Smeeding, Timothy M.; Gao, Qin; Saunders, Peter; Wing, Coady

Working Paper

Elder poverty in an ageing world: Conditions of social vulnerability and low income for women in rich and middle-income nations

LIS Working Paper Series, No. 497

Provided in Cooperation with:
Luxembourg Income Study (LIS)

Suggested Citation: Smeeding, Timothy M.; Gao, Qin; Saunders, Peter; Wing, Coady (2008) : Elder poverty in an ageing world: Conditions of social vulnerability and low income for women in rich and middle-income nations, LIS Working Paper Series, No. 497, Luxembourg Income Study (LIS), Luxembourg

This Version is available at:
https://hdl.handle.net/10419/95605

Luxembourg Income Study Working Paper Series

Working Paper No. 497

Elder Poverty in an Ageing World: Conditions of Social Vulnerability and Low Income for Women in Rich and Middle-Income Nations

T. Smeeding, Q. Gao, P. Saunders and C. Wing

September 2008

Luxembourg Income Study (LIS), asbl

Elder Poverty in an Ageing World: Conditions of Social Vulnerability and Low Income for Women in Rich and Middle-Income Nations[1]

Timothy M. Smeeding, Qin Gao, Peter Saunders and Coady Wing[2]

This paper examines the problems of population ageing, low incomes, and social spending on the elderly in comparative perspective, with a focus on older women in several rich and middle-income nations. We examine these issues in 8 OECD countries and three middle-income nations, Taiwan, China, and Mexico. We address what happens to older women, including the implications of policies relating to taxation, social spending, and transfers, as well as gender differentials in lifetime savings and retirement incomes. We also examine the implications of shared living arrangements with adult children for averting old age poverty. We assess the net effects of existing policies on poverty, and what middle-income countries can learn from the anti-poverty effectiveness of different OECD approaches, as they prepare for their rapidly aging populations.

---

1 Acknowledgements: The authors thank the Luxembourg Income and Wealth Studies for data, Deborah Johnson, Dawn Duren, and Mary Santy for manuscript help, and Monica Das Gupta, T. Paul Schultz, and two anonymous referees. Data for China are from the Chinese Household Income Project funded by the Asian Development Bank, the Ford Foundation, and the Swedish International Development Agency.

2 All comments and queries should be directed to Smeeding at smeeding@lafollette.wisc.edu.

Great strides have been made in reducing poverty and economic insecurity amongst individuals aged 65 and older in rich nations over the past fifty years. They are increasingly able to live long and relatively healthy lives free of poverty and in relative economic security, and are less likely to share accommodations with their adult children. Indeed, most resource transfers between generations now go from older people to children and not vice versa, as was the case in the United States before 1960 (Engelhardt and Gruber 2006; Clark and others 2004). The picture is less clear in the developing world and especially in the rural areas of China, Mexico, Korea, Taiwan, and other middle-income countries where social benefit systems have not yet been fully constructed and where multigenerational living is common.

In most rich countries, poverty among younger pensioners (under age 70) is no longer a major policy problem, but women typically constitute two-thirds to three-quarters or more of the elderly poor in the rich countries. Poverty in rich nations is especially a problem among women aged 75 and older who live alone (Smeeding 2003). Not all women are able to save enough when they are younger to ensure a good income in retirement (Munnell and others 2006). Establishing a 'minimal guarantee' widows pension safety net can help to keep the lowest income and lowest wealth elders out of poverty, a policy intervention that may have little negative impact on the younger and more affluent elderly. Some policy lessons for the middle-income countries come from Canada by means of an income-tested benefit (see Smeeding and Sandström 2005), or from the mandatory superannuation scheme heavily supplemented with a means-tested pension system that exists in Australia.

In order to most effectively design economic security policies for the elderly in middle-income nations, it is important to know more about older women's economic resources, including both income and wealth. Unfortunately, we know little about the wealth holdings of the poor in developing and middle-income nations, so we concentrate on income and income sources. We investigate the comparative well-being of the aged, especially older women, in 8 OECD countries and three middle-income countries (Taiwan, Mexico, and China) using the household income microdata from the Luxembourg Income Study (LIS) database and from the Chinese Household Income Project (CHIP) surveys.

While we have much to learn before we can authoritatively write on the comparative economics of ageing in the developed and developing worlds, this paper offers a good starting point to help policymakers better understand the effectiveness of different responses to old age poverty. We are faced over the next 25 to 30 years with dramatic changes in the population structure in all of the countries that we are examining, and now is the time to begin preparing for such changes.

We examine basic living arrangements, and the mix of own economic support, family support, and government support provided to the aged across various nations. We begin by examining the perspectives from which we might approach these issues using the LIS database, including some comparative economic and social background material. We then outline the choices that were made using the LIS databases before finally viewing our initial results. We conclude with some avenues for additional research and canvass some policy options to be considered.

The economic well-being of older women is especially interesting because women spend more years in retirement than their male counterparts. Women in rich countries (as of 2004) spend three to five years more in retirement than men. Thus assets must be spread over a longer period, and most especially in extreme old age when other sources of income, such as earnings, cannot be relied upon. Comparable figures of older women's time in retirement are not available for the three lower income nations that we examine here.

I. FORMAL INCOME SUPPORT SYSTEMS FOR THE AGED IN CROSS-NATIONAL PERSPECTIVE

Despite major progress in reducing poverty among the elderly in recent decades, significant pockets of poverty remain. The relatively precarious economic position of the elderly in the United States as measured by their incomes (Shaw and Lee 2005; Dang and others 2006) is even more evident when we look at cross-national comparative data. Poverty outcomes are markedly better in Canada and in Scandinavian countries than in the United States (Smeeding and Sandstrom 2005;; Williamson and Smeeding 2005). These papers find that at median and below median income ranges, social retirement pensions or income-tested public transfers dominate the income sources of elderly units in every nation.

For instance, Williamson and Smeeding (2005) examine changes in the sources and adequacy of retirement incomes as people aged by following synthetic cohorts for two decades in five OECD countries. This study reveals that older women, especially widows, rely heavily on socially provided benefits, and that these benefits are primarily responsible for whether older women are in poverty or not. Older men and women in countries with relatively generous, or well targeted, social retirement and social transfer benefits have lower levels of poverty. Receiving income from assets is also important to widows' financial well-being, but they are less likely to receive income from this source than older married women or men. In the end, the best records on poverty were found in Canada and Sweden, two countries that had instituted higher replacement rates for their social transfers programs, albeit for different reasons: combined tiers of social retirement in Sweden; and a guaranteed minimum benefit social retirement program, the Guaranteed Income Supplement (GIS), in Canada (Smeeding 2003).

