Are Liquidity Constraints Holding Women Back? An Analysis of Gender in Self-Employment Earnings

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Abstract: In Canada, the 1999 mean self-employment earnings for women is $22,995 compared with $38,350 for men (Devlin, 2001). The majority of this earnings gap is unexplained. In this paper, I investigate liquidity constraints as a potential determinant of the gender gap. Consistent with Hurst and Lusardi (2004) I find that the relationship between liquidity and self-employment is non-linear. Furthermore, the non-linearity is asymmetric across gender. In particular, women's earnings are affected at lower levels of liquidity. Using a baseline specification, I estimate that over 95 percent of the earnings gap would be eliminated in the absence of liquidity constraints.

JEL Classification: J16, J23.
Keywords: Self-employment, Earnings, Gender differentials, Credit constraints

1. Introduction

Gender differences in self-employment earnings are substantial in Canada. Lin, Picot and Compton (2000) cite that, in 1994, the percentage of Canadian women in the lower end of the earnings distribution is 72%, while the figure for men is only 50%. However, despite increases in women's self-employment earnings in the 1980s and 1990s (Kuhn and Schuetze, 2001), a large gender gap remains. Devlin (2001) estimates a mean self-employment earnings for women of $22,995, compared with $38,350 for men, in 1999.

While there is a small literature on the self-employment earnings gap, only one study, to my knowledge, considers liquidity constraints as a potential determinant of said gender gap (Devlin, 2001). Conversely, several papers investigate gender (and racial) discrimination in the credit market using business and bank surveys (Blanchflower, Levine and Zimmerman, 2003, Haines, Orser and

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Riding, 1999, and Coleman, 2000). However, these credit studies shed no light on the impact of liquidity on self-employment outcomes themselves. And, more importantly, Blanchflower et al. (2003) note that if loan application rates of minorities are low because of expected rejection, loan denial gaps (discrimination) will be underestimated in the bank loan studies.

To circumvent this data issue, one could investigate self-employment outcomes directly, as do Evans and Jovanovic (1989) and Holtz-Eakin, Joulfaian and Rosen (1994b) for men[2] and Devlin (2001) for women. These studies typically regress self-employment outcomes on wealth (or some other proxy for liquidity) because, in the presence of binding constraints, a positive correlation should exist between liquidity and the self-employment outcome. The use of the liquidity proxy[3] technique is not without flaws, however. Hurst and Lusardi (2004), Cressy (1999) and Blanchflower and Oswald (1998), among others, point out the potential endogneity of wealth, the non-linearity of the relationship between wealth and self-employment, and the difficulties which arise in the interpretation of the liquidity coefficient.

This paper builds on the self-employment literature in three important ways. To start, this study is the first to investigate liquidity as a determinant of gender differences in self-employment earnings, with alternative proxies. In particular, I use investment income dummies in the baseline, Registered Retirement Savings Plan (RRSP) withdrawals in some specifications, and I instrument investment income with provincial housing price appreciation in other specifications. Second, I explore gender asymmetries in the context of the the non-linearity issue raised by Hurst and Lusardi (2004). I find that not only do women demonstrate a greater response to the liquidity proxies than men, but the non-linearities differ as well. The most significant impact of liquidity on self-employment earnings occurs at lower levels of investment income for women than for men. Moreover, the coefficient estimates, while large and significant across most specifications for women, are smaller and insignificant for men. Finally, I look at estimates for married and unmarried individuals separately and find that while coefficients are larger for unmarried women, the results are substantively similar across marital status.

The paper is organized thus: section II presents a review of the literature. Section III outlines the empirical specification. I discuss the data and covariates in section IV. Results are presented in section V, and section VI concludes.

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2 The latter authors do not restrict their sample to men, but rather do not distinguish gender at all.

3 Throughout the paper I use the term liquidity proxy. This term is appropriate for two key reasons. First, not all wealth is liquid and therefore not all wealth is easily accessed for business start-up capital. Second, self-employment studies which investigate credit constraints use many different variables to proxy for constraints. Wealth is typically used when the data has such detail. However, in the absence of information on wealth, investment income is frequently used to proxy. See Fairlie (1999), Georgellis and Wall (2005), Taylor (1999), Bruce (1999), and Cowling and Taylor (2001). Evans and Leighton (1989) subtract labor from total earnings to obtain an estimate of capital income, while Holtz-Eakin et al. (1994b) impute asset holdings from investment income.

2. Literature

There is a small but growing literature which investigates gender differences in self-employment earnings. Among these self-employment studies, Moore (1983), Devine (1994a), Hundley (2000), and Clain(2000), all consider the gender earnings gap with U.S. data. In Canada, Devlin (2001), alone, investigates self-employment earnings differences. While not directly investigating income, Simpson and Sproule (1998) include selection corrected earnings estimates as part of a structural entry analysis, and Lin et al. (2000) and Kuhn and Schuetze (2001) note descriptive statistics on Canadian women's low but increasing self-employment earnings. Yet, with the exception of Devlin (2001), these studies do not consider liquidity constraints as a potential determinant of the earnings gap.[4]

In contrast, several studies investigate gender (and racial) discrimination in the credit market, without directly estimating the implications of constraint differentials on self-employment outcomes. A 1995 research report by the Canadian Federation of Independent Businesses (CFIB) claims that female business owners are 20 percent more likely to be denied loans. Those that do receive loans pay higher interest rates on average. However, Fabowale, Orser and Riding (1995), Haines et al. (1999), and Coleman (2000)[5] argue that gender differences disappear when observable characteristics such as firm size, personal and business financial characteristics are taken into account. Blanchflower et al. (2003) report loan denial rates are 2 to 7 percent higher for women, but this difference is not always significant.

Unfortunately, these credit studies provide no understanding of the impact of liquidity on self-employment outcomes. Moreover, they suffer from a fundamental data limitation. The majority (Fabowale et al., 1995, Coleman, 2000, Blanchflower et al., 2003, CFIB, 1995, and Buttner and Rosen, 1992) use survey data composed of business owners only, and as such, they cannot account for differences in rejection rates among individuals who applied for loans, but ended up not starting a business. Studies which use bank data[6] directly, such as Haines et al. (1999), may also be biased. For example, Blanchflower et al. (2003) suggest that loan rejection gaps will be underestimated if minority (female) application rates are low from fear of rejection. Indeed, Coleman (2000) notes that only 35% of women applied for external funding versus 45% of men.

To circumvent this data issue, one could study self-employment outcomes directly. There is some precedence for this approach as several studies investigate

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[4] A few papers do, however, consider gender differentiated liquidity constraints and entry. See, for example, Georgellis and Wall (2005). Hundley (2000) includes a measure of spousal income in the selection, but not the earnings equation. However, this information will only be available for married women.

