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How Amending Old Age Security Would Improve the State of Canadian Women Living in the Alone State of Retirement

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How Amending Old Age Security Would Improve the State of Canadian Women Living in the Alone Stage of Retirement

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How Amending Old Age Security Would Improve the State of Canadian Women Living in the Alone Stage of Retirement

Executive Summary

Canadians are living substantially longer without increasing years of work; a longer retirement must be resourced within a stable working life. This paper provides results from a larger research project studying the financial and social implications of providing health care, long-term care, and other support to an aging population. In this paper the focus is on the income requirements of older women who are living alone. It presents information regarding amounts available under current programs and draws conclusions regarding the adequacy of such programs. It shows how amending Old Age Security would improve adequacy and estimates the cost of such an amendment.

Section 1: Background

Canadians are living substantially longer without increasing years of work; a longer retirement must be resourced within a stable working life. The literature recognizes 3 stages of retirement, early (ages 65 - 74 years), middle (ages 75 - 84 years) and late (ages 85 plus). Resource needs follow a U-shaped pattern. Resource needs are high in the early stages while seniors are active; fall in the middle stage as retirees enjoy home routines; and higher again in the later stage, as health declines and daily living activities become more difficult[1]. On average women expect to live longer than men, and those that marry tend to marry men who are older than themselves. Female baby boomers, more than previous cohorts, either divorced or did not marry (Curtis & Rybczynski, 2015). Moreover, frequently the male in the couple was the primary earner with higher savings and pension income, and couples traditionally spent more while both were alive, without sufficient planning as to how long wealth and other resources may continue. Additionally, most people tend to underestimate their expected life time.

As a result of these factors there is a growing proportion of baby-boomer women who will end up living alone at older ages with limited incomes when health and daily activity issues exacerbate. Towards the end of the middle and into the late stage of retirement, many women find themselves alone having to cope with financial issues - 'the alone stage of retirement' (ASR).

This paper quantifies the financial challenges that many Canadian women living in the ASR are likely to face and compares them to their male counterparts. In a companion paper, entitled Health and Social Care Analysis Regarding the State of Canadian Women Living in the Alone Stage of Retirement, we describe some of the non-financial challenges that many Canadian women in the ASR will face and then we analyze three specific issues and propose policy initiatives. Taken together these two papers provide a substantive outline of what an “average Canadian woman living in the ASR” may experience financially and otherwise.

[1] For example: https://discover.rbcroyalbank.com/discover-the-three-stages-of-your-retirement-journey-pay-uf/

This paper is focused on financial need in retirement for individuals in the ASR; comparing the male and female experiences. The financial issues that concern us are: the level of income likely to be available to the average Canadian in the ASR, considering Canada Pension Plan (CPP), Old Age Security (OAS), Guaranteed Income supplement (GI), private pensions, and other income support programs. The typical level of expenditures needed to meet a basic level of living is measured by a market basket measure of low income (MBM) in Canada. The MBM includes expenses such as food, clothing and footwear, transportation, shelter, and other costs of daily living. We examine the income from sources such as private pensions, CPP, and OAS, for individuals in this stage of retirement. We compare it to the MBM to describe the status of women living alone in retirement compared to other groups including men living alone, and couples. We also compare the income to the internationally recognized relative poverty measure (low income measure (LIM)) to provide a comparator and a longitudinal comparator.

Using data available from the 2016 Canadian Census publicly available from Statistics Canada, we provide best estimates of the relative incomes/needed expenditure profiles for individuals in different stages of retirement. The incomes are adjusted for the necessary distribution between singles and couples. For example, a single female requires more than half of what a married couple needs because there are returns to scale in a coupled household. Canada has recently announced an MBM as the "poverty standard" to which comparisons are to be made when examining policy. Canada is also working on 'poverty policies' meant to move towards the elimination of poverty. This paper provides policy prescriptions regarding revisions to the OAS designed to fill any gaps and raise individuals above the poverty standard for those immediately in need. Moreover, it discusses how individuals, employees and the government might work together to ensure that younger women are better prepared for retirement moving forward by increasing private pensions, savings, and government benefits.

The literature review indicates that basic or minimum income programs (BMIP) are gaining prominence as a potentially viable option. We have identified 13 countries in which BMIP are under consideration and information on these programs is presented in Appendix A. The OAS might be considered a basic or minimum income program for a target group (seniors meeting residence requirements). We provide cost estimates for improving the OAS (or moving to some guaranteed minimum income).

From a research perspective this paper is innovative. Not only does it examine a minimum income approach for seniors, which to the best of our knowledge is not in effect in any OECD country, but also it makes comparisons of seniors' incomes and expenditures to a new Canadian poverty standard and compares it to the 'unofficial standard' used internationally and in much of the poverty literature (50% median income adjusted for household size). In this respect it will be one of the first papers, if not the first, to do this.

The paper is organized as follows. In Section 2, we provide statistical information to describe the situation from a financial perspective in which women in the ASR may find themselves. We discuss the definition of poverty in Canada. We specify the research methodology and data sources. In Section 3 we use 2016 Census data to analyze the percentage of households age 65 and over which were living below the poverty line. We compare lone males and females to couples. In Section 4 we discuss two potential approaches to closing this gap and provide cost estimates. One involves increasing OAS; hence, the title of this paper. The other discusses a BMIP, providing details on international experiments with BMIP. In Section 5 we discuss areas for further research. Section 6 concludes. Section 7 acknowledges the support that facilitated this research. Section 8 provides references

Section 2: Statistical Overview and Background

This section draws on various reports to provide statistics regarding women in the ASR. The reports use data from various periods of time and include projections, which make them assumption dependent. Hence this section is intended to provide the reader with a statistical overview of the situation to be faced by Canada in respect of women in the ASR.

Hudon & Milan (2016) report that there were approximately 8,100 centenarians living in Canada in 2015, projected to double by 2031. The fastest growing age group in Canada is 90 years and over. Women gradually outnumber men in the older age groups (over 88% of centenarians are women). However, the life expectancy of men (3.6 months/year) in Canada over the past ten years has been increasing at a faster rate than that of women (2.4 months/year) (Hudon & Milan, 2016) contributing in part to the small decrease in the proportion of women in the ASR in Canada (Milan, Bohnert, LeVasseur, & Page, 2015).

After a long period of stability, senior poverty rates are increasing in Canada, particularly for women. But the statistics are more dismal for those living alone (poverty rates grew by 3.2% for women living in families but 18.9% for those living alone). Despite these statistics, there has been little focus on ASR in general or the late stage of retirement specifically.

According to Milan and Vezina (2011) in 2010, Canada had 4.8 million people aged 65 or older. 2.7 million of them or 56 percent were women accounting for 16% of the total female population. Over the 50-year period following 2010, the number of Canadians over age 65 is projected to increase to approximately 25 percent of the population. The percentage of this group that is women is projected to fall slightly to approximately 53 percent.

The aging of the Canadian population is well-documented, and the foregoing statistics support this proposition. It is noteworthy that the senior population as a percentage of the total population is projected to increase significantly over the next 50 years and that the majority of the senior population in each age group will be women. As stated previously, over the projection period the percentage of women in each age group will decline slightly, as male life expectancy continues to increase. However, women continue to dominate the older age cohorts. According to the M1 projection assumptions in Statistics Canada (2010), the percentage of the population aged 85 or older that is women will decline from 60.8 percent in 2036 to 58.7 percent in 2061 and the percentage of women in the centenarian population will decline from 79.2 percent in 2036 to 77.5 percent in 2061. These statistics demonstrate that dealing with a senior population has a distinct gender bias; although the degree to which it is a "women's issue" will decline slightly over a long projection period. The "issue" is not just about the number of women, it is about the income and financial needs of these women.

According to the Office of the Chief Actuary (2017), 72.5 percent of single individuals who receive any Guaranteed Income Supplement (GIS), a federal program to increase incomes of those falling below a specified level, was female in 2016 and that is projected to decline slightly to 70.3 percent by 2060. The benefit may be in addition to other income and is reduced accordingly depending on other income sources. When only those receiving the full benefit are counted the 'gender issue' is even more dire. In 2016, 77.8 percent of single recipients of full GIS were women and this is projected to decline only slightly to 76.4 percent by 2060.

Marriage may not be the best indicator of life-companionship in Canada. Milan (2013) demonstrates that in 2011 approximately 60 percent of women and 80 percent of men over the age of 65 lived in couples. However, by the age of 80, only 25 percent of women compared to approximately 70 percent of men lived in couples. Hence as women grow older it is increasingly likely that they will be living alone. Separation, divorce, and never marrying are becoming more frequent reasons women are alone in retirement for baby boomers, whereas the death of a spouse was more likely the reason for past generations (Curtis & Rybczynski, 2015).

There are substantial income differences between those living alone and within a couple as they age. Milan and Vezina (2011) report that among those age 65 and older in 2008, 17.1 percent of women and 12.1 percent of men living alone were classified as low income after tax. Whereas among the same age group, only 1.8 percent of women and 1.5 percent of men living in a coupled household were estimated to be classified as low income after tax; the proportion of those living alone considered low income is close to 10 times that of couples.

Women living at older ages are much more likely to live in collective dwellings, such as health care and related facilities, than are men at older ages. According to Milan and Vezina (2011) in 2006 among the population age 65 or

older, 9.3 percent of women and 5.1 percent of men lived in collective dwellings; however, among the population age 85 or older 33.2 percent of women and 21.1 percent of men lived in collective dwellings.

These statistics have been assembled to show that: there will be an increasing senior population as the baby-boomers retire, both absolutely and as a proportion of the population; women will comprise the majority of the population in each seniors' age group; the proportion of the age group that is women increases with age; the income levels of senior women tend to be less than that of senior men; and women living alone tend to be the neediest financially.

2.1 MEASURING POVERTY IN CANADA

Defining poverty is a difficult task. Both absolute measures and relative measures may be used. The OECD uses a relative measure, citing the following definition[2]. "The poverty rate is the ratio of the number of people (in a given age group) whose income falls below the poverty line; taken as half[3] the median household income of the total population. It is also available by broad age group: child poverty (0-17 years old), working-age poverty and elderly poverty (≥66 years-old). However, two countries with the same poverty rates may differ in terms of the relative income-level of the poor."

The Low-Income Measure (LIM) is a relative measure that "adjusts" for household size but typically not cost differences. The income used in the LIM is "adjusted" because household needs depend on the number of people in that household. Adjustment for household size reflects the fact that households' needs increase as the number of members in the household increases but not necessarily linearly as there are likely to be returns to scale. For example, a household of four is likely to have greater needs than a household of one, although those needs are not necessarily four times as costly. Typically, the adjustment used to scale income is the square root of the household size; a household of four is considered to need twice as much income as a household of one.