Indeed, a number of earlier researchers have used the Luxembourg Income Study (LIS) data to analyze the prevalence and causes of poverty among elderly women (Hutton and Whiteford 1992; Siegenthaler 1996; Smeeding 2003; Smeeding and Saunders 1998; Smeeding and Torrey 1992;). In one of the first studies of elderly women's poverty, Smeeding and Torrey (1992) found that across seven countries during the mid-1980s, elderly persons in female-headed households were poorer than those in male-headed households, in nearly every age group (55-59, 60-64, 65-74, and 75+). These findings also revealed that elderly women were especially at risk of poverty in the United States, where 25 percent or more of elderly persons in female-headed households were poor Other LIS based studies have further underscored the extreme outcomes seen in the United States: more than one-fifth of single elderly women (defined as all women aged 65 and over who live alone) in the United States have incomes below 40 percent of the national median (adjusted for household size), which is a common measure of poverty in cross-national studies. Comparing poverty among single elderly women with that of elderly couples and non-aged units, they also find that single elderly women in the United States are not only the poorest group across these eight countries, but also the only group with a significantly higher poverty rate than that of their non-aged counterparts (Smeeding 2003). In a more recent LIS study Brady and Kall (2007) indicate that older persons have done better in terms of progress against poverty, but women in general and American older women in particular still have the highest poverty rates among the rich countries—with poverty defined at both 40 and 50 percent of the national median. They find, in particular, that older women's poverty outcomes are markedly better in Canada and in two Nordic countries, Finland and Sweden.

A different body of literature assesses economic trajectories and transitions during women's older years, although not necessarily with a focus on poverty. For example, drawing on the Cross-National Equivalent File, Burkhauser and others (2005) compare the economic well-being of widows in the United States to those in the United Kingdom, Canada, and Germany. They conclude that, in all four countries, average household income among women (not adjusted for household size) falls following the death of a husband. For younger women, the main factor is the loss of his labor market earnings and, among older women, his lost social security or pension income. However, despite diverse social welfare systems, the net change in women's income following widowhood is remarkably similar across these countries.

II. THE SITUATION IN MIDDLE-INCOME COUNTRIES: COMPARATIVE 'CULTURAL' ECONOMICS OF OLD AGE: EAST-WEST, MEN AND WOMEN, URBAN AND RURAL

Different nations have made different choices as to how they will economically support the aged, but important in all cultures is self-support through earned income and savings. Often retirement income may be in the form of deferred earnings via private occupational pensions, contributory retirement schemes, or the family home. Also important are individual private savings. Government income support may also come from programs and policies not specifically aimed at the aged. Social safety net programs designed to prevent poverty are one such type of policy, but one mainly used in richer Western societies. Finally, we must address the issue of "intrafamily" support in its widest sense, via cash transfer, direct service provision (e.g., caregiving for children or the very old), shared consumption (e.g., consumer durables) or shared living arrangements.

As nations become richer and more advanced, patterns of support will change. For instance, in the United States in 1950, more than two-thirds of elderly widows lived with one or more of their adult children (Fuchs, Scott, Michael 1990), but by the 1990s, fewer than 15 percent were found living in these circumstances. Much of this change can be attributed to the generosity of old age pensions (Engelhardt and Gruber 2006). Today the aged in the US are net providers of income support to their children and grandchildren than vice-versa.

In the East, the traditions, models, and outcomes are somewhat different. The obligations for family to support the aged are taken very seriously and come close to representing a form of private (within-family) pension arrangement (e.g., see Jones 1993; Rose and Shirtori 1986; Goodman and Peng 1995; White and Goodman 1998). And to the extent that these forms of support are evidenced in forms such as shared living arrangements, we must carefully approach measurement of well-being.[3]

Social retirement is not present or is very limited, and where it exists it often varies greatly by region, with coverage in rural areas rare (Whiteford 2003). Moreover, in Asian nations, social retirement is often only available to public sector workers or the military. For example, in rural China, only two percent of the population has had access to pensions due to their prior employment in state-owned or collective enterprises, compared to the vast majority of urban residents who enjoy pensions through employment. Instead, selective groups (e.g., public employees) have pension arrangements while other groups do not (e.g., see Evans and others

3 In some nations, formal legislation was used to force children to take care of their parents (e.g., Germany until 1996); in others, it is a very well-established custom (e.g., Japan); and in other nations, tax incentives and subsidies are offered to family members to provide care for parents.

2007 on Viet Nam; Gao 2006 on China). Occupational pensions are present but are more limited and industry specific. Personal savings rates are very high, but savings are not expected to be drawn down in old age; rather they are to be passed on to the next generation in the form of a dowry, thus conflicting with Western economic models of life-cycle savings.

Mexico is not much different from China and Taiwan in terms of its treatment of the aged. In rural peasant areas and in cities, elders work until late in life and receive little in the form of direct benefits for old age. But in cases where other forms of support operate, such as the Mexican conditional cash transfer program known as *Progresa-Oportunidades*, elders who live in three-generation households, indirectly benefit from this program via their grandchildren. Interestingly in Brazil, which we do not reexamine here, widows' pensions have been found to indirectly benefit the grandchildren who share residences with older women, the exact opposite of the *Progresa* effect in Mexico. Indeed, because *Progresa* was originally intended for rural residents with children, one might find that elders in rural Mexico are benefitting even more than urban residents from such a program.

In emerging nations in general, workers flow from rural to urban areas, often leaving children behind in the care of their grandparents. This trend disrupts the traditional within-family support system and places greater strains on many older people. Also, education and career-job holding are becoming more important for women, so caring for one's parents in old age is a tradition on the wane in most emerging economies.

III. WEST - EAST AND NORTH - SOUTH PERSPECTIVES ON THE ECONOMICS OF AGEING: DATA, INCOME, DEMOGRAPHY, AND BASIC LIVING ARRANGEMENTS

We extend prior cross-national analyses of older person's economic well-being by assessing the effects of income (to a lesser extent wealth is also mentioned) on poverty in a harmonized fashion across a number of rich OECD nations. We use the income data assembled at the Luxembourg Income Study (LIS), which includes data on Mexico and Taiwan. In this study we add the Chinese Household Income Project (CHIP) data. Comparability is achieved by harmonizing data into a framework of consistent concepts and definitions. (For more on LIS, see http://www.lisproject.org/lws.htm.)

We examine 8 OECD countries and three developing nations: Taiwan, China, and Mexico. We also briefly summarize relevant work from the Luxembourg Wealth Study (LWS) database on a smaller number of rich nations but have left the most specific results from this paper owing to a lack of similar data in the three poorer nations.

Definitions

We are focusing on the aged in all nations and women within this group. We take these to be all persons aged 65 and older, though we sometimes separate generations into those 65-74 and those 75 and older.[4]

4 In many middle-income countries, pension entitlement (and hence the commencement of retirement to some degree) begins at ages below 65, e.g., at age 55 for women and 60 for men, though we stick to the standard age breaks in the analyses below.