[5] Fabowale et al. (1995) use CFIB data, Haines et al. (1999) collect Canadian bank loan data, and Coleman uses US data from the National Survey of Small Business Finances , NSSBF(1993). Blanchflower, Levine and Zimmerman (2003) also use the NSSBF (1993).

[6] These data sets are proprietary and as such not subject to the same scope or collection standards as federal survey data.

the impact of credit constraints on self-employment entry and outcomes for men.[7] Evans and Jovanovic (1989) suggest that individuals who are not able to borrow optimally may be constrained from entering and succeeding in self-employment. The authors state that, in the case of binding constraints, there should exist a positive correlation between wealth and self-employment outcomes. Indeed, Evans and Jovanovic (1989) find that liquidity constraints inhibit 1.3 percent of the (male) population from becoming self-employed, and that self-employed businesses are under-capitalized. Likewise, Holtz-Eakin et al. (1994b) find that an inheritance of $150,000 increases self-employment earnings by 20 percent.

The only study to include liquidity constraints in an investigation of self-employment earnings, by gender, is Devlin (2001). Because she does not have information on wealth, Devlin proxies for liquidity constraints using retirement savings. She reports that, for both sexes, holding an RRSP[8] is correlated with higher self-employment earnings.[9] However, her RRSP measure is for the year 2000, while the reported earnings data is for 1999. Causality, Devlin notes, is likely to be reversed.

Yet, even if the liquidity proxy is lagged, there are still several flaws to using direct analysis of self-employment outcomes. The first is an issue of endogeneity which might bias the coefficient estimates. An individual may be wealthy because he or she is a high ability, high earning individual, such ability may also determine self-employment outcomes. Alternatively, if an individual saves more because he or she is planning to enter a business, then the need for business funds may be determining wealth. In either case, the correlation between business success and liquidity may be positive due to ability, or due to anticipation, and not caused by liquidity constraints.[10] While previous studies (Blanchflower and Oswald, 1998, Holtz Eakin et al., 1994b) have used inheritances as exogenous increases in wealth, Hurst and Lusardi (2004) suggest that inheritances are not random and, as such, proxy for more than liquidity. In their study of self-employment entry, Hurst and Lusardi (2004) find that instrumenting wealth with regional housing price

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7 Studies which investigate outcomes for men, or who do not distinguish results by gender, include Evans and Jovanovic (1989), Holtz-Eakin et al. (1994a, b), Fairlie (1999) and Kan and Tsai (2006), among others.

8 In Canada, contributions to RRSPs are tax deductible at the time of deposit. Taxes are paid when any income is withdrawn.

9 While the reported coefficient is larger for women than men. Approximately 70% of men and women in the sample held RRSPs. This high figure is not surprising as the self-employed were among the targeted beneficiaries of the proposed retirement savings tax reforms by Lalonde (1984). While the wage-employed have employer sponsored retirement, the self-employed (in general) do not.

10 Although Bernhardt (1994) suggests that the latter issue is not a problem because savings for business formation only anticipate credit market conditions, and as such, will also reflect gender specific liquidity constraints. A potential business owner would only use such anticipatory savings if he or she expected to be unable to find a capitalist to take on the risk of investment in his or her business.

appreciation[11] (or even using a non-linear wealth variable) changes the wealth coefficients from large and significant to negative (small) and insignificant.

The second flaw with these studies is that a positive coefficient on wealth (or any similar liquidity proxy), while typically interpreted as indicative of credit constraints, may have other plausible causes. For example, the positive correlation between liquidity proxies and self-employment outcomes for women may be generated by a female preference to self-finance. Coleman (2000) and Treichel and Scott (2006) note that women self-finance more frequently than men. The latter authors suggest that a preference for control over own business and avoidance of commercial debt, rather than fear of discrimination, could drive female behavior. Only women with sufficient personal funds, would then enter and succeed in self-employment. Alternatively, Cressy (1999) theorizes that the positive correlation may be due to risk aversion, rather than credit. Higher wealth implies lower risk aversion, which could result in riskier ventures with higher returns (earnings). However, recent work by Kan and Tsai (2006) suggests that even after controlling for risk aversion, the positive correlation between wealth and self-employment remains.

A third concern is that, for married couples, wealth and income may be shared or distributed among spouses to minimize taxation. As such, claimed wealth may over-state actual wealth for the lower earning spouse (typically female). Income splitting artificially inflates investment income as well as self-employment rates, and may result in self-employment earnings that are uncorrelated with personal constraints. There is some evidence that such splitting occurs in Canada. Schuetze (2006), analyzing wage and self-employment rates, reports results that are consistent with incorporated self-employed men in Canada attributing a portion of profits to their spouses.

A final interpretation issue arises because of the comparison across gender. If male coefficients are zero, while female coefficients are positive, results are consistent with the hypothesis that women are constrained while men are not. But interpretation is not straightforward if both male and female coefficients are positive and the female coefficient is significantly larger. Fairlie (1999), in an analysis of self-employment entry across race, finds positive wealth effects for both blacks and whites. And he interprets the larger coefficient estimate for blacks as indicative that credit market discrimination may exist. However, a relatively higher estimate need not imply a tighter constraint. Rather a large coefficient could indicate a greater response to wealth or a greater response to the absence of a constraint. The relative size of the coefficients, therefore, says little about the severity of the constraint itself.

While this paper will face the same interpretation issues as the existing literature, it represents the first investigation of liquidity as a determinant of gender differences in self-employment earnings, using a variety of appropriately lagged proxies. Moreover, I attempt to address the endogeneity, income splitting and interpretation concerns by considering alternative proxies such as RRSP

[11] Regional housing price appreciation, they argue, provides an exogenous increase in wealth which is uncorrelated with the self-employment decision.

withdrawals, instrumenting with provincial housing price appreciation, and investigating whether results depend on marital status. Finally, I explore the non-linearity issues raised by Hurst and Lusardi (2004) in the context of gender asymmetries.

3. Empirical Specification

In considering the impact of liquidity on self-employment income, I estimate both regular and selection corrected earnings equations. The regular earnings equation is given by:

$$\text{arcsinh}(\text{hrly earnings}_{ig}) = X_{ig}\,\beta_g + u_{ig} \qquad u \sim N(0, \sigma_g), \qquad (1)$$

where X is a vector of individual characteristics and controls taken from the year prior to the earnings data.[12] The subscript i denotes individual observations, and separate regressions are run for each gender, g. I use the inverse hyperbolic sine (arcsinh) function to transform hourly earnings.[13] OLS estimates of equation (1) will be biased if the earnings sample is not randomly selected.