An advantage of this relative measure is that it makes measurement straightforward, as it is based on median household income of the total population. Arguably, although such a definition has the advantages of simplicity and measurability, it has disadvantages of imprecision and inaccuracy. Within a large country such as Canada, with large urban centres and remote locations, the median household income is a crude measure of what it costs to live, and therefore of poverty. A measure that varied by location would likely provide a clearer indication of poverty.

Another relative measure used to define poverty is the Low-Income Cut-Off (LICO). To calculate LICOs, data from the Survey of Household Spending are used to define an income threshold or cut-off indicating where a family is likely to spend 20 percentage points more of its income on food, shelter and clothing than the average family. There are separate cut-offs for seven sizes of family - from unattached individuals to families of seven or more persons - and for five community sizes - from rural areas to urban areas with a population of more than 500,000[4]. The LICO uses both incomes and expenditures information, and so, makes the determination of poverty more difficult to calculate and it is necessary to update LICO on a regular basis due to cost-of-living changes in different areas.

Recently the Government of Canada (2018) adopted an absolute poverty measure as part of its poverty reduction strategy. In Canada, poverty is now defined in relation to a Market Basket Measure (MBM). Five categories of goods and services are included in the basket: food, clothing and footwear, transportation, shelter, and other. The income

[2] https://data.oecd.org/inequality/poverty-rate.htm
[3] Note that not all countries using this type of measure use 50% of the median income as the cut-off; for example, the United Kingdom uses 60% (Browne & Hood, 2018). This poverty measure is referred to as the Low-Income Measure (LIM).
[4] https://www150.statcan.gc.ca/n1/pub/75f0011x/2012001/notes/low-faible-eng.htm

needed to purchase the basket of goods for families of different sizes in 50 different regions across Canada is estimated and compared to the household's disposable income[5].

The MBM attempts to measure the income needed to buy a basket of goods for that household, reasonably thought to be necessities, taking the cost-of-living in the area of residence and household size into consideration. For example, a couple living in Toronto needs more income to buy the basket than does a couple in Peterborough due to the cost of housing alone. The Canadian government has chosen the MBM as its official poverty line. The MBM is also useful for the purpose of this paper which attempts to offer policy suggestions for closing the gap between seniors' needs (e.g., necessary level of expenditures) and their incomes.

In 2019, the Government of Canada announced[6] that since its poverty reduction strategy was introduced, the 2017 poverty rate of 9.5 percent was the lowest rate achieved using Canada's new MBM measure. As well, between 2015 and 2017, there was a decrease of 52,000 single seniors living below Canada's Official Poverty Line. This paper goes beyond these types of statistics to examine more closely how seniors living alone are faring using both the more internationally recognized relative poverty line (LIM) and Canada's recently announced absolute poverty line (MBM). More specifically, we examine whether females living alone face higher rates of poverty than do their male counterparts. We present poverty rates and gaps using both the LIM and the MBM but focus on the gap between the MBM and after-tax income for seniors living alone in the different stages of retirement in the closing the gap analysis (section 4). Finally, we will explore alternatives for reducing or alleviating senior poverty in Canada

2.2 DATA AND METHODOLOGY

In this report we analyze data taken from the latest Canadian Census, using the 2016 public use microdata file (Statistics Canada, 2019a). The Census, collected every five years, is the primary source of demographic data in Canada. It contains information important for this report including age, sex, relationships of household members (including marital or common-law status), housing, income and income sources, and low-income measures. The data used were collected using the long-form survey. One quarter of Canadians filled in the long-form survey in 2016. Importantly, income data were obtained from personal income tax and benefits files, thus they are accurate and do not suffer from issues of missing data and reporting error as survey data often does. Our sample includes all individuals 65 years of age or older who are classified as living in a household in one of the provinces. We do not include individuals living in the territories.

Indicator variables signaling whether households were living below the after-tax LIM (ATLIM) and the MBM measures were provided in the data. These indicator variables were used to calculate the proportions of seniors in different stages of retirement living in poverty as measured by the different poverty measures. We examine the income sources reported in the data[7] for all seniors living alone and for those living in poverty. We then calculate a poverty gap or the amount of income necessary to lift the individuals to the poverty line as a basis for analyzing income programs to alleviate poverty in the alone stage of retirement.

The ATLIM and MBM poverty cut-offs were not provided in the data. To calculate the ATLIM and the MBM gaps, we use tabular data providing the ATLIM and MBM cut-offs as calculated by Statistics Canada (Statistics Canada, 2019b,

[5] "MBM disposable family income is the sum remaining after deducting from total family income the following: total income taxes paid; the personal portion of payroll taxes; other mandatory payroll deductions such as contributions to employer-sponsored pension plans, supplementary health plans and union dues; child support and alimony payments made to another family; out-of-pocket spending on child care; and non-insured but medically-prescribed health-related expenses such as dental and vision care, prescription drugs and aids for persons with disabilities." (HRSDC, 2004: page 5) See also https://www12.statcan.gc.ca/nhs-enm/2011/ref/dict/pop165-eng.cfm

[6] https://www.canada.ca/en/employment-social-development/news/2019/03/canada-reaches-lowest-poverty-rate-in-history.html

[7] Some income sources are not well reported, retirement income for example. We use the observations in the data with the caveat that this might not be representative of the population due to under-reporting.

c, d). In the tables, both the ATLIM and MBM measures are provided for different household sizes; we use only measures available for single households. The ATLIM is provided for Canada as a whole. The MBM measures are provided for 50 different geographic areas and are different for those who own their homes (no mortgage payments). However, due to data limitations we were only able to match 22 geographical areas that are available in the public use data. Matching the MBM measures to the data necessitated aggregating some geographic areas. This was done using population weighted averages of the MBM measures to match the 22 geographic areas available in the public use data. The cut-offs were then compared to the after-tax total income available to those in our sample[8]. After analyzing this information, we use Census information on OAS receipt to estimate the cost impact of the proposed changes.

Section 3: Assessing the Gap

The following sources of income may be available to someone in Canada age 65 or older: a CPP pension, an OAS pension, a GIS supplement to the OAS pension, pensions from private sources related to employment, private savings perhaps related to employment. The data include income measures including after-tax total income[9], income from OAS and GIS[10], CPP[11], private retirement income[12] and total government income transfers[13]. Total government income captures all government transfers as there are various income support programs available that differ by province of residence. For example, in Ontario, Canada's most populous province, an individual may be entitled to receive income from Ontario Works and from Ontario Disability Support Program (ODSP), if a person has a qualifying disability and needs help with living expenses, and from the Ontario Guaranteed Annual Income System if income from all sources is still below a set threshold. Otherwise, individuals are generally responsible for paying for their living expenses. However, for individuals with qualifying disabilities or living in long-term care institutions additional subsidies from the provinces may be available.

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[8] HRSDC and Statistics Canada use 'disposable income' to calculate the MBM (see footnote 6). This measure is not available in the data. For seniors the relevant deductions from income that we cannot adjust for are non-insured but medically-prescribed health-related expenses such as dental and vision care, prescription drugs and aids for persons with disabilities. These could be substantial for some – thus our poverty gap may be thought of as a lower bound and not representative of seniors with large medically necessary expenditures. Approximately 7% of the seniors in our sample would have higher gaps if we could measure disposable income.

[9] After-tax income refers to total income less income taxes during the reference period. Income taxes refers to the sum of federal income taxes, provincial and territorial income taxes, less abatement where applicable. Provincial and territorial income taxes include health care premiums in certain jurisdictions. ". https://www12.statcan.gc.ca/census-recensement/2016/ref/dict/pop194-eng.cfm

[10]OASGI is defined "as Old Age Security pension and Guaranteed Income Supplements paid to persons aged 65 years and over, and to the Allowance and Allowance for the Survivor paid to 60- to 64-year-old spouses of old age security recipients or widow(er)s by the federal government." https://www12.statcan.gc.ca/census-recensement/2016/ref/dict/pop194-eng.cfm

[11] CPP is defined as benefits received during the reference period from the Canada Pension Plan or Quebec Pension Pl an in the form of retirement pensions, survivors' benefits and disability benefits. It does not include lump-sum death benefits. ". https://www12.statcan.gc.ca/census-recensement/2016/ref/dict/pop194-eng.cfm

[12] Private retirement income refers to any income associated with employer or personal retirement pensions, benefits or savings plans. It employers' registered pension plans, pooled registered pension plans, and matured registered retirement savings plans (RRSPs) in the form of a life annuity, a fixed-term annuity, a registered retirement income fund (RRIF) or an income-averaging annuity contract; pensions paid to widow(er)s or other relatives of deceased pensioners; pensions of retired civil servants, Canadian Armed Forces personnel and Royal Canadian Mounted Police (RCMP) officers; annuity payments received from the Canadian Government Annuities Fund, an insurance company, etc. It does not include lump-sum death benefits, lump-sum benefits or withdrawals from a pension plan or RRSP or refunds of over-contributions". https://www12.statcan.gc.ca/census-recensement/2016/ref/dict/pop194-eng.cfm

[13] Total government income refers to all cash benefits received from federal, provincial, territorial or municipal governments during the reference period. It includes: Old Age Security pension, Guaranteed Income Supplement, Allowance and Allowance for the Survivor, retirement, disability and survivor benefits from Canada Pension Plan and Quebec Pension Plan, benefits from Employment Insurance and Quebec Parental Insurance Plan, child benefits from federal and provincial programs, social assistance benefits, workers' compensation benefits, Working Income Tax Benefit, Goods and Services Tax credits and Harmonized Sales Tax credits, other income from government sources. or an income-averaging annuity contract; https://www12.statcan.gc.ca/census-recensement/2016/ref/dict/pop194-eng

3.1 DATA ANALYSIS

Table 1A, B, and C provide the sample size of the entire population of seniors, seniors living alone and our study population, single households 65 years of age and older, by sex, for the age bands and stages of retirement examined in the study. Of note is the fact that senior women outnumber senior males by more than 2 to 1 in the early years of retirement and that grows to more than 3 to 1 at over 85 years of age or in the late state of retirement. This is of note as the tables in the remainder of the paper present proportions of given populations, but readers are reminded to keep in mind the substantial difference in the sample sizes across the sexes as well as the differences in proportions.

Table 1A

POPULATION OF SENIORS BY AGE FROM CANADIAN CENSUS 2016

Age	Female (%)	Male (%)	Total
65-59	998,085 (52)	917,415 (48)	1,905,500
70-74	698,560 (52)	647,463 (48)	1,346,023
75-59	512,931 (54)	436,230 (46)	949,161
80-84	351,611 (54)	289,562 (46)	641,173
≥85	308,062 (61)	192,474 (61)	500,536
TOTAL ALL	**2,859,249**	**2,483,144**	**5,342,393**

Source: Authors' calculations using 2016 Census of Population [Canada] Public Use Microdata File (PUMF) (Statistics Canada. 2019a).