Among the aged, we attempt to examine the economic status of separate groups: all those households with at least one member aged 65 and over (all elderly); all households with women aged 65 and over (households with elder women). However, such examinations make much more sense among the Western nations than among others. Thus in our income-based comparisons—which include China as well as Mexico—we use three groups of elder households: single elders, elder couples with at least one person aged 65 and older, and other multigenerational units with one or more members aged 65 and older.

We use two main income variables in the poverty analyses below: household market income (MI) and household disposable personal income (DPI) adjusted for differences in family size (see below). MI includes all private sources of income, while DPI is defined as the sum of total revenues from earnings, capital income, private transfers, public transfers (social insurance and public social assistance)—net of taxes and social security contributions. In some analyses we break out antipoverty effects by type of transfers received as well (social insurance, targeted programs for the poor, and private transfers between families).

Defining poverty in an international context is not an easy task. Different nations and groups employ different definitions. The official United States poverty line is currently about 30 percent of the United States median income; the most commonly used international poverty line is 50 percent of median—a good deal larger—and the EU chooses to set their low-income standards at about 60 percent of median income (or twice the United States standards). Here we use only the 50 percent of median line—and specifically 50 percent of all households' median incomes. In analyzing poverty and economic well-being, we limit ourselves to all units with a head or a spouse aged 65 or over, but poverty lines are defined with reference to the whole population. Further, we make no adjustment for rural versus urban income differences in the income base to which poverty is compared.

The reader must note that half of median income means very different things in the countries we are investigating, and therefore we are saying nothing about 'real' levels of living. For instance, in Table 1, the United States is by far the richest country we examine; the other rich OECD nations covered here have GDP per capita between 80 and 90 percent of the US level. GDP per capita in Taiwan is about 36 percent of the US level; Mexico is at 20-26 percent; and China at 14-17 percent according to various sets of PPP-adjusted GDP per person.[5] Thus, all else equal, if economic well-being is a predictor of the ability of the elderly to live apart from their children, regardless of the means by which this is accomplished, one would expect to find the most mutigenerational units in China, then less in Mexico, and less still in Taiwan, with far less being found in the richer societies. Indeed, this is precisely the pattern that we find below. And this is before we make any adjustments for differences within large nations, like China and Mexico, where urban-rural differences are very large.

Table 1 here

Income is adjusted for family size using an equivalence scale; specifically, the square root scale which divides the two income measures by the square root of household size and so:

$$\text{Adjusted Market Income (AMI)} = \text{Market Income (MI)} / S^E$$

$$\text{Adjusted Disposable Income (ADI)} = \text{Disposable Income (DPI)} / S^E$$

where S = household size, and E = 0.5. This scale assumes that <u>all</u> income is shared equitably (i.e., according to individual need) among <u>all</u> household members, and may make good sense when examining one and two person households; it might make less sense when applying it to

5 Note that these calculations based on 2005 PPP's do not include the recent ICP result that China's true PPP may in fact be 1/4 lower than in these calculations, placing its GDP per person at about 10–12 percent that of the US.

larger family sizes found in intergenerational households, where resource-sharing within the household may be more selective.

The Effects of Living Arrangements

In addition to these forms of transfer, we attempt to measure the extent of support given to the elderly and generated collectively from living together. That is, if one assumes an equivalence scale such as the one we have chosen here, we attempt to decompose income within the household to determine the effect of living arrangement choice on poverty. This analysis is conducted as follows:

$$AIX=AIE+AINE$$

where for every multigenerational household *X*, we split total adjusted income (AIX) into the amount received by the elderly (AIE) and the amount received by the nonelderly (AINE). We compute poverty rates for the entire household (size *X*) and separately for its subcomponent parts: nonelderly household size if alone (*NE*) and elderly size if alone (*E*). Total household size (X) equals the sum of the elderly and nonelderly (*E + NE*). The differences between the computed poverty rates of the nonelderly and elderly within the household compared to the poverty rates for the entire household provides a crude measure of the impact of shared living arrangements on the poverty status of the aged. That is, poverty status reflects both households' available resources (incomes here) and their consumption needs.

These consumption needs depend on economies of scale in living arrangements. Our disaggregation points out the difference in poverty status between living alone with only one's own resources (elderly or non-elderly), and living with other nuclear families and fully sharing resources.

The assumptions required to carry out this analysis are restrictive. We can measure only earnings, pension income, and capital income for the elderly unit. The rest is assumed to accrue to the nonelderly, including means-tested or other sources of collective income. The issue of home ownership is not addressed. Thus, the aged person may own the home and the benefit of shared living arrangements may accrue to the young rather than the old, or vice versa. We have made this experimental measure only for Taiwan, China, and Mexico at present and the results are experimental. However, we do see it as a potentially useful method of analysis in similar contexts.

Basics: Demography and Living Arrangements

The populations of China, Taiwan, and Mexico are today considerably younger than the population of any other nation examined here. Roughly, 10 percent of the Taiwanese, 8 percent of the Chinese, and 6 percent of Mexicans were aged 65 or over in 2006 compared to 12 percent of Americans, 13 percent of Australians and Canadians, 16-17 percent of Brits and Swedes, and 19-20 percent of Germans and Italians (Population Reference Bureau 2008). These age structure differences will affect the ability of the nations to pay benefits and finance social retirement schemes. And while China has a very low base number of aged, it will face rapid ageing soon due to its one-child policy (Population Reference Bureau 2008).

Table 2 here

In Table 2, we have separated the living status of the aged into three categories: living alone, i.e., as a single person household; living with a spouse only, i.e., an aged couple; and living with others. The latter category almost exclusively includes multigenerational households in the three lowest income countries, but in the rich countries, it includes those living with children, other relatives, and in some nations also unrelated people.

Here we find large differences among nations (Table 2, top left): more than 42 percent of German and Swedish aged live alone, 29 percent to 38 percent in other rich nations, and under 12 percent in Taiwan and Mexico, with an incredibly low 1 percent in China (reflecting the composition of the national median (see note 9 above). The fraction of women aged 65 and over follows similar patterns, only at higher rate of living alone.

Elder couples show a similar distribution, here highest in Australia at 52.2 percent of the aged, but also 43 percent or above in the other OECD nations, but only 30 percent in Taiwan and 17–18 percent in Mexico and China.

The multigenerational (MG) column reverses the proportionality substantially. Amongst women aged 65 and over, about 73 percent are living in multigenerational (MG) situations in China, Mexico, and Taiwan, compared to about 15 percent in other nations. These figures diverge further with age, as the death of husbands reduces couples. Italy's high number of MG units is idiosyncratic and reflects its high rates of home ownership and few rentals (see below).