Let y* be a latent variable where y*>0 implies selection into the sample. This latent variable is the outcome of a set of characteristics Z which includes both the covariates of X along with one or more excluded variables (exclusion restrictions), which determine y* but not earnings:

$$y_{ig}^{*} = Z_{ig}\,\gamma_g + \nu_{ig} \qquad \nu \sim N(0,1) \qquad (2)$$

The correlation between u_g, from equation (1), and ν_g is given by ρ_g. Equation (2) implies that a person's log hourly earnings are in the sample if $-Z_{ig}\,\gamma_g > \nu_{ig}$ The conditional expectation of log earnings, given X and the probability of selection, is $E[\text{arcsinh (hrly earnings)} \mid X, y^{*}>0] = X\beta + E(u \mid \nu > -Z\gamma)$. OLS estimates of equation (1) will be biased if $E(u|\nu)$is non zero.

Heckman (1979) suggested correcting for selection bias by including an estimate of $E(u \mid \nu > -Z\gamma)$ in the earnings equation. This term can be written as: $\sigma\rho\,[\phi(Z\gamma) / \Phi(Z\gamma)]$.[14] The selection corrected earnings regression is thus:

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[12] In the baseline specification, X includes a liquidity proxy, age, age2, tenure of last job, # self-employed in family, and flags for immigrant status, home ownership, previous labour force status, multiple job holder and missing values. Additional specifications include education and industry dummies as well as flags for involuntary job end, management experience and working at home. These covariates are discussed in section IV.

[13] The inverse hyperbolic sine function is $\text{arcsinh}\ x = \ln(x + (x^2+1)^{1/2})$. This function mimics the log function but is symmetric around zero, enabling me to retain zero and negative earners in some specifications. See Burbidge et al. (1988) for use of this function in wealth studies.

[14] ϕ is the normal density function and $\Phi$is the cumulative normal distribution function.

$$\text{arcsinh}(\text{hrly earnings}_{ig}) = X_{ig}\beta_g + \rho_g\sigma_g [\phi(Z_{ig}\hat{\gamma}_g) / \Phi(Z_{ig}\hat{\gamma}_g)] + e_{ig} \quad (3)$$

The errors, e, will be heteroskedastic, and as such, corrected standard errors are calculated. This selection correction is estimated using Heckman's Two-Step, as well as using the full maximum likelihood method. The latter has the same assumptions but is more efficient, but because results are substantially similar, only the Two-Step results are reported.

4. Data and Selected Sample

The sample I use is Panel 1 of the Canadian Survey of Labour and Income Dynamics (SLID). This sample contains personal and job characteristics for individuals and their families over a six-year period, 1993-1998. I restrict analysis to the first panel because 1993-1998 is a period of relatively stable growth of self-employment activity in Canada. The dot-com bubble burst in early 2000 and self-employment began to fall within the panel 2 and panel 3 period, specifically, in 2000 and 2001.[15] Because the market crash, and concurrent decline in private funding, [16] may impact male-female self-employment earnings and constraints at different rates, I focus on the stability of panel 1.

The data is organized to include one entry per person per year, pooled across years, starting with 1994.[17] Observations with missing values are dropped, except when missing values constitute a large portion of the sample. In such cases, I retain the observations and insert a flag to control for missing values. Regardless of whether missing values are retained or dropped the main results are unchanged. I drop all those who are out of scope, leave the panel, or are under 18 prior to sample start. Consistent with the self-employment literature, I drop anyone who was not employed the year prior to the analysis year. The pre-selection sample is, thus, 38,837 male and 34,483 female observations.

4.1 Sample Selection

For the baseline case, the selected sample is all newly self-employed job holders with positive hours and positive earnings.[18] Self-employment includes all jobs classified as self-employed incorporated, unincorporated, with employees or without. A self-employment job is considered 'new' if the start date of the job occurs in the

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15 Statistics Canada (2009).

16 Private funding continued to fall well beyond the bubble, and while it would make an interesting time-series analysis to consider the impact of changing constraints on self-employment outcomes, it is beyond the scope of this paper.

17 Job specific characteristics and earnings are recorded from the current year, and personal characteristics from the year prior, to avoid potential endogeneity. As such, I cannot use 1993 earnings data.

18 Consistent with the pre-selection sample, these job holders were also employed the year prior.

current year, or if the person is currently self-employed, and is not self-employed in the previous year. The rationale for using only new self-employment spells is because the primary proxy for liquidity, investment income, can contain partnership earnings from the year before. Moreover, this selection criterion is ideal for capturing credit constraints because on-going businesses are likely to have existing bank relationships are less likely to face constraints. Thus, for an unbiased picture of gender differences, we should focus on new businesses only.

Agricultural jobs are retained, in keeping with Moore (1983); however, omitting farm self-employed does not alter the main findings of this paper. Multiple job holders are also retained because very few individuals (less than 40%) who start self-employment do so without having any additional job in that year. Finally, although self-employment jobs can legitimately have zero and negative earnings, positive earnings is a standard selection criterion.[19] Notable exceptions are Hamilton (2000), Davila and Mora (2004) and Fairlie and Meyer (1996). While this paper uses positive earners in the baseline, alternative specifications will employ a less restrictive criterion. The baseline selected sample of newly self-employed, positive hours, positive earning job holders, is 687 observations, 326 of which are female.

4.2 Dependent Variable

The dependent variable, in all regressions, is the inverse hyperbolic sine of hourly self-employment income. Individuals may report their income in the interview or permit Statistics Canada to match their tax records. A person should report wages if their business is incorporated, but would report self-employment earnings if their business is unincorporated. Because earnings is aggregated across jobs, on an annual basis, I determine individual job income as follows: If a person holds both wage jobs and unincorporated self-employment jobs, then earnings is recorded as total self-employment income. If a person holds both wage jobs and incorporated self-employment jobs, then earnings is recorded as total wage & salary earnings times the portion of total work hours dedicated to self-employment in that year. If a person holds only self-employment jobs then earnings is recorded as total labor income. I do not distinguish between two new self-employment jobs held in the same year.[20]

It should be noted that self-employment earnings are subject to many additional non-pecuniary benefits that organizational employment earnings are not (Hamilton, 2000). Moreover, Cliff (1998) notes that female entrepreneurs may have different goals, with respect to earnings and growth, than their male counterparts. However, provided that these behaviours are not differentially correlated with the covariate set, any such gender differences in preferences or benefits should be

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[19] Because the logarithmic function of wages is typically used, to reflect the non-linearity of the marginal utility of income, only positive values are permissible with this function.

[20] Hyslop and Imbens (2001), using an alternative to the classical measurement error model, find that error in the dependent variable will bias estimates toward zero. Given that I can only approximate self-employment income for multiple job holders, my dependent variable is subject to some error, and coefficient estimates are likely to be less significant and smaller. However, unless this measurement error is greater for men than for women, it is not likely to alter the main findings of this paper.

captured by the intercept terms.