Table 2B

POPULATION OF SENIORS LIVING ALONE BY AGE FROM CANADIAN CENSUS 2016

Age	Female (%)	Male (%)	Total
65-59	241,610 (62)	148,962 (38)	390,572
70-74	209,568 (67)	102,379 (33)	311,947
75-59	184,593 (72)	70,485 (28)	255,078
80-84	155,030 (73)	57,091 (27)	212,121
≥85	168,979 (77)	51,726 (23)	220,705
TOTAL ALONE	**959,780**	**430,643**	**1,390,423**

Source: Authors' calculations using 2016 Census of Population [Canada] Public Use Microdata File (PUMF) (Statistics Canada. 2019a).

Table 3C

STUDY SAMPLE SIZE BY AGE AND ASR FROM CANADIAN CENSUS 2016

Age	Female (%)	Male (%)	Total
65-59	6,481 (62)	3,977 (38)	10,458
70-74	5,627 (67)	2,749 (33)	8,376
75-59	4,973 (72)	1,889 (28)	6,862
80-84	4,181 (73)	1,537 (27)	5,718
≥85	4,560 (77)	1,389 (23)	5,949
ASR			
Early	12,108 (64)	6,726 (36)	18,834
Middle	9,154 (73)	3,426 (27)	12,580
Late	4,560 (77)	1,389 (23)	5,949
TOTAL N	**25,822 (69)**	**11,541 (31)**	**37,363**

Source: Authors' calculations using 2016 Census of Population [Canada] Public Use Microdata File (PUMF) (Statistics Canada. 2019a).

Table 2 presents the proportion of seniors living alone who live in poverty in Canada by the ATLIM (most consistently used in the literature and internationally) and the MBM (Canada's official poverty line). Note that the proportion living in poverty is substantially reduced when changing the measure from the ATLIM to the MBM (by half in all but the youngest age group). The poverty rate drops from between 25% - 39% when using ATLIM to 10% -

23% when using the MBM poverty line, depending on age and sex[14]. Second, the two measures result in different trends. ATLIM poverty rates increase slightly for females as they age and fall for males as they age. The MBM shows poverty rates falling substantially for both sexes. These trends are statistically significant. Further, a slightly higher proportion (not absolute number) of males live in poverty in the youngest age group, while the proportion of women living in poverty is substantially higher in the oldest age groups using either of the poverty measures (recall, senior females living in poverty always outnumber senior males).

Table 2

PROPORTION OF SINGLE HOUSEHOLDS ≥65 YEARS OF AGE LIVING IN POVERTY IN 2016

	ATLIM		MBM	
Age	**Female Mean (st. dev.)**	**Male Mean (st. dev.)**	**Female Mean (st. dev.)**	**Male Mean (st. dev.)**
65-59	.337 (.473)^	.376 (.484)*	.213 (.409)^	.232 (.422)*
70-74	.366 (.482)^	.372 (.484)^	.185 (.388)^	.172 (.378)^
75-59	.381 (.486)^	.349 (.477)*^	.163 (.369)^	.145 (.352)^
80-84	.369 (.482)^	.294 (.456)*^	.158 (.365)^	.131 (.338)*^
≥85	.387 (.487)^	.250 (.433)*^	.151 (.358)^	.103 (.304)*^
TREND	**Increases~**	**Decreases~**	**Decreases~**	**Decreases~**

Note: * indicates significant difference between females and males
^ indicates significant difference from Early ASR
~ indicates trend is significant

Source: Authors' calculations using 2016 Census of Population [Canada] Public Use Microdata File (PUMF) (Statistics Canada. 2019a).

Table 3 shows the proportion of single senior households living in poverty by stage of retirement. The trends are even clearer in Table 3 than in Table 2. When measured by ATLIM the proportion of females living in poverty grows across the ASRs while the proportion of men in poverty falls. The proportions fall for both sexes when using MBM poverty line. The information is presented by sex (male, female) and grouped by stage of retirement (early - 65 to 74, mid - 75 to 84, late - 85 or older). A higher proportion of males than females live below the poverty lines in the earliest stage of retirement, but this reverses in the middle stage of ASR and the difference grows in the final stage of ASR. Putting together the data from Tables 1 and 3, in absolute terms the number of females living in poverty is close to double that of males in the early stage, triple in the middle stage and quadruple that of males in the late stage of ASR.

Table 3

PROPORTION OF SINGLE SENIOR HOUSEHOLDS LIVING IN POVERTY IN 2016 BY ASR STAGE

	ATLIM		MBM	
ASR	**Female Mean (st. dev.)**	**Male Mean (st. dev.)**	**Female Mean (st. dev.)**	**Male Mean (st. dev.)**
Early	.351 (.471)	.375 (.484)*	.200 (.400)^	.208 (.406)*
Middle	.375 (.484)^	.325 (.468)*^	.161 (.367)^	.139 (.346)*^
Late	.387 (.487)^	.251 (.433)*^	.151 (.358)^	.103 (.304)*^
TREND	**Increases~**	**Decreases~**	**Decreases~**	**Decreases~**

Note: * indicates significant difference between females and males
^ indicates significant difference from Early ASR
~ indicates trend is significant

Source: Authors' calculations using 2016 Census of Population [Canada] Public Use Microdata File (PUMF) (Statistics Canada. 2019a).

[14] We are not the first to show the discrepancy of the poverty measures for seniors. See for example - http://www.progressive-economics.ca/2018/03/09/how-to-measure-and-monitor-poverty-lim-vs-lico-vs-mbm/

Next, we examine the composition of seniors' incomes. For those in each stage of retirement (early, middle, late), Table 4 presents the ratio of the four most substantial sources of Canadian seniors' incomes for all seniors (top panel) and those living in poverty (middle panel by MBM and bottom panel ATLIM)); OASGI, CPP, all government transfers including OASGI and CPP, and Private Pension Incomes (PPI). Of note is that for the entire population of seniors, government transfers make up over 60 percent of seniors' incomes, on average, while private incomes make up less than half[15]. As women move into the later stages of retirement, they become more dependent on government transfers than do their male counterparts. Men have substantially more private retirement income, on average, than do women in the middle and late stage of retirement. For those living in poverty, the dependence on government transfers is even more sizeable. For those reporting any government transfers, they are exclusive in their after-tax income; growing from slightly over 90% of after-tax income in the early stage of retirement to over 95% in the late stage. It is interesting that sex is not a statistically significant differentiating factor for seniors living in poverty, according to the MBM measure, when it comes to sources of income; both males and females depend heavily on government transfers if they live in poverty.

Table 4

PROPORTION OF SINGLE SENIOR HOUSEHOLDS LIVING IN POVERTY IN 2016 BY ASR STAGE^

	Early		Middle		Late	
Income Source	**Female Mean (st. dev.)**	**Male Mean (st. dev.)**	**Female Mean (st. dev.)**	**Male Mean (st. dev.)**	**Female Mean (st. dev.)**	**Male Mean (st. dev.)**
OAS/GIS	.360(.256)	.361(.260)	.381(.240)	.342(.233)*	.389(.230)	.309(.204)*
CPP	.240(.127)	.241(.140)	.269(.119)	.276(.130)*	.283(.120)	.305(.131)*
All Gov	.609(.294)	.612(.313)	.666(.272)	.634(.291)*	.686(.263)	.628(.277)*
Private	.489(.280)	.503(.296)*	.430(.271)	.484(.287)*	.369(.253)	.437(.272)*
Poor MBM						
OAS/GIS	.695(.224)	.656(.232)	.754(.174)	.722(.180)*	.770(.166)	.735(.185)*
CPP	.248(.223)	.295(.243)*	.224(.192)	.278(.204)*	.216(.160)	.282(.223)*
All Gov	.913(.193)	.920(.181)	.943(.140)	.954(.130)	.954(.116)	.957(.129)
Private	.269(.274)	.239(.267)	.216(.253)	.224(.319)	.193(.239)	.239(.345)
Poor ATLIM						
OAS/GIS	.637(.201)	.621(.199)*	.633(.171)	.615(.169)*	.620(.166)	.587(.171)*
CPP	.258(.173)	.278(.188)*	.278(.145)	.309(.160)*	.287(.129)	.342(.157)*
All Gov	.908(0.167)	.918(.160)*	.928(.120)	.949(.098)*	.924(.107)	.943(.100)*
Private	.201(0.191)	.176(.189)*	.149(.154)	.126(.151)*	.125(.129)	.127(.154)
TREND	**Increases~**	**Decreases~**	**Decreases~**		**Decreases~**	**Decreases~**

Note: ^Proportion of Income for those that report the income source. Proportions do not add up to 1.0 as not all seniors report all types of income. Private retirement income was particularly poorly reported (reported as not applicable or not stated).
*Proportions for females are significantly different than for males.

Source: Authors' calculations using 2016 Census of Population [Canada] Public Use Microdata File (PUMF) (Statistics Canada. 2019a).

Finally, we present the mean gap by poverty measure, stage of retirement and sex. Table 5 demonstrates that the average gap between the ATLIM and MBM poverty lines falls as retirement progresses for both poverty measures and both sexes. This indicates that either, incomes are growing as individuals age (there are tax benefits and subsidies that increase as people age) or individuals who were in couples join the alone stage of retirement as their spouses die and those individuals are wealthier, on average, than those who were alone in earlier stages of

[15] See footnote in table for explanation of why the proportions of sources of income do not add up to 1.0

retirement. In addition, those living to older ages may be wealthier (the health literature clearly demonstrates that the wealthier are healthier and live longer than those who are not, at all points in the income distribution).

Table 5 also indicates that the gaps do not differ significantly across the sexes in general. If we focus on the MBM gap, the gap for females in the early stage of retirement is about $30 lower than their male counterparts. Male and female gaps are within a few dollars for the middle and late stage. The average gap as measured by the MBM for all females living alone is $261, for all males living alone is $293 and the average gap for all seniors living alone is $271[16]. Recall, the MBM measure provides a notion of the ability to purchase a basket of needed goods and services, so, on average, seniors living alone are $271 short of being able to purchase a basket of goods deemed necessary.

Table 5
MEAN MONTHLY POVERTY GAP+ FOR SENIORS IN ASR

	ATLIM		MBM	
ASR	**Female Mean (st. dev.)**	**Male Mean (st. dev.)**	**Female Mean (st. dev.)**	**Male Mean (st. dev.)**
Early	350 (298)	361 (314)	290 (306)	320 (327)*
Middle	.269 (243)^	250 (240)*^	228 (261)^	223 (296) ^
Late	238 (212)^	224 (212)^	217 (238)^	221 (237)^
TREND	**Decreases~**	**Decreases~**	**Decreases~**	**Decreases~**

Note: + Poverty gap measures the difference between the poverty line and household income for those with income below the poverty line. the mean income distance below the poverty line how far below the poverty line.
* indicates significant difference between females and males
^ indicates significant difference from Early ASR
~ indicates trend is significant
Source: Authors' calculations using 2016 Census of Population [Canada] Public Use Microdata File (PUMF) (Statistics Canada. 2019a).

