of the civilian non-institutional population and of military personnel who live in households with at least one other civilian adult. The additional questions covered the following topics: household and family characteristics, marital status, geographic mobility, foreign-born population, income from the previous calendar year, work status/occupation, health insurance coverage, program participation, and educational attainment. Including the basic CPS sample, approximately 98,100 housing units were in sample for the ASEC. About 83,200 housing units were determined to be eligible for interview, and about 75,500 interviews were obtained.

U.S. - Consumer Expenditure Survey (CE)

The U.S. Consumer Expenditure (CE) Survey is the data source used for the production of the SPM thresholds. The CE Survey is composed of two components, the Interview and the Diary. The Interview is used to collect expenditures on almost all goods and services purchased by consumers in the U.S. The Diary is designed to collect expenditures that are frequently purchased items. The Interview is used to collect expenditures over the three months prior to the interview, with data collected up to four times for each consumer unit. The Diary is a weekly record-keeping of frequently purchased goods and services; each consumer unit is to provide data for two consecutive weeks. As for the CPS, data are collected from samples of households selected to be representative of the U.S. non-institutional population. The collection unit is the consumer unit.¹⁰

We use the Interview component of the CE Survey as we consider this to be a better source of data for the SPM thresholds. We base this on the fact that the Interview provides a more comprehensive set of expenditures, with one exception, over a longer period of time as compared to the Diary. The Interview includes a more extensive accounting of clothing, shelter, and utilities than does the Diary. The Diary, on the other hand, includes more details regarding food expenditures. In the Interview, global questions are asked regarding food expenditures. Nonetheless, since expenditures for clothing, shelter, and utilities are from the Interview, we use the Interview globally reported food expenditures for our analysis and estimation.

As presented in the Interagency Technical Working Group (ITWG) guidelines, five years of CE Interview data are used to produce the SPM thresholds. For the 2010 thresholds, the collection period of the data begins with 2006 quarter two and ends with 2011 quarter one. The reference period for each quarter of data includes the previous three months prior to the interview month. For example, data collected in

¹⁰ See <u>http://stats.bls.gov/cex/</u> for details on the U.S. Consumer Expenditure Survey.

April 2006 refers to expenditures for January, February, and March 2006. Quarterly expenditures are converted to 2010 dollars using the Consumer Price Index (CPI) All Items CPI U.S. City Average. Annual CPIs are used to adjust all but the last quarter of CE Interview data; for 2011 quarter one data, a quarterly CPI for this quarter is created from monthly CPIs and is used to deflate this quarter's expenditures to 2010 annual dollars.

The SPM thresholds produced for this study are based on quarterly out-of-pocket expenditures for food, clothing, shelter, and utilities (FCSU). Food expenditures implicitly include those made with Supplemental Nutrition Assistance Program (SNAP) benefits and Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) benefits when debit cards are used. It is assumed that consumer units use these debit cards to buy food before other sources of funds. All other expenditures are those made by consumer units out-of-pocket and do not include any subsidy values, for example, shelter expenditures do not reflect the value of housing subsidies and utility expenditures do not include energy subsidies.

To derive the thresholds, expenditures are restricted to those of consumer units with exactly two children; this group of consumer units is referred to as the estimation sample. Data on housing status is used to produce housing tenure specific thresholds. Housing tenure defined as owners with mortgages, owners without mortgages, and renters.¹¹

For this exercise, and for previously published SPM thresholds, quarterly CE data are assumed to be independent although each consumer unit can conceivably be in the threshold estimation sample up to four times. For the production of the 2010 SPM thresholds, five years of data are used and drawn from 139,288 quarterly interviews.

5. Poverty Thresholds

Following the NAS panel recommendations and the suggestions of the ITWG, the SPM thresholds in both countries are based on out-of-pocket spending on food, clothing, shelter, and utilities (FCSU). Five years of Consumer Expenditure Survey (CE) data for consumer units with exactly two children (regardless of the number of adults) are used to create the estimation sample. Unmarried partners and those who share expenses with others in the household are included in the consumer unit. These FCSU expenditures are converted to adult equivalent values using a three-parameter equivalence scale (see below for description) and then converted again to expenditures for consumer units with two adults and two children using the same equivalence scale. The average of the two adult-two child reference unit FCSU expenditures over the 30th and 36th percentile of this distribution in the U.S. (the 25th to 41st percentiles in Australia due to smaller sample sizes) is computed and serves as the basis of the SPM thresholds. Unlike the NAS measure, differences in housing spending needs are accounted for in the SPM. The SPM housing tenure thresholds are produced using the equation below.

SPM $_{i}$ = 1.2 * FCSU $_{A}$ - (S + U) $_{A}$ + (S + U) $_{i}$

¹¹ The CE data, public use as well as internal, include a housing tenure variable; however, for the purposes of producing SPM thresholds we use additional spending data on shelter to refine the housing tenure status variable. For example, when a renter reported mortgage payments but did not report rent payments, we reclassified the consumer unit to be an owner with a mortgage.

i refers to one of three housing tenure groups:Owners with mortgagesOwners without mortgagesRenters

A refers to the entire estimation sample, within the 30th to 36th (25th to 41st in Australian case) percentile range of FCSU expenditures, with FCSU expenditures converted to those for consumer units with two adults and two children without distinction by housing tenure

FCSU, *S*, and *U* refer to the means of these expenditures among estimation sample CUs within the 30^{th} to 36^{th} (25^{th} to 41^{st} in Australian case) percentile range of FCSU expenditures.

To account for differences in housing costs, the average FCSU expenditures are multiplied by 1.2, then overall shelter and utilities expenditures are replaced by shelter and utilities expenditures for owners with mortgages, owners without mortgages, and renters. Table 2 shows annual SPM thresholds for consumer units/households with two adults and two children by tenure type in the two countries in 2010 U.S. dollars (in this paper, all money amounts are expressed in US\$ PPP). U.S. official and relative thresholds for the same consumer unit/household types are also shown for comparison. The relative measure presented here represents household disposable income. Calculations use the square root of family size as an equivalence scale and set the poverty threshold at 50 percent of the median disposable income.

