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The Receipt of Guaranteed Income Supplement (GIS) Status Among Canadian Seniors – Incidence and Dynamics

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Executive Summary:

This paper consists of a statistical and econometric analysis of the both the incidence rate for receiving guaranteed income supplement (GIS) benefits among age-eligible Canadians as well as the dynamic aspects. Our study is based on administrative data drawn from tax returns. The simplest of our specifications include the explanatory variables of age and then year-of-entry (capturing cohort effects). We subsequently include regressors to reflect demographic variables such as gender, marital status, immigration status, and minority language status. At the next stage, we include regressors to reflect regional effects such as province of residence and the area size-of-residence. The fullest specification includes indicators for permanent income and prior savings activity, all calculated based on retrospective information observed when the individual was 50-52 years old.

The raw estimates for the incidence rate over our interval range from 30.5 % in 2006 to 34 % in 1992. The univariate age profile rises monotonically from 31.2 % at age 65 to 32.6 % at age 67, and it tends to rise rapidly after age 70. This rising trend that we observe for the age variable still holds after separating numerous different cohorts of workers. After controlling for regional effects and the influence of marital status, the strong age patterns are still present but weaker, so some of it is attributable to compositional effects. With or without the inclusion of control variables, both men and women with partners have lower incidence rates. In regards to the regional factors, rural areas and areas with relatively low population densities have higher rates than urban areas. Ontario has the lowest incidence rate, while Newfoundland has by far the highest.

The gender-based analysis yields remarkable disparities. After netting out the effects of the variables related to permanent income, single women are slightly less likely than single men to receive GIS benefits, but women with partners are much less likely than their male counterparts to receive them.

The estimates for our proxy variable for permanent income reveal a strongly negative, non-linear, monotonic relationship. This finding indicates that the program is at least fairly well-targeted at those who had relatively low permanent incomes when they were in their prime earning years. Those who were previously self-employed are less likely to benefit even after controlling for the effect of permanent income. As expected, those individuals who contributed to RRSPs and/or RRPs are less likely to receive GIS benefits, ceteris paribus.

The analysis of the dynamics of GIS receipt patterns indicate that some beneficiaries do not receive benefits when they first reach the age of eligibility of 65 years, but then subsequently enter the regime at older ages. Almost three quarters of the group of users between 66 and 70 years of age display persistent use. The univariate average annual *entry* rates by age among those eligible for GIS benefits display a saucer-shaped profile, falling from 4.2 % for 67-year olds to 3 % for those in their mid-70s, and then rising to 5.8 % by age 90. We discerned a spike in the entry

rate in the year 2002, which corresponds with the 'GIS outreach initiative'. The univariate average annual *exit* rates by age among those receiving GIS benefits are calculated at 8 % for 67 year-olds, and they decline monotonically thereafter. For the multi-variate transition equations, the probability of exiting conditional on receipt of GIS benefits during the preceding year declines monotonically between the ages of 67 and 76, and subsequently levels off. Relative to native-born Canadians and long-time immigrants, more recently arrived immigrants have a very high probability of entry. Women who transit from married to single status are more likely to enter the GIS regime.

The hazard model for the risk of exiting the GIS regime conditioned on the duration of the on-going spell of GIS receipt reveals a sharp pattern of negative duration dependence; leaving the GIS rolls becomes less and less likely the longer that spell lasts. The hazard model for the risk of entering the GIS regime conditioned on the particular event of not receiving the benefit when one is initially eligible (i.e. at age 66), which we label 'delayed entry', becomes less and less likely the older the individual becomes.