Many authors, Engelhardt and Gruber (2006) and Ruggles and Heggeness (2008) being the two most recent, argue that the social security systems, housing arrangements, and customs played the greatest role in this transformation. But according to the Morgan and others (1960), the housing transformation began before the large increases in elder benefits in the 1970s. Table 3 examines trends in MG living compared to other forms at older ages. The data suggests a similar pattern in China, Mexico, and Taiwan, where, without a large new social insurance scheme for the aged, economic and social change are already reducing MG's and increasing elder singles and couples in all three nations. The changes are the biggest in Taiwan, where development is fastest, followed by both China and Mexico. No matter what the grouping, we find a decline in MG living and corresponding increases in single generation couples and also to a lesser extent singles living alone.

IV. RESULTS

Here we examine the findings on household demography, poverty, and redistribution before turning to the discussion of possible explanations and future research directions in the final sections of the paper.

Income Poverty: Who, When, Where, and Living Arrangements

In general, the *overall* poverty rates among the aged in Taiwan and China, for both men and women, are not much different than among those found in other nations.[6] Mexican rates are higher (Figures 1 and 2). Men's poverty rates are 2-3 points below those of women at all subsections of old age. And except for Taiwan, very elder women have poverty rates which exceed 65- to 74-year-old women in every nation. For men, China and Taiwan are slightly above those found in the United States and Australia, and below those in Mexico at the 50 percent poverty standard (not shown). Amongst women, Mexican poverty rates are the highest in general, followed by Taiwan –but the United States and the United Kingdom are not far behind. Indeed, the United States has the highest female poverty rate for the over-75 set in all nations. In all cases, Germany, Sweden and Canada do the best job of recording low poverty for the elderly.

Figures 1-2 here

Table 4 here

Amongst older women (65-74 and 75 and over—Table 4) poverty rates are higher for those who live alone as compared to those who are couples or who share living arrangements with others. Poverty for older women is much lower in shared multigenerational situations. Women 75 and over living as couples do relatively well compared to single living (except in Mexico). It appears that older women need to adjust to more complicated living arrangements to avoid poverty at older ages –most likely after the death of an older spouse.

In many Western nations, poverty increases as you move down the gender and living arrangement groups from multigenerational to couple to single. That is, in general, women are poorer than men and older women living alone are the poorest group. Thus, vulnerability varies with gender and increases among single person living arrangements.

Effects of Tax Benefit Systems on Older Women's Poverty

As outlined above, almost all western nations have social insurance and income support systems which reduce elder poverty, over and above family and market income support (Table 5). Market income (MI) poverty rates for ages 65- to-74-year-old women average at least 60 percent, while disposable income poverty rates are at 17 percent, producing a difference of 43 percent in these two poverty rates—about a two-thirds reduction in elder poverty. The figures for the oldest women are almost identical on average. The highest MI poverty rates and the lowest DPI poverty rates and therefore the biggest differences are generally found in the most well developed countries with the most advanced and expensive welfare states (Sweden, Germany, Italy), except for Canada. To a lesser extent, the Anglo Saxon nations: US, UK, Canada, and Australia have lower MI rates; but in all but Canada, we also find higher DPI rates, suggesting

6 Our results are similar to those produced by Saunders (2007).

slightly less effective social security systems. The US has by far the least effective income support system for older women amongst the rich nations, with only a 36–37 percentage point difference in MI and DPI poverty rates.

Table 5 here

The lowest MI poverty rates (27–39 percent) for the oldest women, but then also the smallest differences between MI and DPI rates, are found in Mexico, China, and Taiwan, where MG living is high. The reductions in elder women's poverty from taxes and transfers are least in these nations, with figures of 13–16 percent at ages 65-74, and 6–14 percent at the oldest ages (Table 5).

It seems like the market (younger household member's earnings) and the family (shared living arrangements) is producing much larger effects on multigenerational poverty than those resulting from income maintenance schemes in these nations. In MG units, the tax benefit systems reduce poverty by 20 percentage points on average across all nations, compared to 50 point or higher reductions on average for elder women living alone or with spouses (results not shown). Thus no matter how we cut the data , MG living appears to replace the social benefit systems for China, Mexico, and Taiwan, producing net DPI poverty rates that are not much different from those in rich countries, even if they are achieved by very different means.[7]

In Taiwan, China, and Mexico (and also in many other countries), poverty rates are also generally higher for those who live alone as compared to those who share living arrangements with others. In households with multi-family shared living arrangements (where 73 percent of elders reside in these nations, Table 2), poverty rates are near or below those found in similar but much richer Western and Northern nations' households. In the three least rich nations, poverty risk rises with living alone or with only a spouse, and in general these poverty rates are higher than in other rich nations (Table 4).

In some nations old-age poverty is independent of both living arrangements and gender (see above). In Canada and Germany, old-age poverty varies little with type of living arrangement. But on average those who share living arrangements with others have lower poverty rates than those living alone or with only a spouse. And in many Western nations, and at almost every poverty level, poverty increases as you move along the gender and living arrangement groups from men to women and from relatively young (65-74) to very old (75 plus). That is, in general, women are poorer than average, and older women living alone are poorer still. Thus, vulnerability increases with gender and single-person living arrangements.

Thus, old age poverty in Taiwan, Mexico, and China depend more on living arrangements than on gender per se. The nations that seem to best protect the elderly from poverty are Canada and Germany, where relative poverty rates remain in single digits even at the 50 percent poverty level. But in all other nations, and especially for women, high fractions remain below or near the poverty line.

The Estimated Effect of Living Arrangements on Poverty

The importance of living arrangements to poverty avoidance for older persons in China, Mexico, and Taiwan can be clearly seen in Table 6. Here we use a range of poverty lines (40–60 percent median) to assess the capacity of elders to live alone poverty-free at a band of poverty

7 Indeed, this effect is confirmed in analyses available from the authors. where we find the lowest MI rates and least antipoverty effect of tax benefit systems for older women of all nations in the MG units of all nations.

line ranges. Prior to income splitting, the elderly poverty rates in the middle column are virtually the same as those found in the previous tables, both elders and non-elders in these arrangements share poverty rates of 25 percent (at the 50 percent line, in bold, middle column) in Taiwan, 20 percent in Mexico, and 17 percent in China.

However, when we split the incomes and households into elderly and nonelderly groups, poverty rates plummet for the nonelderly in all three nations, but rise for the old. This indicates that there are likely large economic gains to these elders—and some cost to their children—for shared living arrangements at all three poverty lines.

Were households to be split into nuclear families and poverty measured on this basis, elderly-poverty rates in split households would be much more similar to those found among the elderly living alone or with a spouse in Taiwan and Mexico at least, compared to those found on a household basis once units are combined. Thus, shared living arrangements clearly provide antipoverty protection for the aged in the three lower income countries examined here.