Table 2: SPM and relative poverty thresholds		
for households containing 2 adults and 2		
children, 2010 (US\$ PPP per annum).	US	Australia
U.S. Official measure	\$22,113	\$14,659
Relative measure (50% median disposable		
income)	\$29 <i>,</i> 565	\$25,844
SPM (before geographical adjustment)		
Food (F)	\$7,097	\$7,390
Clothing (C)	\$1,114	\$1,498
Shelter (S) - Owners with a mortgage	\$8,732	\$6,807
Shelter (S)- Owners without a mortgage	\$3,531	\$2,762
Shelter (S)- Renters	\$8,784	\$8,409
Utilities (U) - Owners with a mortgage	\$4,017	\$2,408
Utilities (U) - Owners without a mortgage	\$4,970	\$2,763
Utilities (U) – Renters	\$3,338	\$2,266
SPM - Owners with a mortgage	\$25,018	\$21,721
SPM - Owners without a mortgage	\$20,590	\$18,031
SPM – Renters	\$24,391	\$23,181

Source: U.S. BLS, Consumer Expenditure Survey 2006-2010 and Australian Household Expenditure Survey 2003-04 and 2009-10.

Table 2 shows that for the U.S., the SPM threshold ranges from \$20,590 per year for a two adult two child consumer unit/household that fully owns their home, to \$25,018 for owners with a mortgage. This compares with the U.S. official threshold of \$22,113, and a relative threshold of \$29,565. Australian SPM thresholds are lower than their U.S. counterparts, ranging from \$18,031 per year for a two-adult and two-child household that fully owns its home, to \$23,181 for a household that rents. In Australia, therefore, households that rent have the highest SPM thresholds, while in the U.S., the SPM for households with a mortgage is highest. By way of comparison, the U.S. official measure, converted to Australian values using Purchasing Price Parities to U.S. dollars, is significantly lower in Australia than in the U.S. (this threshold is not used further in this paper).

The Table also shows the expenditures for food, clothing, shelter, and utilities implicit within the thresholds. These are implicit in the sense that they are based on the combined distribution of FCSU expenditures across consumer units, not individual distributions of each commodity or service. In real terms, expenditures for food and shelter are higher in the Australian for consumer units with two children within the 25th to 41st range of FCSU than for these consumer units in the 30th to 36th percentile range of FCSU for the U.S.. On the other hand, real expenditures for shelter are consistently higher in the U.S. Finally, expenditures for utilities in the U.S. SPM calculation are significantly higher than those in Australia in real terms for all tenure types; they also comprise a larger share of the overall SPM threshold for a household containing two adults with two children, ranging from 14 per cent for renters (10% in Australia), to 17 per cent for owners without mortgages (15 per cent in Australia).

Equivalence Scales

The ITWG guidelines state that the "three-parameter equivalence scale" is to be used to adjust reference thresholds for the number of adults and children. The three-parameter scale allows for a different adjustment for single parents (Betson, 1996). This scale has been used in several BLS and Census Bureau studies (Short et al., 1999; Short, 2001). The three-parameter scale is calculated in the following way:

One and two adults: $scale = (adults)^{0.5}$ Single parents: $scale = (adults + 0.8*first child + 0.5*other children)^{0.7}$ All other families: $scale = (adults + 0.5*children)^{0.7}$

In the calculation used to produce thresholds for two adults, the scale is set to 1.41. The economy of scale factor is set at 0.70 for other family types, giving a scale of 2.15 for a household comprising two adults and two children.

Geographic Adjustments

The U.S. American Community Survey (ACS) is used to adjust the FCSU thresholds for differences in the costs of housing across geographic areas. The basis of the geographic adjustment is the value of housing services across areas, not the market value of owned housing .The geographic adjustments are based on 5-year ACS estimates of median gross rents for two-bedroom apartments with complete kitchen and

plumbing facilities. Separate medians were estimated for each of the 264 metropolitan statistical areas (MSAs) large enough to be identified on the public use version of the CPS ASEC file. This results in 358 adjustment factors. For each state, a median is estimated for all non-metro areas (48), for each MSA with a population above the CPS ASEC limit (264), and for a combination of all other metro areas within a state (46). The highest adjustment factor for the U.S. is 1.93, and the lowest is 0.59. For details, see Renwick (2011).

In order to calculate the geographical adjustment factors for Australia, data on rents paid by tenants in three bedroom houses (the most common housing type for households with 2 children), in ten different geographical areas of Australia were used. These data were collected as part of the Survey of Incomes and Housing for 2003-04, 2005-06, 2007-08 and 2009-10. Of 48,738 households in this combined dataset, 15,060 were renting, of which 1,889 had two dependent children. Among these, 1,003 households lived in 3 bedroom houses. It is on rents in this group that the ten geographical adjustment factors were calculated, the highest of which is 1.17, and the lowest of which is 0.63.

Unit of Analysis

In both the U.S. and Australia, the unit of analysis for the SPM is referred to as a consumer unit. Under the Australian definition, consumer units or 'households' are defined as a group of people living together and having common provision for food and other essentials of living. Under the U.S. definitions, a consumer unit comprises people related by blood, marriage or adoption living together, or unrelated people who share two of the following: housing, food, and other expenses. Under both definitions, roomers and boarders are counted as separate 'households' if they do not share expenditures. In order to compare 'households' and ensure national representativeness of the respective samples, sample weights are applied at the 'household' or SPM unit level. Both countries' relative poverty measures include roomers and boarders in the household unit if they do share meals or living expenses.