4.3 Liquidity Proxies

The primary focus of this study is the relationship between liquidity and earnings, for women versus men. However, because I do not directly observe assets, I must use a proxy: investment income.[21] As Hurst and Lusardi (2004) note, the effect of wealth (liquidity) is likely to be non-linear. Thus, I consider several continuous and discrete variable sets. The continuous proxies are log and absolute value of investment income and RRSP withdrawals divided by 1000. The discrete proxies include a series of investment income categories and cutoff points. The preferred specification is one in which a single cutoff is employed. I prefer a cutoff rather than a continuous variable because once a person has the optimal level of capital to fund a business, additional capital should have little impact on revenue. Previous analysis would suggest a cut-off of $200 in investment income is appropriate. Consider that investment income of $200 implies an amount of capital ($4,000 at 5%) that is large enough to cover minimal start-up costs[22] and is also consistent with the liquidity proxy (a flag for £100) in Taylor's (1999) self-employment duration analysis. However, because women tend to start smaller businesses, it makes sense to consider that the appropriate cutoff itself may be asymmetric across gender. Indeed, this is what I find. Thus, in all specifications I present results for at least two cutoffs: $100 and $200 in investment income. Choice of these cutoffs is ultimately data driven.

Several concerns with the liquidity proxy are mentioned in section II. To address these concerns, I consider using RRSP withdrawals, instrumenting with provincial housing price appreciation, dropping those with other self-employed in the family and limiting the sample to married versus unmarried individuals. Unlike investment income or RRSP levels, RRSP withdrawals are not a proxy for wealth, but for financial need. As such, they are less likely to represent high ability or low risk aversion individuals.[23] This variable is not without limitations, however. First, to withdraw funds necessitates having saved them in the first place, and second, very few individuals in the sample actually withdraw RRSPs. The instrument, housing price appreciation, is also not without flaws. Hurst and Lusardi (2004) use actual wealth, whereas this study must approximate liquidity with investment income. Housing price appreciation does not have the same predictive power in this case.[24]

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[21] Investment income includes returns on investments, rental property and partnership income, less carrying charges and interest. It excludes pension income and RRSPs.

[22] See Hurst and Lusardi (2004) for a discussion of average start-up capital. Fairlie and Robb (2007) further note higher levels of start-up capital among whites than blacks.

[23] Indeed, the presence of RRSPs from which to draw is indicative of a risk averse person, while withdrawal itself may imply less risk aversion, it may conversely be that the entrepreneur has more accurate knowledge of their probable success than lending institutions. On the other hand, withdrawals are also likely for individuals who have been unable to obtain wage employment.

[24] I note here that Hurst and Lusardi (2004) have data on actual housing price appreciation from which they obtain regional housing appreciation levels to instrument for wealth. As I do not have actual housing prices, nor do I have actual wealth, I use provincial new

Moreover, in both this and Hurst and Lusardi's study, it should be noted that housing wealth is less liquid. Not all individuals may be inclined to sell, or use their house as collateral, in order to access wealth for business start-ups.

4.4 Additional Covariates and Instruments

Aside from liquidity proxies, the personal characteristics and control variables used in the baseline regression are flags for immigrant status, multiple job holders, unemployment and non-employment spells, a quadratic in age, tenure, number of self-employed in the family, the provincial unemployment rate and regional dummy variables.[25] This specification incorporates common covariates from self-employment earnings regressions found in several studies, including Devlin (2001), Clain (2000), Hundley (2000), and Simpson and Sproule (1998). Because the years are pooled, I include a flag for each year after 1994. Also included is a home ownership dummy, although interpretation of this coefficient is complex. A house may be used as collateral to obtain loans, however, home ownership can affect labor market participation as mortgage payments necessitate steady income (DelBoca and Lusardi, 2003). To check the robustness of the results, alternative specifications and subsamples are used. Alternative specifications include potentially endogenous variables such as industry and education,[26] as well as flags for working from home, involuntary job end, and management experience.

Identification and consistent estimation are key for selection correction. In the baseline specification, the exclusion restrictions are marital status and number of children. These instruments are commonly used in both self-employment and wage studies.[27] However, I run alternative specifications to ensure that the choice of exclusion restrictions does not drive the results. Additional instruments are a flag for voluntary part-time status, ever self-employed before, and parental college education flags.

5. Results

Sample characteristics for men and women are presented in Table 1.[28] The values of these characteristics are all taken from the year prior to the earnings year. The first

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housing price appreciation to instrument the liquidity proxies. As this instrument is a poor predictor, particularly for men, I also include parental education as instruments.

25 Regions are eastern, Quebec, British Columbia, and prairies. Ontario is the base region.

26 Although estimates of the relationship between educational attainment and self-employment are mixed (Clain, 2000, Hundley, 2000, and Simpson & Sproule, 1998), I incorporate education flags in alternative specifications to capture any potential skill related effects.

27 See Clarke and Drinkwater (2000), Earle and Sakova (2000), Simpson and Sproule (1998), Evans and Leighton (1989), Davila and Mora (2004), Baker, Benjamin, Desnaulier and Grant (1995), Wellington (1993), and Heckman (1980). However, Hundley (2000) uses a qualitative indicator as an exclusion restriction: importance of marriage and family life and both he and Clain (2000) retain both marital status and number of children in the earnings equation.

28 Full descriptions of these variables are recorded in Appendix table A.

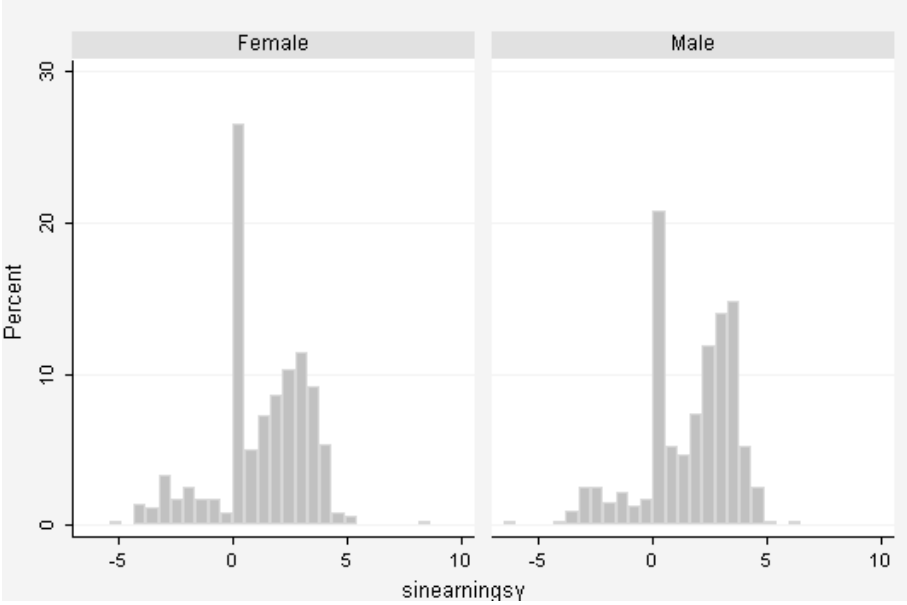
Table 1: Sample characteristics.