Rural Urban Differences

In almost all nations social insurance systems are most effective in urban areas. In many MI countries (e.g., China), the coverage of such schemes is very low or nonexistent in many rural areas and large numbers of rural households with low incomes depress the overall national median income (see footnote earlier on China). Poverty rates are lower and multigenerational living less common in such places (not shown). Though urban and rural are defined quite differently in most nations (see Appendix for definitions of rural), consistent differences remain in almost all nations (Table 7). On average, rural elder women's poverty rates are 24 percent compared to urban rates of 14 percent. In high income nations with strong safety nets, both poverty rates are low and income support systems are very strong (Canada; Sweden). The largest differences are as expected in Mexico and Taiwan, and especially in China. Thus, the development of social protection systems not only reduces poverty risks, it closes the gap between the risks faced by those in urban and rural areas.

V. DISCUSSION: SOCIAL AND DEMOGRAPHIC EVOLUTION OF POVERTY: NORTH AND SOUTH, EAST AND WEST

We find that rich nations have highly effective and well developed income safety nets and social insurance features, which reduce poverty—but for women who are mainly living alone or with their spouses. In the poorer nations, most elders live with their children and shared living effectively reduces poverty, replacing the public sector with family incomes, mainly from adult children's and own work. Still, one sees an increase in the propensity to live alone in old age in all three nations.

Among the nations studied here, Mexican elderly poverty rates were the highest but these were largely due to the low proportions of elderly living alone or with a spouse. Those living with others in shared living arrangements had poverty rates near or below those found in similar US and UK households.[8] If incomes are split into nuclear families, poverty among the aged in all three poorer nations rises substantially.

8 Mexico is likely the most interesting story, as it appears that since 2000, the tax benefit system has increasingly affected rural elder women, most likely via the Progressa program, which has reduced their grandchildren's farm labor income (raising MI poverty) but has replaced that with conditional cash transfer benefits, thus reducing DPI poverty via greater redistribution.

While we have not fully explored other aspects of economic support, it appears that almost 90 percent of the Taiwanese elderly, and even larger shares of Mexican and Chinese elders, live in a home owned by themselves or another household member. From other work we have completed (Gornick and others 2007), less than half of the German aged lives in owned homes, as do between 70 and 80 percent of elders in the other Western nations. To the extent that home ownership conveys income in the form of imputed rent, the relative economic status of the income-poor elderly may be overstated to some degree.

But many questions remain: Why do some Taiwanese, Chinese, and Mexican aged live alone (or with spouse alone) and others live in extended arrangements when the income sources of both types of units are similar? At what ages do the elderly in these poorer places truly stop work and retire? Clearly, we have just begun to address the issues raised in this paper.

VI. CONCLUSION, POLICY OPTIONS, AND FUTURE RESEARCH DIRECTIONS

Clearly, relative reliance on private versus public income sources for older women varies across these countries. While private resources are more prevalent in the United States and the middle-income countries where MG living is widely found, these do not provide as much protection for the poor as do the more generous social security systems in most nations (Gornick and others 2007; Smeeding 2003). Defined-contribution (unfunded) social retirement programs are more stable, more reliable, and more inflation-, injury-, and "bad labor market"-protected, than are the private legs of the stool in Western nations. But where creation of 'new' unfunded social insurance systems grandfather in existing public employees, they are not pro-poor (see Evans and others on Viet Nam, for instance). A critical policy change in these countries involves engineering a smooth transition towards a more pro-poor system of social protection benefits. Two challenges preventing the implementation of these latter schemes are cost and administrative capacity. With large sections of the population still in subsistence poverty, it is important to impose strict controls on eligibility; otherwise there will be a cost blow-out. But this requires a level of administrative capacity that is currently lacking in many MI countries—at least outside of the major urban areas. The introduction of such schemes will also involve an increase in taxable capacity, as their introduction will inevitably involve an increased demand on public sector resources. There is scope for rich countries to assist MI countries in this transition by providing technical support with the design and administration of tax systems and social assistance schemes. In the longer run, the countries with the strongest public legs, Sweden, Germany, and Italy, seem to perform better in fighting poverty than does the United States, Australia, or the UK.

Many current old-age pension reform proposals, both in the United States and in other middle-income and rich countries, could be better designed to meet the needs of the most vulnerable elders, especially older women living alone and those who are separated or divorced (Gornick and others 2007;; Favreault and Steuerle 2006).

Some policy implications seem clear. Governments in all high-income countries ought to provide a safety net for the elderly, with adequate and well-maintained minimum social security benefits (as is done in Canada) to ameliorate income vulnerability. Modest and even minimal cash transfers might also help low-income households in the poorer nations by directly targeting the elderly, as with a South African or Brazilian 'widow's pension.' Still, the largest effects on poverty will come from MG living in these nations for some decades to come.

Within MI countries, new social programs can only be introduced gradually, as economic

and social conditions permit. However, the ageing of the population will provide a powerful impetus for reform over the coming 2-3 decades. The choice of policy is crucial, as shown for instance by the low cost but highly target-effective Canadian efforts in fighting elder poverty.

REFERENCES

Brady, D., and D. Kall. 2007. "Luxembourg Income Study." Working Paper #462.

Burkhauser, R. V., P. Giles, D. R. Lillard, and J. Schwarze. 2005. "After Death Do Us Part: An Analysis of the Economic Well-Being of Widows in Four Countries." *Journal of Gerontology* 60B (5): S328-S246.

Clark, R. L., R. V. Burkhauser, M. Moon, J. F. Quinn, and T. M. Smeeding. 2004. *The Economics of an Aging Society.* Oxford, UK: Blackwell Publishing.

Engelhardt, G., J. Gruber. 2006 "Social Security and the Evolution of Elderly Poverty." In A. Auerbach, D.Card, and J. Quigley, eds., *Public Policy and the Distribution of Income.* Russell Sage Press.

Evans, M.; I. Gough; S. Harkness; A. McKay; H. D. Thanh; N. Do Le Thu. 2007. "How Progressive Is Social Security in Vietnam?" Vietnam Policy Dialogue Paper 2007/1. Hanoi, Vientane: United Nations Development Programme.

Favreault, M. M., and C. E. Steuerle. 2006. "New Approaches to Social Security Auxiliary Benefits." Urban Institute presented to the RRC Conference, Washington, DC August 10.

Fuchs, V., J. Scott, and R. Michael. 1990. "Living Arrangements of Older Women." *Demography*.

Gao, Q.. 2006. "The Social Benefit System in Urban China: Reforms and Trends from 1988 to 2002." *Journal of East Asian Studies* 6(1), 31-67.