6. Resources

As noted above, resources aggregated for comparison against the SPM poverty line include cash income less taxes paid on that income, plus in-kind benefits, minus child support, child care costs associated with employment, employment and travel to work costs, and MOOP expenses. In this section, we examine each of these elements in turn.

Cash income

Cash income in both countries comprises income from employment, government cash payments (pensions, allowances, etc.), income from rents and investments, and private transfers. Taxes paid on this income are subtracted from the total. Contributions made by employers (for example, for superannuation/social security or health insurance) are not added to income. This definition is consistent with the Canberra Group definition of disposable income. In both countries, income is measured over the financial year before interview (July 2008 to June 2009 in the case of Australia, and in the previous calendar year, in this case 2010, in the case of the U.S.).

Noncash Benefits

Non-cash benefits play very different roles in U.S. and Australian welfare policy. While the U.S. has a long history of extensive noncash benefit programs, Australia has traditionally relied on cash payments for welfare support. Significant U.S. programs include means-tested food programs such as Supplemental Nutrition Assistance Program (SNAP) benefits (often referred to as food stamps), free or reduced-price school lunches, and the Supplementary Nutrition Program for Women, Infants, and Children (WIC) benefits, and the Low- Income Home Energy Assistance Program and housing subsidies. Housing subsidies in the CPS ASEC are valued with a statistical match to administrative data for information on market rents minus a percentage of reported income that households are required to pay toward their rent.

The only significant Australian non-cash benefits (other than education, health care and disability services) are housing subsidies (the Australian government also provides cash rental assistance, which is included in cash income). Housing subsidies in the form of reduced rent for people in government-provided social housing are estimated in the HES from information on market rents taken from the most recent Census, the subsidy being equal to the average market rent for equivalent properties in their state and region, minus the rent they report paying in the HES.¹²

Necessary expenses

Taxes

For the U.S., the CPS ASEC does not collect information on taxes paid but relies on a tax calculator to simulate taxes paid. These simulations include federal and state income taxes and Social Security payroll taxes. These simulations also use a statistical match to the Statistics of Income (SOI) microdata file of tax returns. A similar tax calculator method is used in the case of Australia, where income taxes (all of which, including the Medicare Levy, are levied by the Federal Government) are also imputed for respondents from information they give on their incomes and other circumstances (ABS, 2012).

Work-Related Expenses

For work-related expenses (other than child care), essentially unavoidable costs associated with employment, the NAS panel recommended subtracting a fixed amount for each earner 18 years or older. Each person in the Survey of Income and Program Participation (SIPP) reports their own expenditures on work-related items in a given week, and the most recent available SIPP data are used to calculate median weekly work-related expenses, including travel to work costs, union dues, special tools, and uniforms. Edwards, McKenzie and Short (2014) estimate median travel to work costs for U.S. workers in 2010 to be \$32. The number of weeks worked, reported in the CPS ASEC, is multiplied by the 85 percent of this median amount for each person to arrive at annual work-related expenses, which averages at \$1,832 per household.

Work-related expenses for Australia are calculated from two sources. Some work related expenses (including special tools, uniforms and union dues) are tax-deductible and therefore reported to tax

¹² ABS(2012) estimates the fiscal incidence of a wide range of benefits in kind for Australia, including education, health care and welfare services.

authorities. Highly disaggregated data by level of taxable income are presented on these deductions in the Australian Taxation Office's annual reports, and this data is used to estimate part of work-related expenses for persons in employment. Tax-deductible work expenses do not include travel to work costs. For the purposes of this analysis, travel to work costs are calculated from transport expenses as reported in weekly diaries in the HES, adjusted using factors derived from transport surveys carried out by the ABS (2013), and from a travel study carried out in Melbourne in 2010 (Inbakaran and Shin, 2010). The former estimates that travel to work costs on average comprise 48 per cent of total car costs, while the latter estimates that 57 per cent of total public transport costs are travel to work related. Consistent with the U.S. approach, total work related costs are multiplied by 85%. Average work related expenses for Australia are estimated at \$2,873 per household.

It should be noted that while methods of estimation of work costs in the two countries are quite different, the difference in average costs is not implausible. The biggest element in work related costs in both countries is travel to and from work. World Bank data show that in 2010, the average price for a litre of gasoline in Australia in 2010 was \$1.27, compared with \$0.76 in the U.S (World Bank, 2014).

Child Care Expenses

Another important part of work-related expenses is paying someone to care for children while parents work. These expenses have become important for families with young children in which both parents (or a single parent) work. To account for child care expenses while parents worked, in the CPS, parents are asked whether or not they pay for child care and how much they spent. The amounts paid for any type of child care while parents are at work are summed over all children. The NAS report and the ITWG recommended capping the amount subtracted from income, when combined with other work-related expenses, so that these do not exceed reported earnings of the lowest earner in the family. This capping procedure is applied before determining poverty status. About 6.3 per cent of all U.S. households report paying child care costs to go to work, paying an average \$5,032 per year.

In the Australian survey, households are also asked to report child care costs, and whether those costs are gross, or net of child care benefits (a cash payment to cover a portion of child care costs), or tax rebates. Child care costs included in the data represent the full costs before benefits and rebates are applied. The HES dataset also includes an estimate of the fiscal incidence of subsidies for child care that are received directly by child care centres. These are excluded in this calculation as they reduce out-of-pocket expenses and are therefore implicitly accounted for in expenses that are incurred. In the Australian data too, total child care expenses are capped at the earnings of the lowest earner in the family. In Australia, 4.8 per cent of households report child care costs averaging \$5,364 per year (after Child Care Benefit is taken in to account).

Child Support Paid

The NAS panel recommended that, since child support received from other households is counted as income, child support paid out to those households should be deducted from those households that paid it. Without this subtraction, all child support is double counted in overall income statistics. Questions ascertaining amounts paid in child support are included in the CPS ASEC and in the Australian HES, and these reported amounts are subtracted in the estimates presented here.