Section 4: Methods to Close the Gap

In this section we discuss two possible methods to close the gap. One involves the introduction of a basic or minimum guaranteed income program. This would be a significant undertaking in Canada from a political viewpoint due to the division of responsibilities between federal and provincial governments and that each level of government carefully watches any expenditure increases that might be allocable to other levels of government. Moreover, at this time, culturally it is unlikely that a majority of Canadians would favor the introduction of such a program. The second method that we discuss would be to increase the OAS. This would be easier to accomplish since it would be a change to a program that is already in existence. Also, OAS is only funded by one level of government, federal, so it would be easier to introduce; although, unilaterally-funded increases in OAS would likely be resisted by the federal government.

4.1 BASIC OR MINIMUM INCOME PROGRAMS (BMIP)

As part of our investigation to consider the feasibility of a BMIP, we researched programs or experiments tried or under consideration internationally. We were surprised to identify 13 countries with programs under consideration. Appendix A lists the countries alphabetically and summarizes the programs.

[16] The average gaps have been calculated by the authors and are not shown in the Table.

A 2018 cross-national survey by the OECD, regarding risks that matter, applies the principle of listening to people "in order to better understand people's worries and concerns, to capture their views on current social policies, and to learn what they expect from social policy in the future. The 2018 survey asked over 22,000 people in 21 OECD countries about their social and economic risks and how well they think their government tackles these risks." (OECD, 2019, page 4). In this subsection we cite some observations from the survey that are relevant in considering the financial situation of women in the ASR.

The OECD (2019) reports that regarding level of satisfaction with social policy, women tend to be less satisfied than men, and older respondents tend to be less satisfied than younger respondents. In all but two countries, Denmark and France, more than 50 per cent of respondents say they want government to do more for their economic and social security.

When asked where government should do more, the top priorities of people surveyed are improved public health care and better pensions. Almost 40 per cent of respondents would be willing to pay an additional 2 per cent of their income in taxes or social contributions for improvements in these areas. More than 25 per cent of respondents would be prepared to pay more taxes or social contributions for improved long-term care for the elderly. Not surprisingly older respondents (55 – 70) are more likely to want improvements to pensions and health care than younger respondents. Interestingly, over 30 per cent of respondents in each age group (18 – 29, 30 – 54, 55 – 70) rank a guaranteed transfer sufficient to cover basic needs as one of the top three supports to make them and their families feel economically secure. The level of response here was almost equivalent by age group, the only social spending option to exhibit this characteristic (OECD, 2019).

Such guaranteed transfers exist in Canada for those who can demonstrate to the relevant governments that they are deserving. This requires a demonstration of inadequate income from all sources, completion of a number of administrative requirements such as filing forms, and satisfaction of eligibility requirements that may include age, disability, and dependency. Although such guaranteed transfer programs may exist, they frequently do not provide support to all individuals who may be eligible, for a variety of reasons. The reasons may include failing to complete the application process. This may occur because individuals are not aware of the program, are unwilling to provide the information requested, drop out before completing the process, are worried about stigma or are declined for some reason. Low take up rates are a relatively common occurrence for social programs.[17]

An alternative proposal to a guaranteed transfer program that has extensive eligibility and low administrative requirements is a universal basic or minimum income program. Such proposals are typically discarded as impractical, too expensive, subject to abuse, undermining initiative, and/or socialist. However, it is noteworthy that the third top priority for increased spending in the OECD survey was a guaranteed transfer to meet basic needs and that such a program received almost equivalent support by respondents of all age groups (OECD, 2019). This suggests that it might be less of a "generational hot potato" if government were to propose it. We provide additional research regarding such programs below.

We found 13 countries that conducted experiments with basic or guaranteed or minimum income plans but there does not appear to be a common factor defining where such programs are. Richer countries such as France and Canada have experimented as have poorer countries like Uganda and Ukraine. Populous countries have experiments such as India and Germany but so have smaller countries such as Finland and Scotland.

[17] See https://www.washingtonpost.com/business/economy/13-million-people-in-poverty-are-disconnected-from-the-social-safety-net-most-of-them-are-white/2019/02/04/807516a0-2598-11e9-81fd-b7b05d5bed90_story.html

In the 1970s basic income programs were heralded as an end to poverty and Canada tested a program called Mincome (the Manitoba Basic Annual Income Experiment), in three sites in Manitoba, a central Canadian province (Forget, 2018). The experiment lasted from 1975 to 1978 and was discontinued in the context of changing federal and provincial political priorities. With limited data, firm conclusions are difficult to support statistically, but Forget (2018) makes the following observations:

- "When their husbands died, they [women] found themselves with grown children but too old and unskilled to compete for a job and too young to collect a pension. They had never trained to work and never expected to do so. The introduction of a basic income for those women alleviated a great deal of hardship." (page 89)
- "Overall, the results of the 1970s experiment suggest that people will not substantially reduce their hours worked. However, these experiments all had a definite end date that was known to participants. Those most likely to curtail their work in the experiments were precisely those making short term decisions: the older worker coasting into retirement, the young worker who knows that eventually a real job will be necessary but not quite yet, and the mother with preschool children who will not be with infants forever. Those with longer perspectives had virtually no reaction." (page 89)

The other programs listed in Appendix A were introduced or will be experimented with in the twentieth-first century. The attention being paid to such programs may be because our thinking regarding human behavior is changing or perhaps our sense of economic and social security is becoming more precarious. One would think that a basic or minimum income program would work best in an environment in which: there were high levels of trust among individuals; there were high levels of trust of governments; economic and social insecurity was seen as less within the control of the individual and more of a characteristic of the context [the country]. In this regard, an aging population and the impacts of increased globalization may be changing our social environment.

Consider the following information from the 2015 US Life Tables (Arias and Xu, 2018), in 1929 the estimated life expectancy at birth for females from the all races and origins table was 58.7 years, but by 1949 it was 70.7 years, and by 2009 it was 80.9 years. When life expectancy is less than 60 years, although long, the planning horizon is easier to contemplate; moreover, with shorter life expectancy for all, the potential labor supply is less and the relative opportunities for employment increased.

But not only has life expectancy at birth been increasing, so also has life expectancy at higher ages, such as at ages 60 or 75. Consider a person born in Canada in 1960 for whom life expectancy at birth was 71.13 years on average or 68.26 for a male and 74.15 years a female. Such a person might have expected to live to the 2030s[18]. But by 2015 when such an individual reached age 55, he or she had a life expectancy of about 30 years[19] or a prospect of living to 2045. An aging population and a more aged population may have more uncertainty about economic security in the future. Moreover, once the individual has left the workforce, he or she may feel more helpless to control his or her future pensions and health requirements. Certainly, the top priorities identified in the OECD survey support this conclusion (OECD, 2018). Increasing longevity as we age creates even greater uncertainty about our future; not only about how much longer we may live, but what things will cost, and how long savings will last. Moreover, what may be the quality of life throughout a longer life (good health, disability, some combination)?

The impacts of globalization may also affect the support for BMIP. Many OECD countries have seen structural changes in employment due to globalization, marked by a reduction in manufacturing jobs, an increase in

[18] countryeconomy.com. Canada - Life Expectancy at birth. https://countryeconomy.com/demography/life-expectancy/canada
[19] https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1310013401

automation, an influx of immigrants that are perceived to take jobs, and a feeling that jobs are not controlled by locals but increasingly by stateless multinational corporations. Such changes may create a feeling of economic insecurity, a sense of loss of control, and may potentially turn citizens toward governments to provide protection. Such change may make a BMIP more acceptable as a subject for contemplation.

4.2 APPLICABILITY TO CANADA

As previously discussed, Forget (2018) analyzed the data with respect to the Mincome experiment in Canada's province of Manitoba in the 1970s. She argues that Canada should adopt a basic income and that it would be particularly beneficial for some groups of women. Using the results of Mincome and other supporting studies, Forget argues that basic income promotes better health outcomes. There are negative health consequences associated with income inequality and with other societal divisions. Although a basic income cannot eliminate all the divisions in society it can address fundamental issues such as material deprivation and income insecurity and reduce the chronic stress associated with such conditions. As well, it may address some of the social exclusion associated with poverty.

Although a basic income would have profound effects on both men and women, Forget (2018) argues that due to gender inequality and gender biases within society, there may be a wide range of women who would benefit. Some of the characteristics regarding women in Canadian society that she cites include: power differentials between men and women that still subject too many women to poverty and violence; women provide most of unpaid caregiving for children and the aged; increased participation of women in the labor force is accompanied by a smaller increase in the participation of men in household tasks; choosing to stay at home with a young child has different consequences for a single mother than for a married woman; women with breaks for child rearing face different career opportunities depending on the nature of their employer, e.g., a woman aspiring to be a partner in a law firm versus a woman working in an administrative position within government face considerably different promotional and income opportunities if they take time for child rearing (Forget, 2018). Basic income offers greater security and independence. There is a multiplicity of female experiences. Basic income provides income support creating greater autonomy to make life-style decisions. For women living near or below the poverty line it provides needed income and may also bring greater respect. Forget concludes "the poor and marginalized women who have not shared the labor market gains we celebrate will gain a great deal" (page 110).

A basic income could be beneficial to people of all ages, but the primary beneficiaries would be adults up to age sixty-four in Canada. The reason is that Canada currently has a type of basic income for seniors. The Old Age Security (OAS) benefit is payable to all individuals age 65 or older who meet certain residency requirements. This demogrant is a form of basic income since it is paid to all individuals who meet the age and residency requirements. Moreover, there is a social assistance benefit, Guaranteed Income Supplement (GIS), available to individuals and couples with incomes below a set level. The OAS is clawed back gradually through the tax system ($0.15 for each dollar above the threshold) as individual income from all sources exceeds a certain level ($77,580 in 2019); eventually being fully clawed back when total income exceeds a maximum threshold ($125,696 in 2019). The payments from OAS and GIS are adjusted quarterly in respect of inflation. Amounts less than the maximum would be paid to those not qualifying for the maximum because of the residency requirements. The impact of this benefit can be inferred by examining the annual poverty rate in Canada for 2014 to 2017 that is 12.4 per cent in aggregate but only 10.5 per cent for those 66 and older[20]. However, as our data show, the poverty rates for single seniors is substantially higher than that whether measured by the ATLIM or MBM. Moreover, for extremely low-income seniors, provinces may also provide financial assistance, e.g., Ontario has the Guaranteed Annual Income System Payments for Seniors.