Goodman, R. and I. Peng. 1995. "Japanese, South Korean and Taiwanese Social Welfare in Comparative perspective, Welfare State Program." Working Paper #1112, STICERD, London, UK: School of Economics.

Gornick, J.C., T. Munzi, E. Sierminska, T.M. Smeeding. 2007. "Older Women's Economic Security: The Five-Legged Stool in Cross-National Perspectives." Unpublished manuscript. October.

Gustafsson, B. and S. Li. 1988. "The Structure of Chinese Poverty, 1988," *The Developing Economies* 36(4): 387-406.

Hutton, S., and P. Whiteford. 1992. "Women and Social Security in Retirement: A Comparative Analysis." Luxembourg Income Study Working Paper No. 82. Syracuse, NY: Center for Policy Research, Syracuse University. August.

.

Jones, C., ed. 1993. The Pacific Challenge: Confucian Welfare States. In *New Perspectives on the Welfare State in Europe*. London, UK: Routledge.

Morgan, J, W. Cohen, M David and H.Brazer. 1960 *Income and well-being in the United States.* New York, McGraw Hill.

.

Pei, X. and V. K. Pillai. 1999. "Old Age Support in China: The Role of the State and the Family." *International Journal of Ageing and Human Development* 49(3): 197-212.

Population Reference Bureau. 2008. *Aging Highlights*, at http://www.prb.org/Articles/2006/AgingHighlightedasNewestTopicinPRBsGraphicsBank.aspx

Rose, R., and R. Shiratori, eds. 1986. *The Welfare States East and West.* Oxford, UK: Oxford University Press.

Ruggles, S., and M. Heggeness. 2008. "Intergenerational Coresidence in Developing Countries."*Population and Development Review*. In press.

Saunders, P. 2006. "Reviewing the Role and Structure of Pensions in their National Context." *Policy & Politics*, Vol. 34, No. 1.

Saunders, P. 2007. "Comparing Poverty Among Older People in Urban China Internationally." *The China Quarterly* No. 190, June.

Shaw, L. B., and S. Lee. 2005. "Gender and Ageing: Cross-National Contrasts: Growing Old in the US: Gender and Income Adequacy." *Feminist Economics* 11 (2): 174-186.

Shia, S.R. and Y.L. Chuang. 1995. Opportunities and Constraints for Older Workers in Taiwan. A Comparative Study of the Elderly in Asia, University of Michigan Population Studies Center, No. 95-30.

.

Siegenthaler, J. K. 1996. "Poverty among Single Elderly Women under Different Systems of Old-Age Security: A

Comparative Review." *Social Security Bulletin* 59 (3): 31-44.

Sierminska, E, A. Brandolini, and T.M. Smeeding. 2006. "The Luxembourg Wealth Study – A Cross-Country .

Smeeding, T. M. 2003. "Income Maintenance in Old Age: Current Status and Future Prospects for Rich Countries." *Genus* LIX (1): 51-83.

Smeeding, T. M, and P.Saunders. 1998. "How Do the Elderly in Taiwan Fare Cross-Nationally? Evidence from the Luxembourg Income Study (LIS)." Luxembourg Income Study Working Paper No. 183. Syracuse, NY: Center for Policy Research, Syracuse University. October.

Smeeding, T. M., and S. Sandström. 2005. "Poverty and Income Maintenance in Old Age: A Cross-National View of Low-Income Older Women." *Feminist Economics* 11 (2):163-174.

Smeeding, T. M., and B.B. Torrey. 1992. "Comparative Economic Status of the Elderly in Eight Countries: Policy Lessons from the Luxembourg Income Study, and the International Database on Aging." In T.M. Smeeding, ed., *International Comparisons of Economic Inequality, Research in Economic Inequality*, Volume 3. Greenwich, CT: JAI Press.

US Department of Health and Human Services (DHHS), Centers for Disease Control. 2006. Personal Health Care Expenditures of Medicare Beneficiaries, on-line database. Accessed on October 15, 200*://209.217.72.34/aging/TableViewer/tableView.aspx?ReportId=148* .

White, G. and R. Goodman. 1998. "Welfare Orientalism and the Search for an East Asian Welfare Model." In. R. Goodman, G. White and H-J. Kwon, eds., *The East Asian Welfare Model. Welfare Orientalism and the State.* London, UK: Routledge 3-24.

Whiteford, P. 2003. "From Enterprise Protection to Social Protection: Pension Reform in China." *Global Social Policy* Vol. 3(1): 45-77.

Williamson, J., and T.M. Smeeding. 2005. "Sliding into Poverty? Cross-National Patterns of Income Change and Benefit Decay in Old Age." Unpublished manuscript.November.

Wong, L. J. 1998. Marginalization and Social Welfare in China. London, UK and New York, N.Y.: Routledge/LSE.

Table 1. GDP Per Capita: A Rough Index in 2005 (PPP**)**

Country	**Index**
United States	100
Canada, UK, Sweden	89–90
Germany, Italy, Australia	80–81
Taiwan	36–38
Mexico	20–26
China	14–17

Sources: IMF, World Bank, CIA, United Nations and in Wikipedia.

Table 2. The Prevalence of Elderly Household Structures across Countries Circa 2000

	Everyone Over 65			Women Over 65		
Country	**Single**	**Couple**	**Multigenerational**	**Single**	**Couple**	**Multigenerational**
Australia	33.8	52.2	14.0	30.7	51.8	17.5
Canada	29.2	49.7	21.2	38.7	39.2	22.1
Germany	42.1	51.3	6.7	56.2	36.6	7.2
Italy	26.4	43.2	30.4	35.3	33.6	31.2
Mexico	11.9	17.3	70.8	13.9	12.3	73.8
Sweden	45.6	50.7	3.7	57.7	39.0	3.3
China	0.9	18.5	80.5	1.6	15.1	83.4
Taiwan	11.7	29.8	58.5	12.4	25.2	62.4
UK	37.7	50.1	12.3	48.9	38.3	12.8
US	31.3	48.7	20.0	40.7	37.5	21.8
Total	27.1	41.2	31.8	33.6	32.9	33.5

Source: Authors' calculations using Luxembourg Income Study (LIS) and Chinese Household Income Project (CHIP).