Medical Out-of-Pocket (MOOP) expenses

The ITWG recommended subtracting MOOP expenses from income, following the NAS panel. The NAS panel was aware that expenditures for health care are a significant portion of a family budget and have become an increasingly larger budget item since the 1960s. These expenses include the payment of health insurance premiums plus other medically necessary items such as prescription drugs and doctor co-payments that are not paid for by insurance. Subtracting these amounts from income, like taxes and work expenses, leaves the amount of income that the family has available to purchase the basic bundle of goods.

While many individuals and families have health insurance that covers most of the very large expenses, the typical family pays the costs of health insurance premiums and other fees out of pocket. For the U.S., overall expenses for insurance premiums and other out-of-pocket items are collected in the CPS ASEC, rather than an extensive set of questions as is normally found in an expenditure survey.

In Australia, Medical out of pocket expenses are reported in expenditure diaries and in response to specific questions (for example, about medical insurance) in the HES. Over 94 percent of U.S. households and 90 percent of Australian households reported MOOP expenses, averaging \$3,957 in the U.S. and \$2,485 in Australia.

7. Results

Figure 1 shows poverty rates for the two measures for the total population and for three age groups; under 18 years, ages 18 to 64, and 65 years and over. In both countries, the proportion under the SPM threshold is lower than the proportion in relative poverty. In the U.S., differences in the two rates are greatest for children and for the over 65s. In Australia, differences are greatest by a considerable margin for the over 65s, among whom 12 per cent are in SPM poverty, but 31 per cent are in relative poverty. Comparing the two countries, both SPM poverty and relative poverty are higher in the U.S. than in Australia. The proportions of children in SPM poverty are similar in both countries, but the proportions of adults and elderly in SPM poverty are greater in the U.S. The proportions of children and adults in relative poverty are higher in the U.S. than in Australia, but the proportion of elderly in relative poverty is notably higher in Australia.¹³

¹³ It is a well known feature of poverty analysis in Australia that because of rates paid for the means tested Age Pension, a significant proportion of elderly households have incomes close to the relative poverty line, with many of these 'wobbling' just above or below the threshold.



Figure 1: Proportions in SPM and relative poverty 2010

Source: U.S. Consumer Expenditure Survey, U.S. Current Population Survey, Annual Social and Economic Supplement and Australian Household Expenditure Survey

Distribution of Income-to-Poverty Threshold Ratios:

Analysis of the distribution of resources or disposable income as a proportion of SPM and relative income thresholds allows examination, not only of those who fall below the poverty line, but how far people are from it. Table 3 shows the distribution of income-to-poverty threshold ratios overall and for the three age groups. Overall, the comparison suggests that the proportion significantly below the poverty line (where income/resources are less than half the poverty threshold), is larger if the relative definition is used in the U.S., but larger if the SPM definition is used in Australia. Conversely, the proportion with the greatest resources (four times or more the poverty threshold) is greater with either measure in the U.S. than is the case in Australia. This is likely to be a reflection of higher levels of income inequality in the U.S. than in Australia (OECD, 2008, 2014).

Of particular note are the proportions with incomes/resources of less than half the poverty threshold. Among children (aged less than 18 years) the proportion living in households with resources of less than half the SPM threshold is greater in Australia, while the proportion living in households with incomes of less than half the relative threshold is greater in the U.S. than in Australia. Among non-aged and aged adults, proportions in this lowest category are consistently greater in the U.S, than in Australia. However, differences are small (and not all differences are statistically significant). It is worth further noting that while almost a third of elderly Australians are in relative poverty (Figure 1), the majority of these have incomes between 0.5 and 0.99 of the relative poverty line, and almost half of all aged Australians have incomes above, but less than twice the relative poverty threshold. This indicates a considerably more compressed income distribution among elderly Australians than among elderly Americans. For children and non-elderly adults in the U.S., including the value of targeted non-cash benefits reduces the percent of the population in the lowest category in SPM poverty versus the proportion in relative poverty. However, the U.S. elderly show a higher proportion below half of the poverty line with the SPM than is the case with relative poverty. As shown earlier, many of the non-cash benefits included in the SPM are not targeted to the elderly population, who mostly receive cash transfers which are captured in relative measure. In the case of Australia, some deductions from income (income tax and employment costs) decrease as SPM resources decrease. Others (child care, MOOP expenses and child support) follow a u-shape across the distribution of SPM resources, where average amounts are higher among households with very high and very low levels of resources than among those in the middle of the distribution. In these cases, deductions are typically lowest among those with resources equal to between 0.5 and 0.99 of the SPM threshold, while the bottom category (less than 0.5 of the SPM threshold) includes some households with very large expenditures, especially on MOOP expenses.

The effect of deducting working expenses and MOOP expenses from SPM resources can be seen in Figure 2. Among all age groups, the poverty rate increases where these expenses are deducted, but the increase is especially notable for MOOP expenses among the elderly for both countries. Although the income taxes paid by this bottom group are lower than for other groups, the average amount of government payments this group receives is also lower than for other groups, where it might be expected to be higher. This raises the question of whether deductions of MOOP expenses in particular captures an element of economic hardship in the Australian data that may otherwise be overlooked when relative, income based measures are used to define poverty. The issue of MOOP expenses is explored further in Section 8 below.