Variables	Entire Sample		Selected Sample	
	Men	Women	Men	Women
Dependent Variable				
arcsinh(earnings)			2.6710	2.4798
			(1.1038)	(1.2113)
Liquidity Proxies				
investment income				
<$0	0.0230	0.0140	0.0305	--
=$100	0.2424	0.2310	0.1690	0.2209
=$200	0.1950	0.1835	0.1302	0.1748
=$400	0.1494	0.1371	0.1053	0.1350
log(investment income)	1.9008	1.8544	1.4327	1.8265
	(2.9901)	(2.8700)	(2.6785)	(2.9909)
abs(investment income)	2.0666	1.9511	1.6337	1.9677
	(3.0860)	(2.9267)	(2.8162)	(3.0616)
RRSP withdrawal /1000	0.2290	0.1472	0.3103	0.1398
	(1.9819)	(1.4493)	(2.1765)	(0.8891)
Other Baseline Variables				
age	39.63	38.32	37.34	37.13
	(11.70)	(11.19)	(10.72)	(10.54)
home owner	0.8146	0.7855	0.7645	0.7853
#self-employed in family	0.1504	0.2138	0.1440	0.2914
immigrant	0.0943	0.0884	0.1136	0.1258
unemployed	0.1724	0.1743	0.3407	0.2485
not in labor force	0.1224	0.1573	0.1967	0.2454
tenure	2.0272	1.7326	3.2845	3.0256
	(5.9296)	(4.7487)	(6.1017)	(5.7199)
multiple jobs	0.1702	0.1832	0.6510	0.6380
Additional Specification Variables				
management	0.3649	0.2495	0.3989	0.3160
involuntary job end	0.1432	0.1201	0.2825	0.2178
worked at home	0.1537	0.1627	0.1357	0.2331
high school grad	0.1481	0.1564	0.1136	0.1227
some post secondary	0.1340	0.1450	0.1163	0.1503
certificate	0.3425	0.3966	0.3906	0.4172
bachelors	0.4279	0.4938	0.4931	0.5184
graduate/professional	0.0520	0.0423	0.0693	0.0460
Baseline Exclusion Restrictions				
married	0.7234	0.7002	0.7064	0.7301
# kids under 15	0.2247	0.2147	0.3102	0.3221
	(0.5430)	(0.5176)	(0.6352)	(0.6353)
Additional Exclusion Restrictions				
voluntary part time	0.0671	0.2028	0.0609	0.2485
ever self-employed	0.2627	0.1835	0.1801	0.1779
mother college	0.1426	0.1662	0.1717	0.2025
father college	0.1420	0.1587	0.1994	0.1534
Observations	38837	34483	361	326

Notes: Variable means presented with standard errors in brackets underneath (for non-binary only). Controls omitted from table are: age^2, tenure^2, regional dummies, missing data flags, industry dummies, annual dummies, and the provincial unemployment rate. The difference in means is significant for all of the pre-selection sample except for unemployed. While the mean differences for age, home, immigrant, tenure, certificate, bachelors, high school and all of the exclusion restrictions except voluntary part time, are insignificant.

two columns show variable means for men and women in the pre-selection sample, the second two columns display means for those newly self-employed with only one job, and positive hours and earnings. Recall also that, individuals in both the pre-selection and selected sample were employed the year before. In the pre-selection sample, men are, on average, older than women. Perhaps because of the age difference, women are slightly less likely to have high investment income. However, in the selected sample, women are younger than men, but have significantly more investment income.[29] Two additional differences are worth pointing out. First, women in the selected sample have considerably more self-employed family members, which suggests either family business or income splitting may be common among women. Second, self-employed women have a higher average number of children than their male counterparts. These women may have selected self-employment in order to facilitate home and labor market work, a result that is found in Hundley (2000).

Figure 1: Self-Employment earnings distributions.
(For new jobs wi



[29] The gap remains regardless of the investment income measure. Women in the selected sample withdrew fewer funds from RRSPs.

Table 2: Liquidity proxy coefficients, by gender.

Variables	OLS		Two-Step	
	Men	Women	Men	Women
1. series of investment income dummies				
negative	-0.3606	0.2838	-0.4012	0.2141
	(0.3904)	(0.4419)	(0.3574)	(0.4597)
$1 to 99	0.3132	0.2353	0.2128	0.2500
	(0.2009)	(0.2533)	(0.2349)	(0.2351)
$100 to 199	**0.1064**	**1.1219*****	**0.1297**	**1.1155*****
	(0.2624)	(0.4527)	(0.2984)	(0.3145)
$200 to 299	0.8301**	0.3597	0.8768*	0.3483
	(0.3823)	(0.2725)	(0.4491)	(0.4244)
$300 to 399	0.4208	0.6032*	0.7590	0.6232
	(0.2706)	(0.3487)	(0.7516)	(0.5243)
$400 to 499	-0.1177	-0.2415	-0.4202	-0.3946
	(0.4036)	(0.4511)	(0.5073)	(0.5183)
$500 to 1000	-0.4510	0.1640	-0.2552	0.2749
	(0.3160)	(0.5762)	(0.4243)	(0.5115)
$1000 to 4999	0.0936	0.4652	0.3335	0.4716
	(0.2030)	(0.3313)	(0.4642)	(0.3228)
$5000 and up	0.3152	0.5052	0.1861	0.3984
	(0.3365)	(0.4413)	(0.3479)	(0.3950)
			[-0.7620]	*[-0.3874]*
2. Cutoffs				
= $100	**0.0966**	**0.4953*****	0.2029	0.4832***
	(0.1460)	(0.1826)	(0.1871)	(0.1734)
			[-0.8982]	*[-0.2879]*
= $200	0.1001	0.2259	0.2207	0.2147
	(0.1662)	(0.2035)	(0.2101)	(0.1925)
			[-0.9014]	*[-0.2386]*
3. Continuous				
log(investment income)	0.0266	0.0651**	0.0335	0.0630**
	(0.0205)	(0.0263)	(0.0245)	(0.0247)
			[-0.8906]	*[-0.2716]*
absolute(investment income)	0.0156	0.0623**	0.0214	0.0598**
	(0.0205)	(0.0249)	(0.0230)	(0.0241)
			[-0.8588]	*[-0.2769]*
#0bs	361	326	361	326

Notes: Coefficients presented with robust standard errors (clustering on personid) in brackets underneath. * indicates significance at the 0.1 level, ** at the 0.05 level, and *** at the 0.01 level. Estimates of ρ are listed in square brackets underneath the standard errors for two-step regressions.
Dependent Variable: inverse hyperbolic sine of self-employment earnings. Additional Control Variables: age, age^2, tenure of last job, # self-employed in family, and flags for immigrant status, home ownership, previous labour force status, multiple job holder and missing values. Selected sample: positive hours, positive earning, newly self-employed (and employed the previous year). Exclusion restrictions for are married & #kids under 15 for all samples. Gender differences between coefficients are tested by pooling men and women and including a male interaction term for all variables. Gender differences that are significant are indicated in bold.