[20] https://data.oecd.org/inequality/poverty-rate.htm

4.3 COST OF CLOSING THE GAP USING BMIP

Forget (2018) argues that BMIP is a responsible and caring approach to cover the financial needs of individuals in a variety of circumstances and that it is affordable. It is difficult to assess her claim of affordability since there is no specific plan design under consideration and assessment of affordability will depend on at least three variables: the size of the basic income guarantee for those with no other income; the rate at which basic income is reduced as private income increases; and behavioural responses of individuals as they react to benefits and taxes. Other variables include whether the program is truly universal or is targeted in some way, and to what extent other income-support programs are eliminated or modified. Forget refers to various studies and simulations conducted by economists and others including the Parliamentary Budget Office (PBO) and opines that in a wealthy country like Canada an additional annual expenditure of $23 billion is affordable (this number coming from the PBO study). For Forget affordability is a relatively minor consideration compared to other implementation issues.

Undoubtedly the introduction of an adequate BMIP, regardless of the final design, would have positive impacts for a range of Canadians. As the focus of this paper is women in the ASR, we consider a more targeted solution that would be less costly to implement than an adequate BMIP.

4.4 COST OF CLOSING THE GAP BY INCREASING OAS

In subsection 3.1, we presented statistics showing the proportion of single households age 65 and older that where living below the poverty line by gender, age and stage of retirement and the estimated monthly gap for those living in poverty. For the purpose of analysis, we illustrate the impact on senior poverty and estimate the cost of two proposals for change to the OAS as described below. In Tables 6 through 9, we show the impact on the proportion of seniors living below the poverty line of these changes and poverty gaps. We estimate the cost of these changes using population information from the 2016 Census.

We analyzed the impact of increasing the OAS by $290 per month and also by $217 per month. These amounts were selected for analysis as follows. The monthly income needed to eliminate, on average, the largest poverty gap for women is $290 (the early stage of retirement). The additional monthly income to erase the average gap for the most vulnerable women, those living alone in the late stage of retirement is $217. We consider two approaches to implementing these increases. First by raising the overall amount of OAS payable to all OAS recipients by the stated amount. OAS is subject to “clawback” when total income exceeds a threshold so not all recipients would keep the increase. Such an approach would be easy to implement because the increased benefit would be payable to all OAS recipients. The second approach would be to only pay these additional amounts to the neediest. As these subsidies would only be paid to the neediest, they would be tax-free supplements to the OAS paid to seniors living below the MBM poverty line. The tax-free subsidy would not affect the amount of GIS or any other government transfers received by the seniors (the subsidy is not meant to make seniors worse off by inadvertently reducing other needed subsidies or tax breaks).

Tables 6 and 7 show the impact of the a $290/month supplement. Table 6 demonstrates that the proportion of seniors living alone in poverty drops substantially for both males and females in all stages. Table 7 shows that, for those who were poor pre-supplement, the average poverty gap disappears for females in the early stage of retirement and becomes negative for both men and women in the middle and late stages (showing that enough of this population moved above the poverty line to outweigh the income gaps of those who remained). Men in the early stage of retirement continue to experience a small gap, on average. For those who remain in poverty after the supplement, the mean gap grows. This indicates that those remaining in poverty post supplement had very low incomes and, on average, remain far below the poverty line even after being provided with an extra $200/month.

Tables 8 and 9 present the picture for a lower government supplement of $217/month. The poverty rates are reduced substantially. Those remaining in poverty post-supplement still have sizable gaps[21].

Table 6

MBM POVERTY RATE PRE- AND POST-INCOME SUPPLEMENT ($290) BY ASR

	Poverty Rate Before		Poverty Rate After	
ASR	**Female Mean (st. dev.)**	**Male Mean (st. dev.)**	**Female Mean (st. dev.)**	**Male Mean (st. dev.)**
Early	.200 (.400)	.208 (.406)	.045 (.207)	.054 (.227)
Middle	.161 (.367)	.139 (.436)	.022 (.147)	.015 (.121)
Late	.151 (.358)	.103 (.304)	.016 (.126)	.010 (.100)

Source: Authors' calculations using 2016 Census of Population [Canada] Public Use Microdata File (PUMF) (Statistics Canada. 2019a) and study results.

Table 7

MEAN MONTHLY POVERTY GAP+ FOR THOSE LIVING IN POVERTY PRE- AND POST- SUPPLEMENT ($290)

	Poor Pre-Supplement		Poor Post-Supplement	
ASR	**Female Mean (st. dev.)**	**Male Mean (st. dev.)**	**Female Mean (st. dev.)**	**Male Mean (st. dev.)**
Early	0 (306)	30 (326)	361 (303)	376 (309)
Middle	-62 (261)	-67 (296)	340 (312)	429 (424)
Late	-73 (238)	-69 (237)	324 (274)	327 (330)

Note: + Poverty gap measures the difference between the poverty line and household income for those with income below the poverty line. the mean income distance below the poverty line how far below the poverty line.

Source: Authors' calculations using 2016 Census of Population [Canada] Public Use Microdata File (PUMF) (Statistics Canada. 2019a) and study results.

Table 8

POVERTY RATES PRE- AND POST-INCOME SUPPLEMENT ($217) BY ASR

	Poverty Rate Before		Poverty Rate After	
ASR	**Female Mean (st. dev.)**	**Male Mean (st. dev.)**	**Female Mean (st. dev.)**	**Male Mean (st. dev.)**
Early	.200 (.400)	.208 (.406)	.062(.240)	.070 (.255)
Middle	.161 (.367)	.139 (.436)	.037(.189)	.027 (.163)
Late	.151 (.358)	.103 (.304)	.031 (.173)	.019 (.138)

Source: Authors' calculations using 2016 Census of Population [Canada] Public Use Microdata File (PUMF) (Statistics Canada. 2019a) and study results.

[21] At first glance the average gaps shown in Tables 7 and 9 may be confusing. What is reported is the average gap for those remaining in poverty. Because the proposed subsidy has lifted those close to the poverty line (before subsidy) above it and those remaining below the line were far below the line before the subsidy (i.e., their gap was large), the average gap in respect of those remaining below the poverty line is larger than the average gap before subsidy (when many more people with smaller gaps were below the poverty line).

Table 9

MBM MONTHLY POVERTY GAPS+ PRE- AND POST- SUPPLEMENT ($217)

	Poor Pre-Supplement		Poor Post-Supplement	
ASR	Female Mean (st. dev.)	Male Mean (st. dev.)	Female Mean (st. dev.)	Male Mean (st. dev.)
Early	73 (306)	103 (326)	328 (313)	359 (321)
Middle	11 (261)	6 (296)	266 (302)	290 (387)
Late	0 (238)	4 (237)	232 (264)	229 (296)

Note: + Poverty gap measures the difference between the poverty line and household income for those with income below the poverty line. the mean income distance below the poverty line how far below the poverty line.

Source: Authors' calculations using 2016 Census of Population [Canada] Public Use Microdata File (PUMF) (Statistics Canada. 2019a) and study results.

The cost of these two changes is as follows. According to the 2016 Census, there were slightly more than 4.8 million Canadians receiving OAS/GIS in 2015 of those 380,000 had incomes below the MBM poverty line. A $290/month supplement to all OAS recipients would cost the federal government $16.7 billion/year given the 2015 population. If only seniors living in poverty were provided the supplement, it would cost the government $1.17 billion in 2015. The $217 supplement would cost $12.5 billion and $875 million for all and poor OAS recipients, respectively.

To put these expenditures in perspective, consider the following: the Canadian government spent $48 billion on elderly benefits and $22 billion on children's benefits in 2016[22]. GDP in Canada in 2016 was approximately $2.24 trillion[23]; hence, the proposal to increase income by $290 per month would be only a marginal increase in the cost of benefits - an additional cost of approximately 0.7 percent of GDP in 2016.

Some qualifications are in order as basing the cost estimates on the supplements for those receiving OAS pension benefits is likely to overstate the cost for a number of reasons. First, when total income exceeds a threshold OAS pension is clawed back (at first partially but ultimately totally), this could be done for seniors who are not living in poverty – recoveries are not estimated herein as it is not possible to estimate specific incomes for seniors who are not living alone as the income data are presented at the household level. An increased OAS would result in reduced GIS payments for some recipients with higher incomes – again, this effect could not be estimated due to data limitations. On the other hand, our poverty rates and gaps are likely a lower bound as we were not able to calculate health expenditures and so were not able to calculate the exact income figure that should be used for the MBM measure of poverty.

Section 5: Areas for Further Research

The focus of this paper is on the financial state of women in the ASR. We have tried to quantify the financial gap that many such women will face and have identified the cost to improve the OAS to close this gap. However, there are many important areas of research related to or ancillary to this paper that need exploring. In this section we identify a number of these areas.

We intended to focus solely on women in the ASR as it was our hypotheses that their living situations were much more precarious than their male counterparts. The number of women living in poverty certainly outweighs the number of men living in poverty substantially; up to 4 times as many women live in poverty depending on the alone

[22] https://www.fin.gc.ca/afr-rfa/2017/report-rapport-eng.asp
[23] https://www.statista.com/statistics/263574/gross-domestic-product-gdp-in-canada/

stage of retirement. However, the poverty rates and gaps do not differ as much as hypothesized. As male life expectancy increases, there will be a rising number of men in the ASR. Continuing to assess their situation and closing gaps for them will be important too. Increasing OAS would benefit both women and men. Traditionally women have provided care for their partners. As the number of men living in the ASR rises, the care burden and expense for such men must be addressed.

Much more research is needed regarding the impediments that women face compared to males of comparable ages and backgrounds that lead to different financial outcomes. It is well documented that women tend to earn less than men while employed, are more likely to take leaves for caring responsibilities (both child and other), have different attitudes to risk than men (that has financial implications with respect to return on investments), and have longer life expectancies than men (see for example: Curtis & Rybczynski, 2015). Despite these differences being documented, our Canadian society has been very slow to change meaningfully to mitigate the financial challenges that these differences place on women. More research is required on how to implement measures and programs to mitigate these financial challenges.

Another reason that women in the ASR may experience financial gaps is due to poor budget planning and money management when they lived with spouses. Much more research is required on how families plan and spend. Moreover, there is a need for financial education for couples and seniors, and as the literature shows, particularly for women.

There are at least two poverty measures used commonly in Canada – the LIM for international comparisons and the new poverty standard that is an MBM. Yet there are other poverty measures that might be used; these might produce different results. Milligan (2008) constructs head-count measures of income and consumption poverty. With respect to the elderly, he finds that measures of poverty using income may be distorted by income disparities, especially regarding the higher income elderly. He also finds that the results for the elderly are sensitive to how housing flows are imputed. Furthermore, he finds differences between income poverty and consumption poverty measures and he raises questions regarding our poverty objective with respect to the elderly, most of whom are not working, compared to those who work. There is more research that could be done to study the measurement of poverty among the elderly.