Table 3: Children, adu	lts, and eld	erly peop	ole by ratio c	of Income/i	resources to po	overty th	reshold: 201	.0
		U	S		Austr	alia		
	SPM		Relative poverty		SPM		Relative poverty	
	%	SE	%	SE	%	SE	%	SE
All								
4 or more	17.3	(0.2)	13.5	(0.2)	13.2	(0.5)	10.0	(0.5)
2.0 to 3.99	34.8	(0.2)	36.5	(0.2)	41.0	(0.8)	40.0	(0.8)
1.0 to 1.99	31.8	(0.2)	31.7	(0.2)	32.5	(0.8)	33.2	(0.8)
0.5 to 0.99	10.7	(0.2)	12.0	(0.2)	7.6	(0.4)	12.1	(0.5)
Less than 0.5	5.4	(0.1)	6.2	(0.1)	5.6	(0.4)	4.7	(0.3)
Total	100		100		100		100	
children aged (19 years								
4 or more	10.0	(0.2)	0.0	(0.2)	6.9	(0, 6)	Γ 4	(0, 6)
	22.5	(0.2)	0.9	(0.2)	0.8	(0.0)	5.4	(0.0)
2.0103.99	32.5	(0.3)	32.1	(0.3)	36.1	(1.3)	35.0	(1.3)
1.0 to 1.99	38.6	(0.4)	35.8	(0.4)	39.0	(1.3)	39.3	(1.3)
0.5 to 0.99	12.8	(0.3)	14.1	(0.3)	11.3	(0.9)	14.0	(1.0)
Less than 0.5	5.3	(0.2)	9.1	(0.3)	6.8	(0.7)	6.4	(0.7)
Total	100		100		100		100	
Adults aged 18-64 years								
4 or more	19.6	(0.2)	15.7	(0.2)	16.8	(0.7)	12.9	(0.6)
2.0 to 3.99	36.2	(0.3)	39.2	(0.2)	45.6	(0.9)	46.3	(0.9)
1.0 to 1.99	29.0	(0.2)	29.2	(0.2)	26.4	(0.8)	28.1	(0.8)
0.5 to 0.99	9.7	(0.1)	10.3	(0.2)	6.1	(0.4)	8.3	(0.4)
Less than 0.5	5.5	(0.1)	5.7	(0.2)	5.1	(0.4)	4.4	(0.3)
Total	100		100		100		100	
Elderly aged 65+ years								
4 or more	18 5	(0.4)	11.8	(0.4)	7.0	(0.8)	3.6	(0.6)
2 0 to 2 99	22.5	(0.2)	21.6	(0.4)	28 5	(0.0)	17.2	(0.0)
1.0 to 1.99	32.5	(0.3)	36.5	(0.4)	52.5	(1.5)	/8.0	(1.2)
0.5 to 0.00	11.2	(0.4)	16.4	(0.3)	7.6	(1.3)	20.0	(1.3)
Less than 0.5	11.5	(0.3)	2 0	(0.4)	7.0	(0.7)	20.0	(1.2)
Less tildil 0.5	4.0	(0.2)	3.ð 100	(0.2)	4.0	(0.0)	3.1 100	(0.4)
Source: IIS Concumer Expandi		IS Curren	100			conomic		nd

Australian Household Expenditure Survey



Figure 2: How proportions in SPM poverty change as different elements are deducted from income, Australia (blue) and the U.S. (red) for 2010



Under 18 years

18 to 64 years

65 years and older



SPM resources definition:

1. Net income + noncash benefits – child support

2. Net income + noncash benefits - child support - work expenses - childcare

3. Net income + noncash benefits - child support - work expenses - childcare - MOOPs

Source: U.S. Consumer Expenditure Survey, U.S. Current Population Survey, Annual Social and Economic Supplement and Australian Household Expenditure Survey

Examining individual elements of the SPM

Many of the differences in SPM rates between the two countries can be explained by looking at the elements that go into constructing the SPM. We can examine differences in the percentage of households that receive cash or noncash benefits and compare average amounts received. Further, we can compare differences in spending on necessary expenses that are subtracted from income in the SPM. These are shown in Table 4 and Figures 3 to 6.

Table 4: Elements of the SPM for households, percent with element, mean and median amounts: US and												
Australia 2010												
		% of households paid/receved										
		U	S				Aust	ralia				
	Al	I	Ро	or		A	II	Ро	Poor			
	%	SE	%	SE		%	SE	%	SE			
Noncash benefits	27.5	(0.2)	40.6	(0.5)		3.7	(0.2)	3.8	(0.6)			
Cash benefits	39.0	(0.2)	42.0	(0.6)		89.2	(0.4)	80.7	(1.6)			
Net taxes	82.5	(0.2)	50.3	(0.6)		72.5	(0.6)	26.2	(1.7)			
Work expenses	76.1	(0.2)	47.9	(0.6)		73.0	(0.6)	42.8	(2.0)			
Childcare	6.3	(0.1)	3.6	(0.2)		4.8	(0.3)	3.0	(0.6)			
MOOP	94.0	(0.1)	85.8	(0.5)		89.7	(0.4)	85.3	(1.4)			
Child Support paid	2.1	(0.1)	2.2	(0.1)		3.2	(0.2)	2.1	(0.5)			

Note: percentages refer to percentages ofhouseholds

		Average amounts (US\$ PPP)											
			US				Australia						
	All			Poor				All			Poor		
	Mean	SE	Median	Mean	SE	Median	Mean	SE	Median	Mean	SE	Median	
Noncash benefits	\$2,114	(\$29)	\$498	\$3,418	(\$73)	\$2,000	\$4,046	(\$134)	\$3,773	\$3,814	(\$444)	\$3,439	
Cash benefits	\$14,911	(\$71)	\$13,262	\$9,811	(\$104)	\$9,034	\$6,842	(\$113)	\$3,298	\$7,960	(\$284)	\$7,994	
Net taxes	\$14,474	(\$126)	\$7,920	-\$360	(\$41)	\$44	\$12,107	(\$288)	\$8,184	\$1,246	(\$199)	\$325	
Work expenses	\$1,832	(\$4)	\$1,326	\$1,200	(\$10)	\$1,326	\$2,873	(\$38)	\$2,442	\$2,353	(\$143)	\$1,673	
Childcare	\$5,032	(\$81)	\$3,450	\$3,466	(\$121)	\$2,160	\$5,364	(\$289)	\$3,695	\$6,528	(\$1,086)	\$5,262	
MOOP	\$3,957	(\$35)	\$2,400	\$4,022	(\$95)	\$1,156	\$2,485	(\$112)	\$1,593	\$3,658	(\$884)	\$1,307	
Child Support paid	\$6,742	(\$200)	\$5,000	\$6,096	(\$396)	\$3,600	\$3,976	(\$290)	\$3,439	\$2,453	(\$882)	\$734	
	Note: amounts are in US\$PPP, refer to averages of each element received by households and are not equivalized.												
	Source: U.S.	Source: U.S. Consumer Expenditure Survey, U.S. Current Population Survey, Annual Social and Economic Supplement and Australian Household											
	Expenditure	Survey											