As is evident in table 1, men earn substantially more than women in self-employment. However, means hide important distributional aspects. Consider figure 1, which displays the earnings distribution of men and women separately. Women exhibit both lower and more disperse earnings than men. In particular, a larger portion of women report earnings of zero or below. Of those with new self-employment spells, positive hours and who are employed the year prior, close to 30 percent of women but just over 20 percent of men experience zero earnings. These concentrations at the zero mark, and in negative earnings, will not be captured by the baseline selected sample. Therefore, an alternative selection criterion, which includes zero and negative earners, is tested to ensure that the choice of criterion does not drive the results.

5.1 Liquidity Proxy Coefficients for Men and Women

Table 2 presents liquidity proxy coefficient estimates for men and women. The first two columns contain ordinary least squares results, by gender, while the third and fourth columns contain the estimates using the Heckman Two-Step method.[30] Exclusion restrictions for the selection models are marital status and number of children. While I repeat the caution that the gender difference in coefficients should not be used to quantify liquidity constraints, I bold the cases where such differences are significant.[31] Like Devlin (2001), I find a positive coefficient on most constraint proxies for women.

The first set of estimates in table 2 explores the non-linearity of the liquidity effect. As Hurst and Lusardi (2005) find for entry decisions, I observe that the effect of liquidity on earnings does not follow a linear pattern. Moreover, the pattern differs substantially by gender. The largest impact for women appears around the investment income $100 to 199 mark, while for men, the peak occurs between $200 and 299. In addition, top ranges of wealth have a lower impact on men. These latter results contradict those of Hurst and Lusardi (2004), who find the largest effects at the highest wealth. However, Hurst and Lusardi do not perform separate estimation for men and women. Thus, the differences uncovered in this paper suggest that disaggregation by gender may be important.[32]

Subsequent estimates presented are cutoffs. Theoretically, credit constraints, once not binding, should be absent for all those who have sufficient funds, not just those at the margin. As with the range estimates, the cutoffs demonstrate an asymmetry in gender. The largest and most significant effect occurs at the $100 cutoff for women, while for men, the most substantial effect is at the $200 cutoff.

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[30] Additional specifications (available upon request), include weighted specifications and FIML. Results are substantively similar and as such are excluded. Estimates for the full baseline specification and selection equations are displayed in Appendix table B.

[31] Gender differences are calculated by including a male interaction term for all independent variables. The coefficients on these interaction terms are significant (at least at the 10% level) for investment income, number of self-employed in family, and all of the education dummies.

[32] Results presented here should still be interpreted with caution because sample size is quite small, particularly in the high wealth ranges.

One potential explanation for this gender asymmetry is that women tend to start smaller businesses.[33] If women require less capital to optimize returns, the appropriate liquidity proxy should, likewise, be lower for women. Thus, all subsequent tables report results for two cutoffs ($100 and $200), rather than one, to investigate the presence of liquidity constraints.

Additional asymmetries, discussed earlier, are: the preponderance of women at the zero and negative income ranges, and the greater number of self-employed in women's families. In order to consider whether these, and other factors, may be driving my results, I perform a sensitivity analysis. I drop individuals with other self-employed in the family, keep zero and negative earners, add further (potentially endogenous) variables, drop agricultural and older workers, drop 1994 observations, consider further exclusion restrictions, use RRSP withdrawals as a proxy, and apply instrumental variables techniques. In Table 3, I present coefficient estimates of liquidity proxies for these alternative specifications and subsamples. Only the OLS results are presented; however, the two step results are substantively similar and are available upon request. With the exception of the final row, the first two columns list coefficients on the flag for investment income at or above $100, while the last two columns report coefficients for the $200 cutoff.

Estimates for both men and women are reported and are bolded if the coefficient difference is significant. The first row repeats the baseline specification, while row 2 lists estimates for the selected sample where zero and negative earnings are included. While the dependent variable is the inverse hyperbolic sine of earnings in all regressions, the second row simply does not restrict the selected sample to positive earners.[34] Because figure 1 showed that a significant gender difference occurs at the zero and negative marks, it should not be surprising that the gender difference is more extreme in this selected sample. Now, having investment income greater than $100 has a much larger impact on women's earnings.

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[33] Please see Coleman (2000) for further details on gender business differences.

[34] I do, however, restrict the selection to positive hours.

Table 3: Liquidity proxy coefficients, alternative specifications.

Specifications	≥ $100 Coefficients		≥ $200 Coefficients	
	Men	Women	Men	Women
1. Baseline	**0.0966**	**0.4953*****	0.1001	0.2259
	(0.1460)	(0.1826)	(0.1662)	(0.2035)
2. keep earnings =0	**0.1949**	**0.9068*****	-0.0064	0.3879
	(0.2760)	(0.3463)	(0.3218)	(0.4125)
3. drop agricultural &	0.1065	0.3899*	0.1241	0.0779
those aged 65 and up	(0.1538)	(0.2005)	(0.1783)	(0.2333)
4. additional	0.0619	0.4151**	0.0457	0.0773
covariates	(0.1457)	(0.1865)	(0.1681)	(0.2079)
5. only 1995+ data	0.1279	0.4812**	0.0701	0.2068
	(0.1626)	(0.2253)	(0.1934)	(0.2460)
6. no other self-	0.1364	0.6059**	0.1194	0.3147
employed in family	(0.1592)	(0.2460)	(0.1857)	(0.2846)
7. Instrumental	-0.2907	0.6846	-0.0555	-0.5224
Variables	(1.3860)	(0.7678)	(1.1471)	(1.0073)
8. added Exclusion	0.1353	0.4770***	0.1477	0.2104
Restrictions	(0.1556)	(0.1776)	(0.1740)	(0.1960)
	[-0.6151]	*[-0.6877]*	*[-0.6213]*	*[-0.6454]*
9. RRSP withdrawal			0.0343*	0.0419
/1000			(0.0194)	(0.0591)

Notes: Coefficients presented with robust standard errors (clustering on personid) in brackets underneath. * indicates significance at the 0.1 level, ** at the 0.05 level, and *** at the 0.01 level. Estimates of ρ are listed in square brackets underneath the standard errors for two-step regressions.
Dependent Variable: inverse hyperbolic sine of self-employment earnings. Additional Control Variables: age, age^2, tenure of last job, # self-employed in family, and flags for immigrant status, home ownership, previous labour force status, multiple job holder and missing values. Selected sample: positive hours, positive earning, newly self-employed (and employed the previous year). Exclusion restrictions for are married & #kids under 15 for all samples. Gender differences between coefficients are tested by pooling men and women and including a male interaction term for all variables. Gender differences that are significant are indicated in bold. However, even in cases which aren't boded, for the $100 cutoff, interaction terms typically have p-values under 0.2. Further Covariates in row 4 are worked at home, management, involuntary job end and education and industry dummies. Specification 2 includes zero and negative earners in the selected subsample. Specifications 3, 5 and 6, respectively, drop individuals currently working in agriculture, data prior to 1995, and those with other self-employed in their family. Additional exclusion restrictions (parental education, ever self-employed and voluntary part time) are used in row 8. Row 9 replaces the investment income cutoff with the continuous variable RRSP withdrawal divided by 1000.