We note a growing international interest in BMIP. Such programs face significant implementation issues, not only because of political and cultural opinions and concerns regarding freeriding and disincentives, but also because the cost of income support programs is shared by different levels of government in Canada and many other countries. Any new program will require negotiations regarding cost-sharing and will likely show some levels of government that are perceived as “losers” and others that are perceived as “winners”. In this regard it will be important for some concrete proposals to be made that can be assessed, and possibly even tried in certain areas as prototypes.

Finally, the income data available for this study had some limitations, the use of Statistics Canada’s master files that contain more specific income information would assist in making better projections. Applications have been made to Statistics Canada for the master files and we are hoping that the information will be made available[24].

[24] After presenting this paper we received authorization from Statistics Canada to use the Masterfiles of the Census in the Southwestern Research Data Centre. The results will present a more complete picture but should not change the narrative of this paper. The results from the additional work will be presented in a paper being prepared for the Canadian Institute of Actuaries.

Section 6: Conclusions

In this paper we present statistics that show that senior women outnumber senior men of a comparable age in all stages of retirement and this effect increases with increasing age. Due to a number of factors, a large percentage of women can be expected to live in the ASR at some stage of their life. Women living in the ASR are more likely to live in poverty than are those seniors not so categorized, regardless of the poverty measure. With an aging population more women are projected to experience living in the ASR. Our study has also found that there is a growing number of men, although substantially smaller than the number of women, who are doing relatively poorly and we must continue to monitor that situation.

One policy approach to addressing this situation would be to introduce a BMIP. Politically and culturally we do not think a majority of Canadians would support such an approach. However, we do propose two changes to OAS that we do think Canadians would be likely to support. One change is more modest than the other, but both would improve substantially the situation of women living in the ASR; and, if the change is implemented as an across-the-board increase in OAS, would also benefit other groups of Canadian seniors to some, although likely a lesser, extent.

We estimate the resources necessary for the costliest of these proposals to be less than $17 billion per year, on implementation. Although, the impact is not likely precise due to data limitations discussed previously, we believe that such a cost is affordable and urge governments to act promptly on this information to improve the lot of some of Canada's most vulnerable seniors.

Section 7: Acknowledgements

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Appendix A - Basic Income Programs by Country

1. CANADA

Ontario

The Ontario Basic Income Pilot (OBIP)[25] was announced by Premier Kathleen Wynne in Hamilton in April 2017 and the first phase to enroll participants was completed in April 2018. By March 2019, the pilot program was shut down.

How participants were chosen:

- 18 to 64 years old for the duration of the pilot
- Living in one of the selected regions for the past at least 12 months or longer (and still live there):
    - Hamilton, Brantford, Brant County
    - Thunder Bay, along with the Municipality of Oliver Paipoonge, Township of Shuniah, Municipality of Neebing, Township of Conmee, Township of O'Connor, Township of Gillies
    - Lindsay
- Living on a low income (under $34,000 per year if the person is single or under $48,000 per year if they are a couple)

Payment amount:

- Payments based on 75% of the Low Income Measure (LIM) plus other tax credits and benefits would provide an income that meets household costs and average health related spending
- Following tax credit model, OBIP gives participants:
    - $16,989 per year for a single person, less 50% of any earned income
    - $24,027 per year for a couple, less 50% of any earned income
- People with a disability will also receive up to $500 per month

How the pilot works:

- Two groups were asked to participate: Basic income group receiving monthly payments for up to 3 years and comparison group who do not receive monthly payments but will participate in the research
- People in both groups are asked about health, employment and housing through surveys
- Participants from Lindsay are not assigned to a comparison group – instead will measure community level outcomes of a basic income (hospital usage)

Province has enrolled over 4000 participants in the pilot and over 2000 people will participate in the comparison group.

Mid-size community was chosen as well as urban, rural and urban / rural mixed areas so the pilot will be representative of Ontario's population.

What will be measured:

- Government will test how a basic income might help those living on low incomes meet their basic needs while improving outcomes in:

[25] https://www.ontario.ca/page/ontario-basic-income-pilot

- Food security
- Stress and anxiety
- Mental health
- Health and healthcare usage
- Housing stability
- Education and training
- Employment and labor market participation

Working and going to school during the pilot:

- People can still go to school or work while receiving basic income
- Basic income amount will decrease by $0.50 for every dollar a person earns

Impact on seniors:

- Seniors not included in the pilot because most receive more money through the seniors' benefits including
  - OAS
  - GIS
  - Ontario Guaranteed Annual Income System

Impact on other benefits:

Child benefits: people receiving child benefits like Canada Child Benefit (CCB) and Ontario Child Benefit (OCB) will be eligible to receive them during the pilot

CPP and EI benefits: people receiving EI or CPP will have their monthly basic income payment reduced dollar for dollar

Drug and dental benefits: people receiving social assistance had to withdraw from Ontario Works or Ontario Disability Support Program (ODSP) to participate in the pilot

- People who leave Ontario Works receive Ontario Drug Benefit
- People who leave ODSP receive Ontario Drug Benefit and dental benefits

Mincome[26]

Mincome was a Canadian basic income experiment conducted in Manitoba during the 1970s. This project was funded jointly by the provincial (25%) and the federal (75%) government. It was launched in 1974 and ended in 1979.

Design:

- Three sites in Manitoba were chosen:
  - Winnipeg (population = 450,000); standard randomized controlled trial
    - Families with head < 58 years old
  - Dauphin (population = 10,000): saturation site

[26] For example, see: Evelyn Forget Book https://umanitoba.ca/media/Simpson_Mason_Godwin_2017.pdf; http://www.lse.ac.uk/LSEE-Research-on-South-Eastern-Europe/Assets/Documents/Events/Conferences-Symposia-Programmes-and-Agendas/2018/FORGET-MINCOME-and-Ontario-short.pdf

        - Everyone over 18 years could apply and received money if income was low enough
    - Dispersed rural sites: primarily designed as control for Dauphin
- Overall sample size was 1,300 individuals or families
- Payment design: Negative Income Tax (refundable tax credit)
    - Families received money for three years from 1975 to 1978
        - Amount received depended on the size of family and how much income they received from other sources
        - For family of four with no other income, the basic income would be $3,800 (just over $22,000 in today's dollars)
        - Family of four earning $7,600 or more would receive nothing
    - Base rate was slightly above "Mother's Allowance"
    - Benefit was taxed back by 50 cents for every dollar earned in Dauphin
    - Seven different payout and tax back rates were designed in Winnipeg

What happened to the project?

- Families were paid the money and data was collected
- in 1976, the provincial government changed and Mincome lost provincial support
- Other economic priorities took precedence for the federal government
- Experiment ended as planned but the researchers demanded more funding for analysis
- There were 1800 boxes of paper files but no database had been constructed

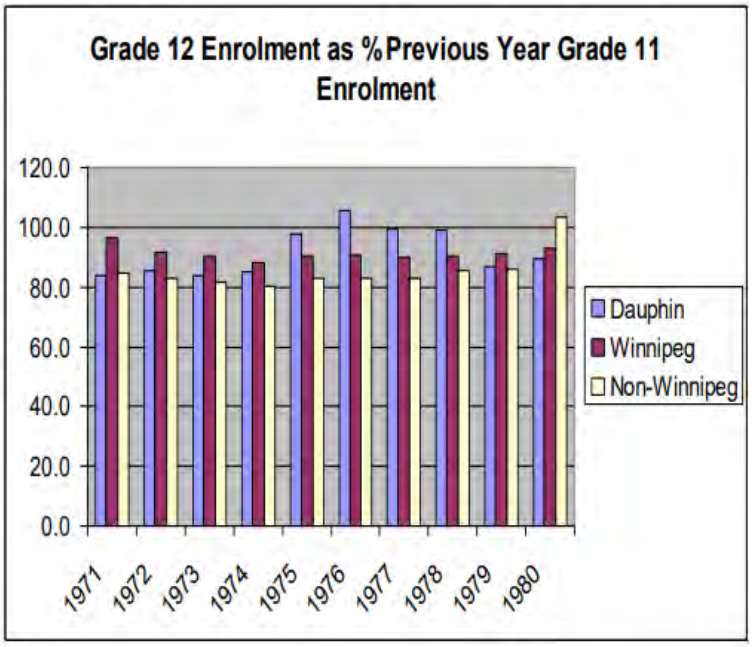
Fifteen years later, Derek Hum (second research director of Mincome) and Wayne Simpson (a labor economist at the University of Manitoba) found:

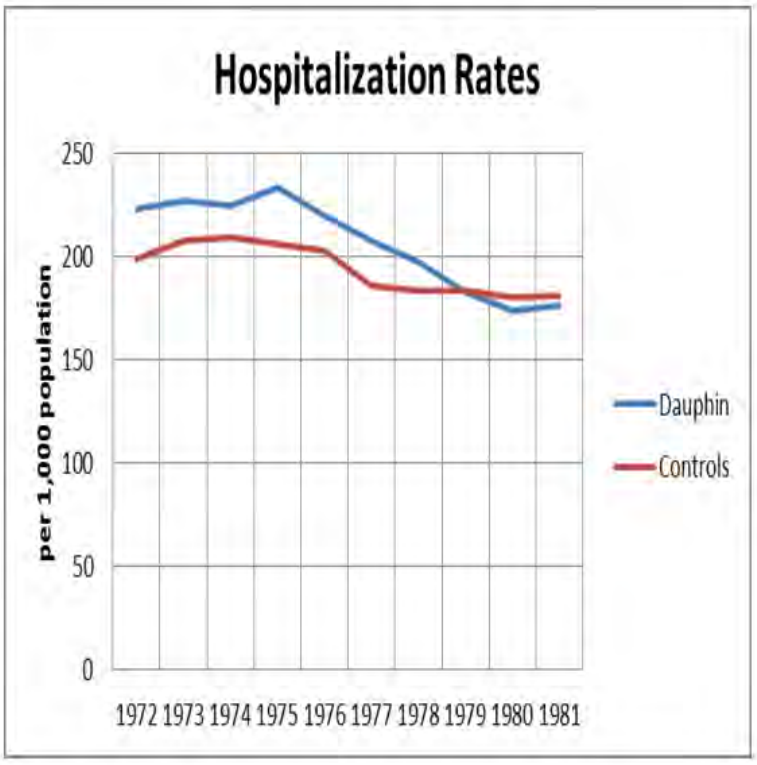
- Men worked 1% fewer hours
- Women worked 3% fewer hours
- Married women stayed out of workforce longer when they gave birth
    - They were entitled to only 4 unpaid weeks of maternity leave at the time and chose to use the money to buy longer maternity leaves
- Young unattached males significantly reduced work effort[27]