Figure 3 shows the percent either receiving cash or noncash transfers and the percent spending on necessary expenses for the two countries. Figure 4 shows the mean amounts either received or spent by those households (SPM units) with positive amounts. The charts show all noncash benefits as a total category. For the U.S. this includes many programs such as food programs including SNAP, free and reduced price school lunches, WIC, energy assistance, and housing benefits. For Australia the category only includes subsidies for housing. The chart also shows the percent receiving cash benefits and mean amounts. For the U.S. this includes Social Security retirement benefits, Supplemental Security Income (disability payments), Unemployment Compensation, Workers Compensation, and Public Assistance Cash Payments (AFDC/TANF). In Australia, cash benefits include a wide array of mostly means-tested

benefits including the Age Pension (a portion of which is received by most elderly Australians), Disability Support Pension, Parenting Payment (mostly for lone parents whose youngest child is aged under eight years), Newstart Allowance (for people who are unemployed and looking for work), and Family Tax Benefit (support for families with children).

The U.S. relies more on noncash benefits while Australia relies on cash benefits. In the U.S. 27.5 percent of households received a noncash benefit compared with only 3.7 percent of Australian households. However, the mean amount received for housing subsidies alone in Australia was larger than the mean amount of all noncash benefits received by U.S. households. The opposite is true for cash benefits. A significantly larger proportion of Australian households received cash benefits (nine in ten compared with four in ten), but received on average smaller amounts than were received by U.S. households.

The remaining categories are necessary expenses including taxes paid (income and payroll taxes and refundable tax credits such as the EITC in the U.S.), work expenses, child care expenses while parents are working, medical out-of-pocket expenses and child support payments made to another household.

This analysis shows, in line with recent work comparing the American health care system to the health care systems of Canada and other OECD countries (cf. OECD 2011; Starfield 2010; Huber and Orosz 2003; Garrett and Mitchell 2001), that the trade-off between taxes and MOOP expenses that Torrey and Jacobs (1993) found between the U.S. and Canada in the 1990s does not exist if the U.S. and Australia are compared. Rather, this analysis shows that both taxes and MOOP expenses are higher, on average, in the U.S. than in Australia, even though MOOP are significant in Australia, universal health care notwithstanding. In this context, it is also worth noting form Table 4 that average taxes and average MOOP (means and medians) among poor households in Australia are higher than those among poor households in the U.S.

Also note that differences in estimates of work expenses are more likely attributable to differences in methods than actual expenses incurred, though gasoline prices in Australia are nearly double those in the U.S. While more households in the U.S. pay for childcare average amounts paid are not significantly different in the two countries.

Figures 5 and 6 show the same statistics but for a smaller group, those classified as poor using the SPM for each country. For this group the percent paying for MOOP expenses and the amounts paid are not statistically different between the two countries. On the face of it, this finding is somewhat surprising, given that Australia has a universal health care system (albeit not fully free of cost to the user), while the U.S. does not. We explore this issue further in the next section.









Note: * indicate statistically significant difference between U.S. and Australian estimates.

Source: U.S. Consumer Expenditure Survey, U.S. Current Population Survey, Annual Social and Economic Supplement and Australian Household Expenditure Survey

8. Comparing Medical Out of Pocket Expenses in the U.S. and Australia

Consistent with the analysis in this paper, research shows that MOOP expenses in the U.S. tend to vary widely across individuals (Fuchs and Hahn 1990: 888). In recent years, employers and insurance companies have increased deductibles and co-payments that the insured face (Banthin et al. 2008: 188). Some plans have restricted core benefits such as prescription drug coverage (Schoen et al. 2008: w298). Even people who benefit from *Medicare* or *Medicaid* are required to share the cost of treatment in different ways (cf. Goldman and Zissimopoulos 2003; Inglehart 1999; Ku and Broaddus, 2005).

The analysis in this paper shows some important differences in MOOP expenses between the U.S. and Australia. The fact that MOOP expenses are on average higher in the U.S. is consistent with descriptions of the U.S. and Australian systems in Section 2 above. Another difference however is also worthy of discussion. While the high mean MOOP expenses of poor individuals in Australia appear to be driven by a few very large outliers (note the large standard errors on Table 4), the median MOOP expenses of poor Australians is also higher than the median MOOP expenses of poor Americans. This may be explained by differences in the health care systems of the two countries. In the United States, scholars estimate that before *Obamacare*, about 42 percent of U.S. adults were underinsured or uninsured (Schoen et al. 2008: w298). Research has also shown that underinsured and uninsured individuals are likely to simply skip treatment and fail to fill prescriptions in order to avoid the costs (Hoffman and Paradise 2008: 151). Consequently, in the U.S. some poor people may perhaps not seek treatment at all due to the prohibitive costs. As Banthin (2008: 191) points out, "[f]or the uninsured, lower out-of-pocket spending and comparable burden levels relative to privately insured people reflected lower medical care access and use."

In Australia, on the other hand, lower overall costs, and the fact that visits to GPs are free, may encourage more poor people to engage in health seeking behavior, even if there are some costs involved (for example, subsidized pharmaceuticals). While there is a gradient in MOOP expenses in Australia, with higher income households spending more than lower income households, median expenditures among poor households are nonetheless substantial (and higher than in the U.S., as Table 4 shows). This raises important questions as to the efficacy of the largely universalized Australian system in covering the health care needs of low income Australians.