In row 3, I drop agricultural workers, and those who are older than 65. As with Moore (1983), including or excluding agricultural self-employed appears to have little effect on the results. Women still have larger significant coefficients for the $100 cutoff, and the effect at the $200 cutoff is small and insignificant. Education, industry, and other job related characteristics are included in the next specification, row 4. Again, there is little change in the results. Next, in row 5, I address a concern with my home ownership dummy by dropping all analysis years prior to 1995. Because home ownership is not recorded for the first year of the SLID, I assume that home ownership remained the same in 1993 as 1994. This assumption may result in errors in the covariate. However, with the exception that

the female coefficient for the $200 cutoff becomes significant, gender results are not altered substantially by dropping 1994 data.

Individuals who join family businesses will not face liquidity barriers. Such individuals may also be self-employed for the sole purpose of income splitting. Therefore, keeping these observations in the sample may result in underestimation of constraints. Row 6 presents estimates for individuals without other self-employed family members. The coefficients are again stronger for women, under both cutoffs. The weakest results are presented in row 7, where I consider the instrumental variables technique suggested by Hurst and Lusardi. Although Hurst and Lusardi's analysis is on entry, I observe similar effects for earnings. The coefficients, while much smaller for men and still quite large for women, are less significant. However, caution is advised in placing too much emphasis on this result because the instrumental variable estimates are highly sensitive to specification and, as mentioned in section II, these instruments are poor predictors of the liquidity proxies in the selected sample. Bound, Jaeger and Baker (1995) note that such weak instruments may result in large inconsistencies and biased estimates for small samples.

Similar issues exist in the Two-Step literature. Because selection correction is known to be sensitive to choice of exclusion restrictions (Baker et al., 1995), I include additional exclusions (voluntary part time, parental education and ever self-employed) and present the results in row 8. While these added exclusions significantly predict selection, particularly for men, the coefficient estimates on the liquidity proxy differ little from the baseline specification.

The final row, 9, provides coefficient estimates for RRSP withdrawals. Here, the coefficient for men is much closer to that of women, and is significant in the OLS (but not the Two-Step) regression. This result suggests that men may be subject to credit constraints alongside women. However, the significance of the coefficients is sensitive to specification and estimation technique. Bear in mind that while the RRSP withdrawal variable avoids confounding risk aversion, and the endogeneity of wealth variables, it is subject to small sample issues. Under five percent of the entire sample draw from RRSPs.

To summarize, from table 3 we observe that the liquidity proxy coefficients are quite different across cut off and gender. Women with investment income greater than $100 experience substantially higher self-employment earnings, and results are fairly consistent across specification. The same does not hold for men. However, in analysis based on the $200 and up cutoff, and RRSP withdrawals, results indicate a stronger impact for men in some cases. As such, it is important to take into account the asymmetry in gender effects not only for a single cutoff, but also across cutoffs. I calculate that, post selection, if all men had over $200 and all women had over $100 in annual investment income, the difference in self-employment earnings would shrink by 96.5 percent.[35] The coefficient estimates

[35] I approximate the effect of removal of "liquidity constraints" by changing the investment income over 100 cutoff to equal 1 for women, doing the same for men with the $200 cutoff, and using the baseline Two-Step coefficients respectively.

presented in the baseline specification are qualitatively similar to that of Devlin (2001). She reports significant estimates of 0.345 and 0.241, for women and men respectively, on the presence of RRSPs.[36]

5.2 Single versus Married Women

So far, I have shown that the correlation between own wealth and self-employment earnings differs by gender, non-linearly. However, due to income splitting and family resource sharing, this relationship may also differ by marital status. In order to determine whether the liquidity proxy coefficients are smaller and noisier for married women, I split the sample by marital status and re-run the baseline regression. The first two columns of table 4 present coefficient estimates for unmarried men and women, while the second two columns are of married individuals. It is clear that unmarried women have an even stronger positive coefficient than married women, but married women still appear significantly constrained. Although the sample size becomes too small to place much reliance on these estimates, it is comforting to note that the result for married women is consistent with the entry analysis of Bruce (1999) who finds liquidity effects (on self-employment entry) for married women in the United States. [37]

6. Conclusions

Despite the 30 percent increase in female self-employment earnings over the 1980s to 1990s (Kuhn and Schuetze, 2001), a sizable gender earnings gap remains unexplained. The regression analysis presented in this paper is consistent with liquidity proxies explaining as much as 96.5 percent the remaining gender gap. High investment income, my primary liquidity proxy, has a positive impact on female self-employment earnings, but little to no impact on men. This result is unchanged across most alternative specifications including additional covariates, alternative subsamples, and further exclusion restrictions. Instrumental variable results are weaker, but still consistent. Moreover, the liquidity effect appears to hold for married as well as single women.

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[36] Her estimates for men are statistically significant while mine are not. Recall, however, that this variable is measured the year after the income measure.

[37] Bruce (1999) reports that capital income and husband's earnings have a positive impact on the probability of entry to self-employment by married women. However, the former effect becomes less significant when husband's self-employment status is included in the regression. I find similar results when I include spousal earning and self-employment status. Further, while my entry criterion is more strict than that of Bruce, the coefficient estimates in the first stage equation are also positive for married (and single) women.

Table 4: Liquidity proxy (≥ $100) coefficients: Singles vs Marrieds.

Selected sample	Unmarrieds		Marrieds	
	Men	Women	Men	Women
OLS	0.1884	0.5888	0.0727	0.5053**
	(0.2447)	(0.4137)	(0.1857)	(0.2143)
Heckman 2-Step	0.1226	0.5669*	0.1595	0.4979**
	(1.3169)	(0.3452)	(0.2317)	(0.2104)
# Obs	106	88	255	238

Coefficients presented with robust standard errors (clustering on personid) in brackets underneath.
* indicates significance at the 0.1 level, ** at the 0.05 level, and *** at the 0.01 level.
Dependent Variable: inverse hyperbolic sine of self-employment earnings. Additional Control Variables: age, age^2, tenure of last job, # self-employed in family, and flags for immigrant status, home ownership, previous labour force status, multiple job holder and missing values. Selected sample: positive hours, positive earning, newly self-employed (and employed the previous year). Exclusion restrictions for are married & #kids under 15 for all samples. Gender differences are insignificant in all cases.