Twenty years later, Evelyn Forget found:

- In Dauphin, high school completion increased

[27] Hum, D. and W. Simpson. 1991. Income Maintenance, Work Effort, and the Canadian MINCOME Experiment. A study prepared for the Economic Council of Canada. Ottawa: Canadian Communications Group





- Hospitalization rates fell 8.5% relative to controls in the experiment
  - Fewer accident and injury hospitalizations
  - Fewer hospitalizations due to mental health issues
- Slight decline in overall physician visits among Dauphin residents during the experiment relative to controls
- Mental health issues accounted for most of the decline in visits to family doctors

2. FINLAND

Basic Income Experiment 2017 – 2018[28]:

Background:

- Conducted an experiment testing basic income in 2017-2018
  - Implemented by Kela, the Social Insurance Institution of Finland
- Basic income – social security where all citizens receive a regular, unconditional sum of money for their expenses

Implementation:

- Study population comprised of 2,000 people selected at random in December 2016
- Included in the sample were individuals between ages of 25-58 and who were paid labor market subsidy or basic unemployment allowance in November 2016 for some other reason than a temporary layoff

Basic income: Amount and payment

- People in the experiment got a basic income from January 1, 2017 to December 31, 2018
- Basic income paid at a rate of €560 per month (everyone paid the same amount)
  - Amount remained the same throughout the experiment

How basic income affected other social security benefits:

- Those receiving basic income could claim any benefits to which they are normally entitled
- Amount equal to basic income was deducted from certain social security benefits and remaining was paid to those receiving a basic income

Taxation of basic income:

- Basic income was exempt from tax

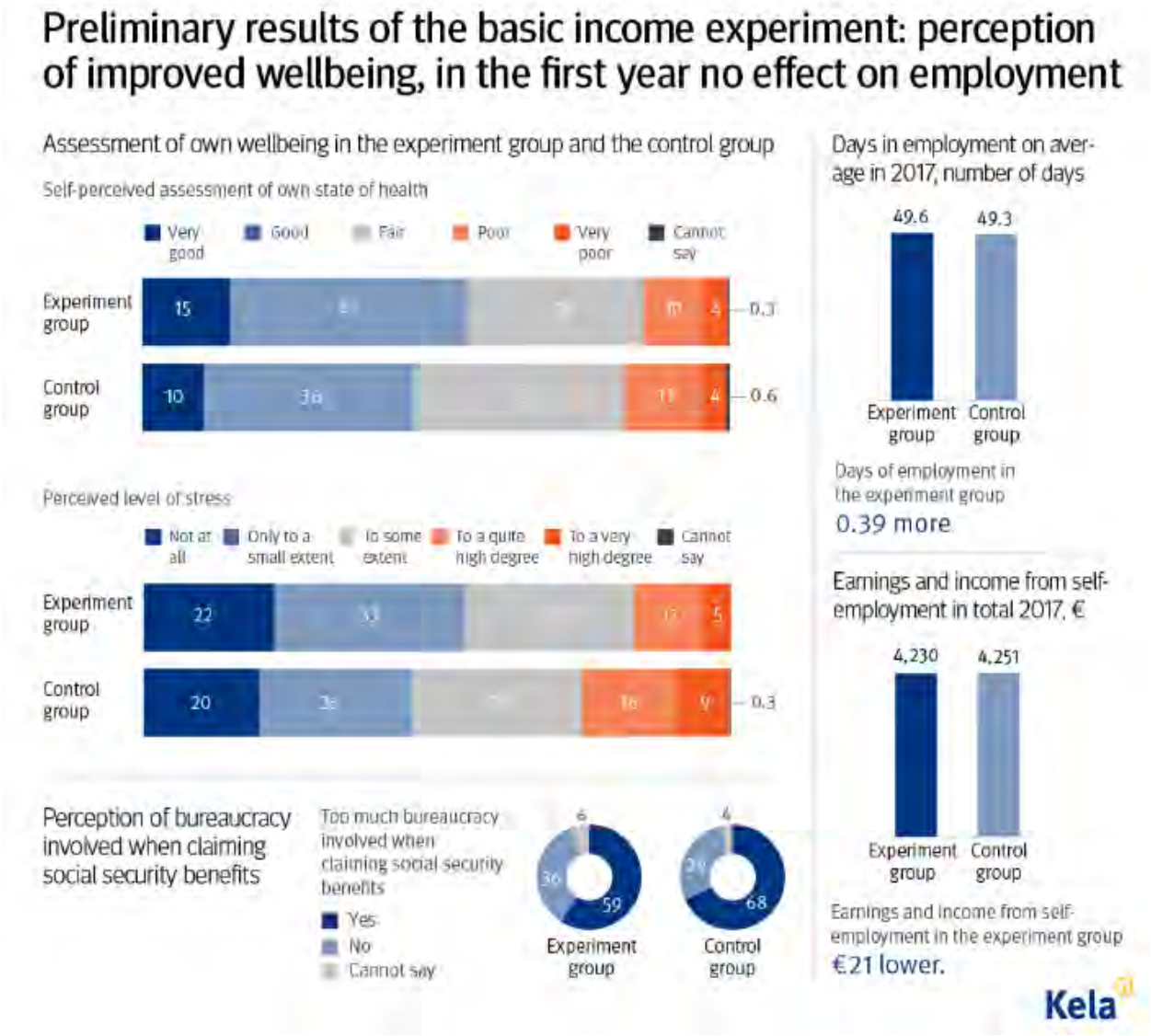
Studying the impact of the experiment:

- Experimental group will be compared to a control group consisting of people who were not selected for the experimental group
- Results on the first year of experiment will be available in spring 2019 followed a year later by a report that will cover the entire two years
- Analysis will include both register based study and phone survey among members of experimental and control group
- Preliminary results of the basic income experiment: self-perceived wellbeing improved, during the first year no effects on employment
- Basic income experiment did not increase the employment level of the participants in the first year of the experiment
- Recipients of the income perceived their wellbeing as being better than those in the control group

[28] For example, see: https://www.kela.fi/web/en/basic-income-objectives-and-implementation; https://www.kela.fi/web/en/studying-the-basic-income-experiment; https://www.kela.fi/web/en/news-archive/-/asset_publisher/lN08GY2nIrZo/content/preliminary-results-of-the-basic-income-experiment-self-perceived-wellbeing-improved-during-the-first-year-no-effects-on-employment

- 55% of the recipients of a basic income and 46% of the control group perceived their state of health as good or very good
- 17% of the recipients of a basic income and 25% of the control group experienced quite a high degree or a very high degree of stress

- Results are preliminary and not possible to draw any firm conclusions
- Results for the second year of the experiment will be published in the first few months of 2020



3. FRANCE

Income support (RSA)[29]:

Revenu de Solidarite active (RSA) is a guaranteed minimum level of income for unemployed people or workers with very low income

- Variable income according to the number of people in the household
- Income support concerns those who are at least 25 years old and those aged between 18-24 years old if they are parents or if they can prove a certain length of time in work

What conditions do I need to meet?

- Need to be at least 25 years old, or be pregnant, or have one or more dependent children, or prove a minimum duration of professional activity
- Live in France in a stable way
- Be French or a national from the European economic area, or Swiss, and provide evidence of a right to stay, or be a national from another country and have stayed in France regularly for at least 5 years (except special cases)
- Average monthly income of your household over the 3 months must not exceed a certain level
- Have your rights established regarding all other social security allowances (unemployment benefit, pensions, etc.) to which you are entitled
- Will not be able to receive income support (unless they are a single parent) if they are:
    - On parental or sabbatical leave, on unpaid leave or seasonal lay-off
    - A student and not receiving an income from work at least equal to €500 per month

What am I entitled to and how can I claim?

- Amount of income support depends on who is present in the household: a couple, and dependent children
- Amount of income support depends on the person's income and that of each member of the household
- If the household has no professional income, the minimum guaranteed income is a flat sum (changeable according to the composition of the family)
- If the person is a single parent with dependent children, or she is pregnant, the minimum amount is increased

Number of children	Single person	Single parent: Increase for single parents	Couple
None	€545.48	€700.46	€818.22
1	€818.22	€933.94	€981.86
2	€981.86	€1167.43	€1145.50
Per additional child	€218.19	€233.48	€218.19

[29] https://ec.europa.eu/social/main.jsp?catId=1110&langId=en&intPageId=4541

- If the person has income other than employment (like unemployment benefit, daily allowances, housing benefit, etc.), the amount of income support paid is equal to the difference between basic income support and the person's income
- If the household receives income from employment, the RSA is additional income when the income from employment is below a certain amount
    - Amount of RSA is equal to the difference between the guaranteed minimum amount and the household's income from employment (plus housing benefit)

4. GERMANY

The first basic income experiment in Germany will start in 2019[30]

- Unconditional cash transfer to 250 randomly selected individuals and another 250 people will act as the control
- This initiative is to start in May 2019 is conducted by the Sanktionsfrei organization which is a non-profit managed by volunteers from administration, IT-tech, communications and law
- Experiment will be carried out in a 3-year period
- The basic income pilot named HartzPlus will be conducted as a scientific experiment and will check for variations in mental health, life control, self-efficiency, sociopolitical values and more
- The organization is relying on private donors for financing of the experiment

5. INDIA

Basic income pilot in Indian state of Madhya Pradesh[31]:

- The pilot ran from June 2011 to November 2012
- 6,000 men, women and children in nine villages received money each month
- Project took form in 2 pilots
    - First included 8 villages with 12 similar villages included as control villages
    - Second started later than the first pilot which included one tribal village with another tribal village as control
- Benefit level was initially set at the equivalent of US $4.40 for each adult and US $2.20 per child per month between June 2011 to May 2012
    - After May, value was raised by 50% to adjust for inflation and provide a more generous benefit
- At the end of the project, there were significant improvements in living conditions, nutrition, health and education

India is about to launch the largest basic income experiment in history[32]

- Sikkim is one of the smallest states in India and its ruling party has announced to implement a universal basic income for every one of its 610,577 residents

[30] https://basicincome.org/news/2018/12/germany-the-first-basic-income-experiment-in-germany-will-start-in-2019/
[31] http://socialprotection-humanrights.org/wp-content/uploads/2016/04/Indias-Basic-Income-Experiment-PP21.pdf
[32] https://www.sciencealert.com/india-is-about-to-launch-the-largest-basic-income-experiment-in-history

6. ITALY

Italy's 780 euros basic income scheme[33] to launch in March 2019

- The first of three million cards to receive the basic income was unveiled on Monday, February 4, 2019
- Yellow card looks similar to a credit card but with no name and provides unemployed as well as poor people with a monthly income of up to 780 euros
- Application for card opens on March 6, 2019

Italy starts handing out free money

- Italy's Five Star Movement has come up with an idea of a 'citizen's income'
- This is for households earning less than 9,360 euros ($1,0612) a year
- Made up of an income support scheme and a housing allowance which adds up to 780 euros a month for a single person with no income
    - Aimed at pensioners and people of working age

7. KENYA

GiveDirectly's Kenyan Basic Income Experiment[34]:

GiveDirectly, a US based charitable organization, is working with economists to organize an experiment that will test the impact of different models of basic income over 12 years

How the experiment will work:

Randomized controlled trial will be conducted comparing 4 groups of villages:

- Long-term basic income: 40 villages with recipients receiving around $0.75 per adult per day, delivered monthly for 12 years
- Short-term basic income: 80 villages with recipients receiving the same monthly amount, but only for 2 years
- Lump sum: 70 villages with recipients receiving the same amount as the short term basic income group, but all up front as a 'lump sum'
- Control group: 100 villages not receiving cash transfers

More than 21,000 people will receive some type of cash transfer with more than 5,000 receiving a long term basic income. An independent contractor will be used for research surveying, publicly registering study to mitigate publication bias and publish a pre-analysis plan on how the analysis will be conducted.