Table 3. Trends in the Prevalence of Elderly Household Structures over Time in Three Middle-Income Countries

		Everyone Over 65			Women Over 65		
Country	**Year**	**Single**	**Couple**	**Multigenerational**	**Single**	**Couple**	**Multigenerational**
Mexico	1984	7.76	14.74	77.5	9.55	10.81	79.64
Mexico	1989	7.85	15.62	76.53	8.6	12.24	79.16
Mexico	1994	9.71	19.21	71.08	10.29	16.14	73.57
Mexico	2000	11.85	17.34	70.81	13.91	12.32	73.77
Mexico	2002	11.22	22.7	66.08	12.73	18.42	68.84
Change		3.46	7.96	-11.42	3.18	7.61	-10.8
Taiwan*	1981	4.82		95.18	2.59		97.41
Taiwan*	1986	6.78		93.22	4.31		95.69
Taiwan	1991	7.94	19.94	72.12	5.3	16.58	78.13
Taiwan	1995	10.27	23.98	65.75	8.32	20.65	71.03
Taiwan	2000	11.71	29.79	58.5	12.4	25.22	62.37
Change		6.89	29.79	-36.68	9.81	25.22	-35.04
China*	1988	0.4		99.6	0.2		99.8
China	1995	0.1	7.5	92.4	0	5.3	94.7
China	2002	0.9	18.5	80.5	1.6	15.1	83.4
Change		0.5	18.5	-19.1	1.4	15.1	-16.4

Source: Authors' calculations using LIS and CHIP databases.
*In 1981 and 1986 Taiwan files and in 1988 China files single vs. couple elders could not be distinguished.

Table 4. Elder Disposable-Personal-Income-Based Poverty Rates for Women by Household Structure and Age across Countries

	Women 65–74			Women 75 and Over		
Country	**Single**	**Couple**	**Multigenerational**	**Single**	**Couple**	**Multigenerational**
Australia	55.6	11.4	3.0	n/a	n/a	n/a
Canada	14.5	1.4	6.1	11.3	2.1	6.6
Germany	21.9	5.2	3.5	17.4	4.4	5.8
Italy	30.0	9.7	14.7	30.2	6.4	10.6
Mexico	39.5	25.3	20.2	59.1	80.5	23.5
Sweden	10.1	1.6	6.8	20.0	1.9	7.0
China	0.0	5.5	21.3	0.0	4.3	19.3
Taiwan	61.3	43.0	13.4	65.5	44.8	9.7
UK	26.7	13.5	6.1	30.3	18.2	6.3
US	41.0	14.7	19.0	49.0	22.7	15.9
Total	30.0	13.1	11.4	31.4	20.6	11.6

Source: Authors' calculations from LIS and CHIP databases.
Cells contain the percentage of the sub-population with an adjusted household disposable income less than 50% of the country median adjusted household income.

Table 5. Market Income (MI) and Disposable Personal Income (DPI) Poverty Rates, and the Difference Between the Two Rates for Elderly Women across Countries

	Ages 65–74			Ages 75 and Over		
Country	**MI**	**DPI**	**Difference**	**MI**	**DPI**	**Difference**
Australia	71.7	23.4	48.3	n/a	n/a	n/a
Canada	52.5	5.9	46.7	61.5	7.9	53.6
Germany	83.0	12.2	70.8	87.3	13.8	73.5
Italy	76.0	16.2	59.8	80.8	18.5	62.3
Mexico	35.9	23.5	12.5	38.3	32.2	6.2
Sweden	78.3	5.3	73.0	92.6	15.1	77.5
China	34.7	17.6	17.1	26.8	18.3	8.5
Taiwan	43.9	27.8	16.2	39.0	24.8	14.2
UK	66.1	17.4	48.8	77.1	23.4	53.7
US	59.6	23.3	36.2	72.1	34.8	37.2
Total	60.2	17.2	42.9	63.9	21.0	43.0

Source: Authors' calculations from LIS and CHIP.

Table 6. Gross-Income Poverty Rates for Elders with Income Splitting among Family Members in Taiwan, China, and Mexico

Percentage of Population with Incomes Less than Given Percentage of Adjusted National Median Gross Income			
A. Taiwan			
	40%	**50%**	**60%**
Taiwan 2000			
Prior to Income Splitting			
Persons living in household with an aged member	16.4	25.0	36.0
After Income Splitting			
Persons living in household with an aged member			
Non-Elderly (<65)	1.4	3.0	4.6
Elderly (65+)	44.5	45.5	46.1
B. China			
	40%	**50%**	**60%**
China 2002			
Prior to Income Splitting			
Persons living in household with an aged member	10.0	16.8	23.4
After Income Splitting			
Persons living in household with an aged member			
Non-Elderly (<65)	3.4	6.2	9.6
Elderly (65+)	73.5	74.6	75.3
C. Mexico			
	40%	**50%**	**60%**
Mexico 2002			
Prior to Income Splitting			
Persons living in household with an aged member	14.5	20.0	27.1
After Income Splitting			
Persons living in household with an aged member			
Non-Elderly (<65)	3.6	4.1	4.5
Elderly (65+)	56.1	58.1	60.8

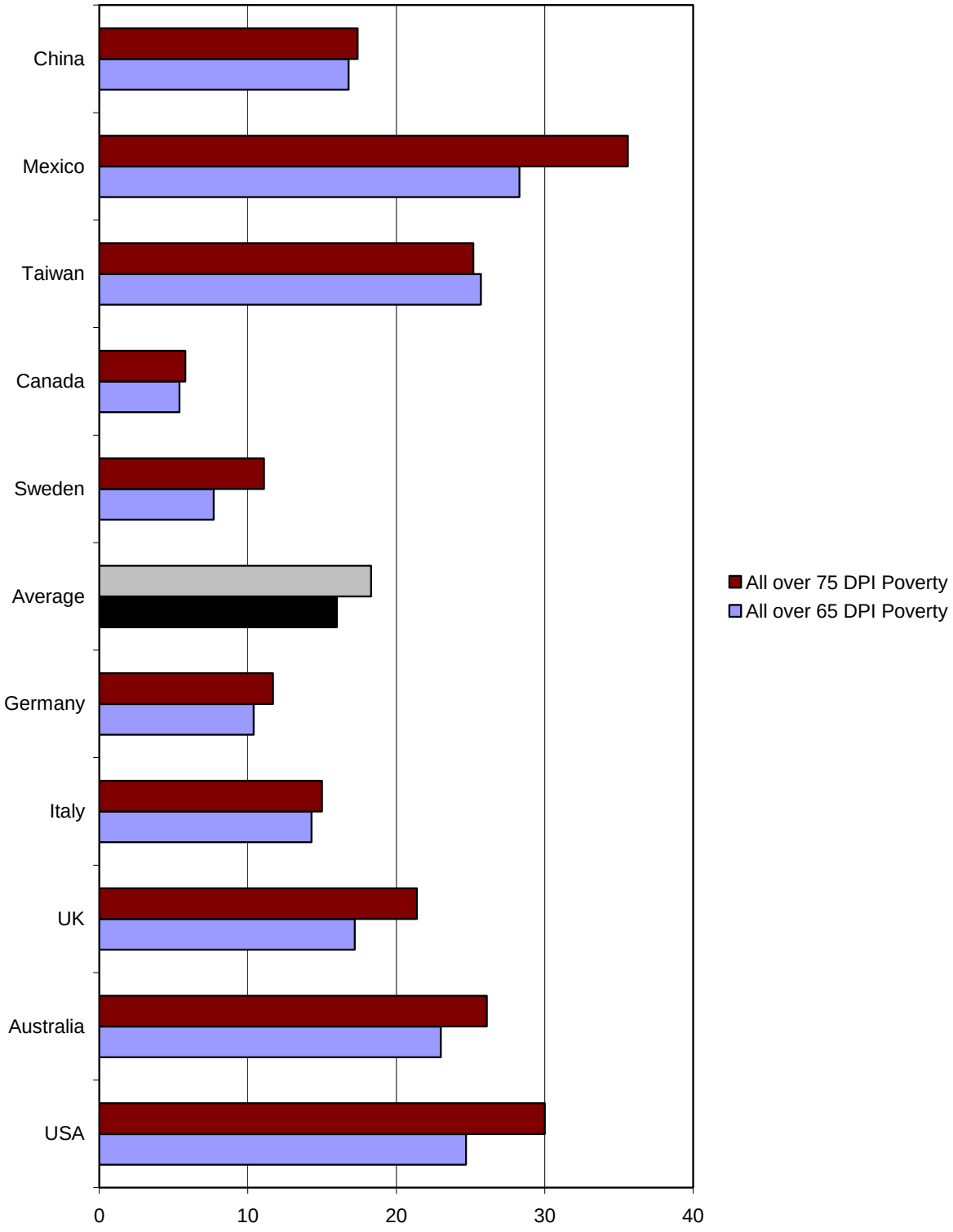
Source: Authors' calculations from LIS and CHIP databases.