Because the impact of investment income occurs at a lower level for women than for men, this study suggests that policy aimed at improving access to small scale loans may help shrink the gender earnings gap. Under both the credit constraint and preference for self-funding interpretations of the liquidity proxy, the micro-credit and bank outreach (to women) programs suggested by the Prime Minister's Task Force on Women Entrepreneurs (Bulte, 2003) should facilitate and encourage women to obtain optimal start-up funds.

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Appendix Table A: Variable Descriptions.

Variable Name	Description
arcsinh(earnings)	Inverse hyperbolic sine of hourly earnings.
investment income	Investment income always refers to own income.
<$0	Flag that equals 1 if investment income is less than 0.
≥$100	Flag that equals 1 if investment income exceeds 99.
≥$200	Flag that equals 1 if investment income exceeds 199.
≥$400	Flag that equals 1 if investment income exceeds 399.
log(investment income)	Natural logarithm of investment income.
abs(investment income)	Absolute value of investment income.
RRSP withdrawal /1000	Value of RRSP withdrawal divided by 1000
age	Age of individual
home owner	Flag equals 1 if individual (family) owns a home.
#self-employed in family	Count of the number of self-employed in the family.
immigrant	Flag that equals 1 if individual is an immigrant.
unemployed	Flag equals 1 if individual was unemployed part year.
not in labor force	Flag that equals 1 if individual was out of the labour force part of the year.
tenure	Tenure of longest running job held during year (t-1).
multiple jobs	Flag equals 1 if individual has more than one job year t.
management	Flag that equals 1 if individual had job with managerial responsibilities.
involuntary job end	Flag equals 1 if individuals last job ended involuntarily.
worked at home	Flag equals 1 if individual worked at home.
high school grad	Flag equals 1 if highest degree obtained is high school.
some post secondary	Flag equals 1 if individual's highest degree is some post secondary.
certificate	Flag equals 1 if highest degree is a certificate.
bachelors	Flag equals 1 if highest degree is a bachelors
graduate/professional	Flag equals 1 if highest degree is graduate/professional.
married	Flag equals 1 if individual is married.
# kids under 15	Counts number of children under 15 in the household.
voluntary part time	Flag equals 1 if individual chose to work part time.
ever self-employed	Flag equals 1 if individual was ever self-employed in the panel period.
mother college	Flag equals 1 if individual's mother has college degree.
father college	Flag equals 1 if individual's father has college degree.

Note: earnings is in period t, all else in t-1 unless otherwise indicated.

Appendix Table B: Full OLS and Two-Step regression results, by gender Baseline Specification with ≥ 100 as the Liquidity proxy.

Variables	OLS		Two-Step	
	Men	Women	Men	Women
investment Income			Second Stage	
<$0	-0.3806	0.2348	-0.4238	0.1821
	(0.3822)	(0.4324)	(0.3949)	(0.4626)
≥$100	0.0966	0.4953***	0.2029	0.4832***
	(0.1460)	(0.1826)	(0.1871)	(0.1734)
age	0.0985***	0.0555	0.0328	0.0453
	(0.0343)	(0.0435)	(0.0620)	(0.0458)
age2	-0.0011**	-0.0006	-0.0002	-0.0005
	(0.0004)	(0.0005)	(0 .0008)	(0.0006)
home owner	0.2552*	-0.2872	0.2499	-0.3055
	(0.1514)	(0.1789)	(0.1777)	(0.1892)
#self-empl. in family	0.2462	0.4352**	0.3557*	0.4554***
	(0.1523)	(0.1740)	(0.1853)	(0.1691)
provincial unempl. rate	0.0570	0.0909*	0.0695	0.0891*
	(0.0446)	(0.0479)	(0.0472)	(0.0533)
unemployed	-0.2763*	-0.4460***	-0.6276**	-0.4945**
	(0.1439)	(0.1651)	(0.3042)	(0.2015)
not in labour force	-0.1582	-0.1812	-0.3114	-0.0595
	(0.1582)	(0.1812)	(0.2729)	(0.2342)
tenure	0.0087	0.0036	-0.0101	-0.0048
	(0.0095)	(0.0140)	(0.0179)	(0.0230)
immigrant	-0.1656	-0.3392*	-0.3276	-0.4093
	(0.1797)	(0.1915)	(0.2431)	(0.2582)
multiple jobs	0.4280**	0.0270	-0.8283	-0.1977
	(0.1673)	(0.1731)	(0.9517)	(0.5426)
constant	-0.4776	0.6546	5.5464	1.9292
	(0.8730)	(1.0412)	(4.4943)	(3.0995)
Exclusion Restrictions			First Stage	
married			0.0652	0.0619
			(0.0647)	(0.0643)
#kids under 15			0.0479	0.1383***
			(0.0424)	(0.0442)
			First Stage Continued...	
investment income				
<0			-0.0063	0.2347
			(0.1525)	(0.1810)
≥$100			-0.0769	0.0495
			(0.0637)	(0.0645)
home			0.0032	0.0119
			(0.0663)	(0.0689)
age			0.0416***	0.0387**
			(0.0150)	(0.0159)
age2			-0.0005***	-0.0005***
			(0.0002)	(0.0002)
#self empl. in family			-0.0714	-0.0897
			(0.0620)	(0.0576)
provincial unempl. rate			-0.0122	0.0036
			(0.0170)	(0.0191)
unemployed			0.2893***	0.1975***
			(0.0539)	(0.0627)
not in labour force			0.2371***	0.2747***
			(0.0635)	(0.0639)

tenure			0.0142***	0.0301***
			(0.0038)	(0.0045)
immigrant			0.1312**	0.2396***
			(0.0782)	(0.0800)
multiple jobs			0.9546***	0.8470***
			(0.0493)	(0.0532)
constant			-3.5841***	-3.8826***
			(0.3427)	(0.3661)
lambda			-1.6041	-0.3349
			(1.1630)	(0.7750)
□			*[-0.8981]*	*[-0.2879]*
R2			0.1500	0.1373
Chi2			956.41***	951.93***
# obs (selected)	361	326	361	326

Coefficients presented with robust standard errors (clustering on personid) in brackets underneath. * indicates significance at the 0.1 level, ** at the 0.05 level, and *** at the 0.01 level. The dependent variable is the inverse hyperbolic sine of earnings. Omitted from the table are missing value flags. Gender differences in the earnings equations are insignificant except for investment income over $100, home ownership and multiple jobs.