Payments for the long term group will continue for 12 years but the results on how long term cash transfers influence short term decisions and welfare will be released within the first 1-2 years.

What will be learned:

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[33] For example, see: https://euobserver.com/tickers/144086; https://www.bloomberg.com/opinion/articles/2019-01-28/italy-s-populists-hand-out-some-free-money

[34] For example, see: https://www.givedirectly.org/basic-income; https://basicincome.org/news/2017/05/basic-income-experiments-and-those-so-called-early-2017-updates/

- Comparing first and second groups of villages will tell us how important the guarantee of future transfers is for today (e.g. taking a risk like starting a business)
- Comparison between second and third groups will tell people how breaking up a given amount of money affects its impact

Assess impact of a basic income against a broad set of metrics including:

- Economic status (income, assets, standard of living)
- Time use (work, education, leisure, community involvement)
- Risk taking (migrating, starting businesses)
- Gender relations (especially female empowerment)
- Aspirations and outlook on life

8. SCOTLAND

Universal basic income[35] is attempt to 'euthanise the working class as a concept'

- £250000 is set aside for two years for four local authorities who seek to understand the impact of a basic income to conduct pilots
- Suggestion has been made for every adult to be paid £162 a week – would be funded by hiking income tax to at least 45%
- Glasgow, Edinburgh, Fife and North Ayrshire councils are all considering basic income pilots
- They are planning to begin trials in March 2020 which is subject to whether proposals are feasible or not

9. SPAIN

Barcelona's B-MINCOME[36]:

- Launched in October 2017 and is conducted in Besos areas (city's poorest region – low income individuals and households)
- Experiment will run for two years from September 2017 to December 2019
    - From October 2017 to September 2019, all participants receive various kinds of income
    - Followed by a results-evaluation period from September to December 2019
- Random sample of 2,000 households were selected with 1000 assigned to the control group and the other 1,000 assigned to one of ten treatment groups
- All treatment groups will receive income supplements called Municipal Inclusion Support or SMI (Spanish acronym) but differ according to whether SMI is accompanied with a social program and whether SMI is means-tested
    - Amount depends on household composition and financial status and is expected to range from £100 to £1,676 per month per household
    - 550 households will be assigned to participate in one of 4 social programs: occupation and education program, social and cooperative economy program, guaranteed housing program, community participation program
    - Remaining 450 households will receive SMI without any associated programs

[35] https://www.heraldscotland.com/news/16437958.universal-basic-income-is-attempt-to-euthanise-the-working-class-as-a-concept/
[36] For example, see: http://ajuntament.barcelona.cat/bmincome/en/social-aids-barcelona; http://ajuntament.barcelona.cat/bmincome/en/budget-aids-barcelona; https://basicincome.org/news/2017/10/overview-of-current-basic-income-related-experiments-october-2017/.

- Researchers will examine the outcome variables including labor market participation, food security, housing security, energy access, economic situation, education participation and attainment, community networks and participation, and health, happiness and well-being
- Also investigate whether SMI reduces administrative and bureaucratic responsibilities of social workers

10. SWEDEN

- Pension system[37] is based on a three pillar system
    - A guaranteed pension
    - An income-related pension
    - A premium fund
- During working life, 18.5% of a person's income is contributed to the pension system: 16 % is credited to the income-related pension and 2.5% is deposited to their premium fund

The guaranteed pension:

- Offers minimum pension for people with low pension entitlements or no income
- Must have lived in Sweden for a minimum of 3 years to receive it
- To qualify for the full guaranteed pension, a person requires at least 40 years of residence
- Payable from age of 65

The income-related pension:

- Drawn from all earnings starting from age 16
- Can start receiving from age 61 but the more a person contributes, the higher the pension will be

The premium fund:

- During working life, 2.5% of a person's contributions go into a premium fund of their choice
    - There are 500 different funds with different returns
- If a premium fund is not chosen, the money will go into the Premium Savings Fund within the National Swedish Fund
- Married couples can transfer their entitlements to each other

Supplementary insurance schemes:

- Many high income earners receive less as public pensions and contributions have a cap – so they are able to take a supplementary occupational pension
- In some companies, employer contributes 3.5% of each individual's earnings towards the pension

11. UGANDA

Eight's Unconditional Cash Transfer Project[38] in Uganda:

- January 2017 – Eight, a charitable organization began providing unconditional cash payments in the Ugandan village of Busibi

[37] https://www.justlanded.com/english/Sweden/Sweden-Guide/Jobs/Old-age-pensions-in-Sweden

[38] For example, see: http://www.eight.world/ ; https://basicincome.org/news/2017/05/basic-income-experiments-and-those-so-called-early-2017-updates/

- 56 adults and 88 children received monthly cash payments – each adult receives 18.25 USD per month (approx. 30% of the average income of lower income families) and each child receives 9.13 USD per month
    - Payment continues until the end of 2018
- 4 main outcomes are studied: girls' educational achievement, access to health care, entrepreneurship and economic development and participation in democratic institutions
- Data collected during and after the pilot will be compared to data that were gathered before its launch
    - No additional village is studied as a control thereby limiting the usefulness of this experiment

12. UKRAINE

Basic income experiment[39] has started being prepared in Ukraine

- The City of Pavlograd, in Ukraine, has decided to perform a basic income experiment
- Experiment is in the beginning of its preparation phase
- Plan is to provide the equivalent to a €100 per month to each of the 2,000 randomly selected citizens for a 24-month period
    - Average monthly salary in Ukraine is around 9000 UAH or €286
- City is not yet capable of contributing to the financing of the experiment but can cover immediate costs of communications, announcements, physical workspaces and human resources to start the experiment
- Money is now considered as a fund-raising initiative among public and private charitable organizations

13. UNITED STATES

Y combinator[40] learns basic income is not so basic after all

- January 2016 – technology incubator Y combinator announced plans to fund a long-term study on basic income
- Unconditional cash transfers will be provided to 3,000 participants in two states and is expected to begin in early to mid-2019
- 1,000 people will receive $1,000 per month while a control group of 2000 people will get $50 per month
    - Some will receive payments for 3 years and some for 5 years

Another basic income project called 'Baby's First Years'[41] led by Greg Duncan at University of California Irvine is recruiting 1,000 low income new moms in 4 cities

    - Half of them will receive an unconditional $333 per month while the control group gets $20 per month
- Target population for the experiment is adults aged 21 to 40
- Research group interested in mental and physical health, subjective well-being, financial health, decision making and attitudes towards risk, and political and social attitudes

The first major basic income trial[42] in the US just announced how it plans to give away free money

- Stockton, California will start the first major basic income pilot (18-month trial period) in February 2019
- Program is called the Stockton Economic Empowerment Demonstration (SEED) – provides 100 residents with $500 per month

[39] https://basicincome.org/news/2018/12/ukraine-basic-income-experiment-has-started-being-prepared-in-ukraine/
[40] https://www.wired.com/story/y-combinator-learns-basic-income-is-not-so-basic-after-all/
[41] https://basicincome.org/news/2017/10/overview-of-current-basic-income-related-experiments-october-2017/
[42] https://www.businessinsider.com/basic-income-experiment-stockton-details-about-trial-2018-8

- Qualify for the trial if they are 18+ years and have a median income of less than $46,033
    - Those who earn more than the specified amount above can still be eligible if their neighborhood fits the criteria
- 1,000 initial residences will be randomly chosen and out of those who fill the form with demographic questions, 100 people will be randomly selected to receive basic income
- Recipients will be regularly checked to determined how basic income affects health, financial security and civic engagement; a control group will also be monitored
- Basic income is fully funded by private donations

About The Society of Actuaries

With roots dating back to 1889, the Society of Actuaries (SOA) is the world's largest actuarial professional organizations with more than 31,000 members. Through research and education, the SOA's mission is to advance actuarial knowledge and to enhance the ability of actuaries to provide expert advice and relevant solutions for financial, business and societal challenges. The SOA's vision is for actuaries to be the leading professionals in the measurement and management of risk.

The SOA supports actuaries and advances knowledge through research and education. As part of its work, the SOA seeks to inform public policy development and public understanding through research. The SOA aspires to be a trusted source of objective, data-driven research and analysis with an actuarial perspective for its members, industry, policymakers and the public. This distinct perspective comes from the SOA as an association of actuaries, who have a rigorous formal education and direct experience as practitioners as they perform applied research. The SOA also welcomes the opportunity to partner with other organizations in our work where appropriate.

The SOA has a history of working with public policymakers and regulators in developing historical experience studies and projection techniques as well as individual reports on health care, retirement and other topics. The SOA's research is intended to aid the work of policymakers and regulators and follow certain core principles:

Objectivity: The SOA's research informs and provides analysis that can be relied upon by other individuals or organizations involved in public policy discussions. The SOA does not take advocacy positions or lobby specific policy proposals.

Quality: The SOA aspires to the highest ethical and quality standards in all of its research and analysis. Our research process is overseen by experienced actuaries and nonactuaries from a range of industry sectors and organizations. A rigorous peer-review process ensures the quality and integrity of our work.

Relevance: The SOA provides timely research on public policy issues. Our research advances actuarial knowledge while providing critical insights on key policy issues, and thereby provides value to stakeholders and decision makers.

Quantification: The SOA leverages the diverse skill sets of actuaries to provide research and findings that are driven by the best available data and methods. Actuaries use detailed modeling to analyze financial risk and provide distinct insight and quantification. Further, actuarial standards require transparency and the disclosure of the assumptions and analytic approach underlying the work.

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