When it comes to health expenditures, the most recent OECD data shows that the United States consistently outspends every other OECD country both in terms of percentage of the GDP and of per capita expenditures (cf. OECD 2014a; OECD 2014b). In 2011, the United States spent 17.7 percent of its GDP, or US\$ 8,508 per capita on health expenditures. During the same time-period, Australia only spent 8.9 percent of its GDP, or US\$ 3,800 per capita. This greater health expenditure in GDP is reflected in greater consumer expenditure on MOOPs, as Figure 7 shows. However, the small differences between the two countries at the bottom of the distribution are notable, as is the trend for average expenditure to increase with income.



Figure 7: Mean amounts of medical out of pocket expenditure, by household income, US and Australia, 2010 (US\$ PPPs).

Note: Categories of household income calculated from unequivalised gross household income. Source: U.S. Consumer Expenditure Survey and Australian Household Expenditure Survey

Nonetheless, while Australia provides its residents with full universal public health insurance, (cf. Kay 2007; Cook and Dzator 2005; Docteur and Oxley 2004; Blendon et al. 2002) the United States only partially covers through this large public expense very small segments of its population, mostly the elderly and the extremely poor through their *Medicare* and *Medicaid* programs respectively (cf. Barr 2011; Starfield 2010; Docteur and Oxley 2004; Inglehart 1999). In addition, both the supply and the utilization of acute care hospital beds, physician visits and costly medical technologies (e.g., MRIs or CT scans) are lower in the United States in comparison to Australia and other OECD countries (Anderson and Frogner 2008: 1719). The large health expenditures of the United States (by governments, employers, and private individuals) can perhaps best be explained through an analysis of the cost of health care services in that country. As noted above, health care services are more costly in the U.S. than in most other OECD countries (Banthin et al. 2008: 188; Anderson et al. 2003: 98), and these higher costs generate higher levels of spending in comparison to Australia. Whether they produce better quality care, or better outcomes, perhaps requires further study.

9. Summary

In all rich countries, households receive cash and in-kind social benefits from governments. Social Transfers In Kind (STIK) include services such as health care, education, housing, long-term elderly and disability care, childcare and child welfare services, transport concessions, and goods such as nutritional, housing, and home energy assistance. In this paper, we examined the impact of these benefits on economic well-being and household poverty in Australia and the U.S.

The SPM uses expenditure data to calculate poverty thresholds that represent a dollar amount spent on a basic set of goods that includes food, clothing, shelter and utilities (FCSU), and a small additional amount to allow for other needs (e.g., household supplies, personal care, non-work-related transportation). Adjustments reflect the needs of different family types and geographic differences in housing costs. *SPM resources* are defined as the value of cash income from all sources, and the value of in-kind benefits that are available to buy the basic bundle of goods (FCSU) minus necessary expenses for critical goods and services not included in the thresholds.

The main exercise of this paper was to calculate similarly constructed SPM poverty lines and measures of family income or resources using U.S. and Australian survey micro data. This part of the paper comprises a technical description of how the SPM was applied to the survey data and a detailed comparison of each of the basic elements of the measure. This includes comparisons of levels of need represented by the thresholds as well as comparisons of levels of receipt of STIK and effects of tax and transfer policies.

The analysis in this paper compared U.S. and Australian poverty lines, and showed poverty estimates for both countries using the SPM concepts. SPM thresholds representing amounts necessary for meeting basic needs in the two countries showed lower amounts for Australia than the U.S. SPM estimates for both countries differed considerably from relative poverty measures.

The construction of the SPM for both the U.S. and Australia allowed a comparative assessment of the effectiveness of STIK in increasing economic wellbeing and reducing poverty rates in the two countries. One of the main differences between the two countries is the emphasis on cash versus noncash benefits with the U.S. favouring noncash and Australia relying more on cash benefits.

An examination of necessary expenses, such as medical out-of-pockets (MOOP) spending or spending for childcare, further allowed comparisons of STIK across countries insofar as spending for health care or childcare reflects the availability and generosity of STIK to meet these needs. Comparing spending by households for services in two countries with different STIK constructs, can be seen as a measure of the effectiveness of these programs. Using the SPM framework we examined differences between the two countries in these necessary expenses and assessed the redistributive effects of the tax and transfer policies. Findings suggest that households in the U.S. spend more for health care and more in taxes than households in Australia spend. This finding is especially relevant as both the Australian and the U.S. health care systems are undergoing a period of major reform.

In the United States, the Patient Protection and Affordable Care Act (PPACA) openly tries to reduce the overall cost of health insurance in the United States. It creates an individual mandate that forces every person not covered by an employer-provided health insurance plan to choose between purchasing a private health insurance policy and paying a penalty to the government. If successful, this initiative could deeply change the overall makeup of MOOP expenses reported by this analysis, especially when it comes to the poor and, to a smaller degree, the elderly.

Meanwhile, in Australia the 2014 Federal Budget has proposed an A\$7 copayment for GP visits and a few other out-of-hospital medical services that were previously without charge, from July 2015. This proposal is likely to have different effects on the total MOOP expenses of Australians based on their overall income. In fact, while the MOOP expenses of the wealthy are unlikely to be greatly affected by the change, more poor people may decide to forego medical treatment that they would have sought under the old regime, in order to avoid the cost (evidence for Australia shows that this is already the case with dental care, which is unsubsidised). This may impact the elderly especially hard, as older people usually have the greatest health care needs.