Table 7. Rural and Urban Disposable-Income Poverty Rates for Elderly Women across Countries

Country	Women 65 and Over	
	Rural*	**Urban***
Australia	26.6	21.4
Canada	7.0	6.7
Germany	14.2	10.5
Italy	17.1	17.4
Mexico	42.8	15.5
Sweden	11.6	6.9
China	32.8	0.7
Taiwan	35.7	19.1
UK	21.9	16.8
US	28.2	29.9
Total	23.8	14.5

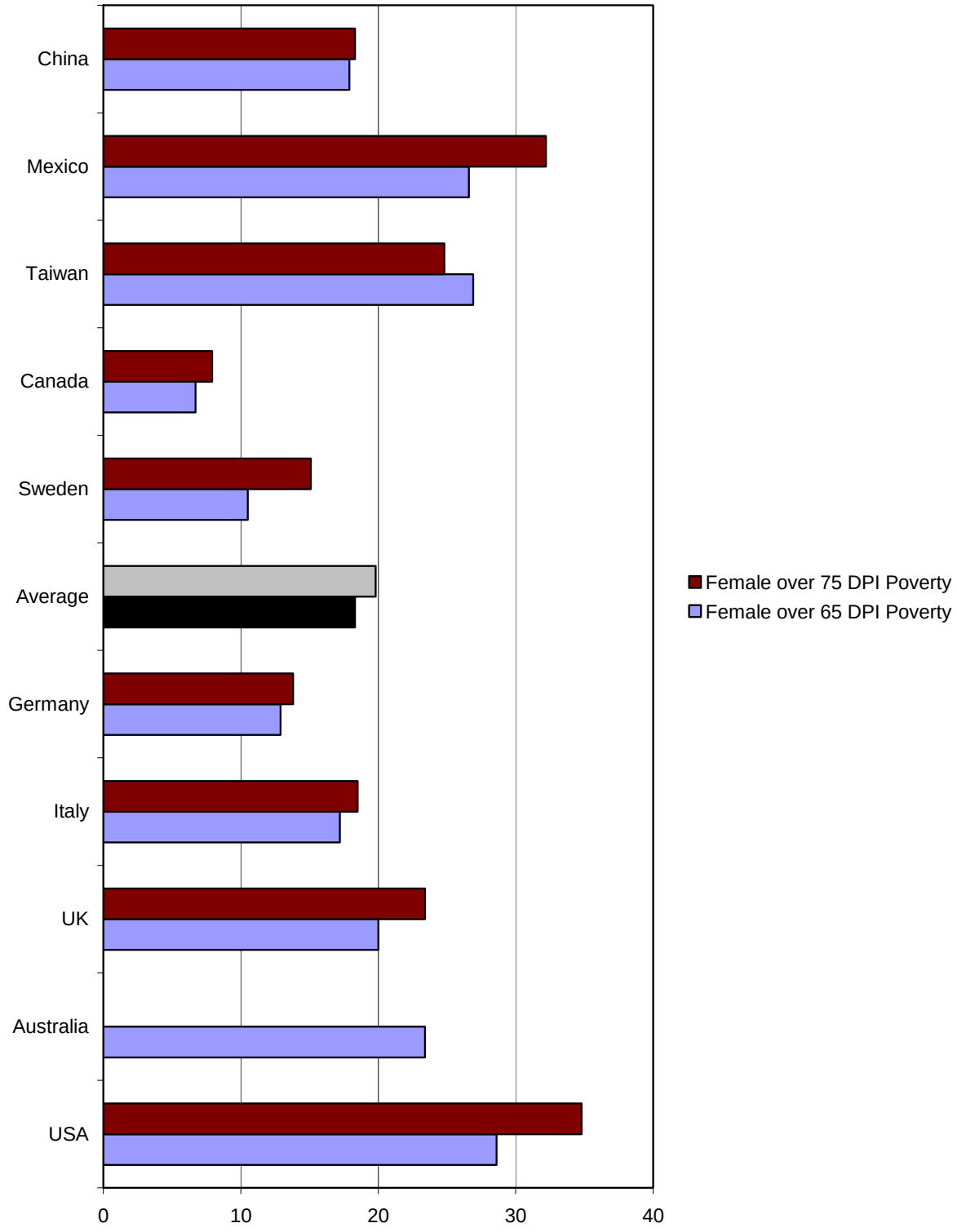
Source: Authors' calculations from LIS and CHIP databases.
*See Appendix for definition of urban and rural.

Figure 1. DPI Poverty Rates by Country in or Around 2000
(Men and Women)



Source: Authors' calculations using LIS and CHIP databases.

Figure 2. DPI Poverty Rates by Country in or Around 2000
(Women)



Source: Authors' calculations using LIS and CHIP databases.

Appendix Table. Rural Definitions in Table 7*

Country	Rural Description
China	Living in Villages
Mexico	Places less than 2,500 population
Taiwan	Village
USA	Non-Metropolitan
Australia	Non-Metropolitan
Canada	Places less than 10,000
Germany	Places less than 20,000
Sweden	Town/Municipality less than 7,500
Italy	Places less than 20,000

*Rest coded as urban.