Finally, we acknowledge that measurement and data collection issues are an important part of differences described for the two countries and these will be addressed in future research. In addition, we note that the way the SPM is currently produced for both countries results in an inconsistency in the measurement of thresholds and resources. When the values of in-kind benefits are added to income, the same value needs to be added to thresholds. A consistent threshold measure would account for spending *and* the consumption of FCSU that is not paid for out-of-pocket. By counting in-kind benefits on the resource side but not on the threshold side, we are over-valuing what people have at their disposal to meet their spending needs.¹⁴ The next step would be to produce SPM thresholds that account for the value of the same in-kind benefits that are accounted for in resources for FCSU. This would lead us to a consumption-based SPM threshold which is consistent with the consumption-based resource measure.

^{14.} Let's say the threshold is based only on housing and the consumer pays nothing for housing; the resource measure includes a value for this free housing and this is the only source of income. This would mean that this consumer has housing "income" and is well-off. The housing "income" that we have assigned to this consumer is used for the consumer's housing consumption and thus the appropriate threshold should also be based on the value of housing consumption. Note: this consumer cannot spend this housing "income" on anything but housing so she is no better off than before she received this housing "income".

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	110		Australia	
	03		Australia	
Unit of analysis	A consumer unit consists of any of the following: (1) All members of a particular household who are related by blood, marriage, adoption, or other legal arrangements; (2) a person living alone or sharing a household with others or living as a roomer in a private home or lodging house or in permanent living quarters in a back or method but who if incaribility independents or (2) the or more operconcelluing and the permethol.	period of recall	The household is the basic unit of analysis in the HES. It consists of a person or group of people living together and having common provision for food and other essentials of living. Households therefore have the following characteristics: they may consist of one or more related or unrelated persons or groups of persons such as families; they must live hollowith one physical deviliar, A erguing of eacehold who make make the wallowith the second basic and the second basic and the second basic and the second basic and the second basic devices and devices and	period of recall
	Together who use their incomes to make joint expenditure decisions. Financial independence is determined by spending behavior with regard to the three major expense categories: Housing, food, and other living expenses. To be considered financially independent, the respondent must provide at least two of the three major expenditure categories, either entirely or in part.		common provision for food and other essentials of living but live in two separate dwellings are in two separate households; lodgers, who receive accommodation only (not mesls) are treated as a separate household; and boarders, who receive accommodation and meals, are treated as part of the household. The household is adopted as the basic unit of analysis because it is assumed that sharing of the use of goods and services occurs at this level. If smaller units, say persons, are adopted, then it is difficult to know how to attribute to individual household members the use of shared items such as food, accommodation and household goods.	
			-	
Food			Expenditure on food and drink (including food bought in restaurants and take-aw ays, but excluding alcohol)	payments over last 2 w eel
Clothing			Expenditure on all items of clothing	payments over last 2 weel
Shaltar			Post sourcests	
sneiter			Rem payments	Last payment (mostly); dat
			wongage repayments - interest component (selected dw elling)	
			Local government rate payments (selected dw elling)	
			Water and sew erage rates and charges (selected dw elling)	
			House insurance - separable from contents insurance (selected dw elling)	
			Land tax (selected dw elling)	
			Repairs and maintenance	
			Other current housing costs	
			Loans for alterations and additions - interest component	
			Body corporate/strata payments (selected dw elling)	
			Mortgage repayments - principal component (selected dw elling)	
			Bertricity (selected dw elling)	All different en une et (e
OTILITIES			Moins and (colorida divalling)	All utilities - last payment (r
			Wan's gas (selected dw elling)	
			Bottled gas - excluding gas for BBQs (selected dw elling)	
			Heating oil (selected dw elling)	
			Wood for fuel (selected dw elling)	
			Bottled gas for BBQ	
			Kerosene and paraffin	
			Domestic fuel and power nec	
	Bernard and the shift of the second			
MOOPS	Reported annual nealth insurance premiums	previous calendar yr	Accident and health insurance	Last payment (mostly); dat
	Reported non-premium expenses last year for doctors, copays, etc.	previous calendar yr	Hospital, medical and dental insurance	Last payment (mostly); dat
	Reported annual over the counter expenses	previous calendar yr	Health practitioner's fees	payments over last 3 month
	assigned Medicare Part B premiums	previous calendar yr	General practitioner doctor's fees	payments over last 3 month
			Specialist doctor's fees	payments over last 3 mont
			Optician's fees (including spectacles)	payments over last 3 mont
			Physiotherapy and chiropractic fees	payments over last 3 month
			Health practitioner's fees nec	nevments over last 2
			Martinines, nharmaneutical products and therapeutic environment	poymento over last 2 Week
			neurona, prisma cource producte and areceptust appliances	payments over last 2 week
			rescriptions	payments over last 2 week
			Non-prescribed pain relievers	payments over last 2 week
			Non-prescribed ointments and lotions	payments over last 2 w eel
			Sunscreens	payments over last 2 week
			Medicines and pharmaceutical products nec	payments over last 2 week
			First aid supplies, therapeutic appliances and equipment	payments over last 2 w eel
Child care	Reported amounts paid last year for child care while parents worked	previous calendar yr	Based on use of child care in four weeks prior to interview, gross of cash subsidies (Child Care Benefit) and tax rebates. These are counted as cash payments and reductions in income tax liabilities.	four w eeks
Employee earnings	wage and salaries	previous calendar vr		
Self-employment		,		
income	income from husiness or farm	previous calendar yr		
Income from	meanie nom business of famil	previous calential yr		
income from				
investments	interest, uividends, and rents	previous calendar yr		
income from	- hild			
private transfers	cinio support, annony, other mancial help	previous calendar yr		
	unemployment compensation, workers compensation, social security, supplemental			
Government	security income, public assistance, veterans payments, disability payments, survivors			
payments	benefits, retirement income, educational assistance	previous calendar yr		
Taxes	federal and state income tax (what about payroll taxes?)	previous calendar yr		
	Use 85 percent median reported work expenses from SIPP for weekly expenses			
work expenses	annlied for each week worked	previous calendar vr		
orn enpetiaca		p. cvious calciluar yl		