The Evolution of the Earnings Differential Between Paid and Self-Employment

Samuel Asher Jordan-Wood*

November 19, 2023

Submitted under the supervision of Ellen McGrattan to the University Honors Program at the University of Minnesota-Twin Cities in partial fulfillment of the requirements for the degree of Bachelor of Science, summa cum laude in economics.

Abstract

I compare self-employment and paid employment income to determine whether there is an earnings differential and how its magnitude has changed over time. Since 1984, the earnings differential between paid and self-employment has changed substantially. In 1984, paid employees earned more income at every age relative to the self-employed. However, I find the opposite is true in more recent 2014 data. This result holds for three different methods of measuring income. Using the same basic framework as B. Hamilton (2000), I show that all available evidence indicates a positive earnings differential for self-employed workers, in sharp contrast to the dominant studies on the topic.

*Heller-Hurwicz Economics Institute, University of Minnesota. Email: jorda736@umn.edu.
Thank you to Anmol Bhandari, Ellen McGrattan, Jackson Mejia, and Tobey Kass for guidance, ideas, and helpful conversation along the way. Further thanks to the entire McGrattan-Bhandari research team, and to HHEI for funding.

1 Introduction

Self-employed workers are central to the the U.S. economy, and represented about 10% of working people in 2014 (Center 2015). Self-employment has long been associated with a number of non-pecuniary benefits: flexible work location and hours and being your own boss. Other benefits can include a flexible ability to write off expenses. After an influential paper suggested that median self-employed workers could be earning up to 34% more if they had sought paid employment a large tract of research has opened up into the motivation behind choosing self-employment(B. Hamilton 2000). In this study, I create predicted income outcomes for self-employed workers and compare them to the predicted income outcomes in paid employment.

Using the Survey of Income and Program Participation, I examine the differences between paid employees and self-employed workers. I construct three measures of income: calculated and self-identified hourly wage, just calculated hourly wage, and total income. The main difference between the first two methods is using a variable where paid employees who marked themselves hourly workers also gave their hourly rate. The calculated rate is an hourly rate computed using monthly income, average weekly hours, and weeks worked. Total income is an aggregate measure of monthly income and is not affected by possible measurement error in the hours variable. The hours variable is potentially problematic for a couple reasons. First, the question asks for average weekly hours during the month. For an hourly wage worker, working 40 hours on average will have a much different income result if they worked two 20 hour weeks and two 60 hour weeks. Another possible issue is that many self-employed workers reported hours vary instead of a number, so I am left to make a guess as to how many hours they worked.

I then run an OLS and quantile regressions on the three earnings measure. I use the regression coefficients to predict earnings over a worker's life time with increasing experience. After that, I take the ratio of paid employees predicted earnings over self-employed predicted earnings to definitively show that an earnings differential exists and has changed significantly over time.

Regardless of which dependent variable I use, between 1984 and 2014 the magnitude of the earnings differential has changed. In all specifications, the disparity of earnings between paid employees and self-employed has shifted from favoring paid employees towards balanced or favoring self-employed. Using the dependent variable of calculated and inputted hourly income[1] I show that in all years after 1996, the ratio of paid employment predicted income over self-employed is lower than one. This result holds for all three quantiles and the mean.

My results are in direct contradiction with existing literature and show that while a positive earnings differential for paid employees may have been the case in 1984, in more recent years self-employed workers are making the same amount or more than their paid employee counterparts.

Literature Review

A long standing question in labor economics pertains to the motives behind choosing self-employment versus paid employment. Since the late 1990s, significant research has been done on the characteristics and motivations of the self-employed. This research is motivated by the large number of self-employed workers in the economy. Given the large number of self-employed workers, a better understanding of their choice in employment is extremely important.

The closest study related to my paper is B. Hamilton (2000). He finds that paid employees have a large, positive earning differential when compared to self-employed; that over predicted lifetime earnings, self-employed would earn more by switching to paid employment; and that paid employees experienced faster earnings growth that self-employed. Therefore, the motivation for becoming self-employed is likely non-pecuniary. In particular, B. Hamilton (2000) suggests that it may be related to the freedom associated with being one's own boss. Our study will extend the study of B. Hamilton (2000) past 1984 and into the 2000s to show how the results have held up.

1. This is the method closest to that of (B. Hamilton 2000)

Many of the most cited studies show similar results - Evans and Leighton (1989) finds that self-employed workers will remain self-employed despite better prospects in paid employment. They also find that self-employed workers experience much higher income risk and have slower growth in earnings as tenure increases compared to paid employees. Debacker, Panousi, and Ramnath (2014) also find that business income risk is much higher than labor income. Blanchflower (2000) finds that self-employed workers are less likely to move for a better employment opportunity, and therefore more tied to self-employment due to the non-pecuniary benefits. Blanchflower (2004) finds that liquidity constraints bind self-employed workers tightly in the U.S. and that self-employed workers work more hours, but exhibit higher life satisfaction. I also show that self-employed workers are working higher hours than paid employees. I find that self-employed have slower growth in predicted earnings, especially between the five and ten year mark at the same job.

Other research contradicts the existence of a income differential. One study states "after correcting for income under-reporting, the mean financial gain to entrepreneurship is positive and large" (Åstebro and Chen 2014). Other research argues that using net profit and draw as a measurement of income are narrow and static compared to the broad range of financial rewards available to entrepreneurs (Carter 2011). Cagetti and De Nardi (2016) find that many entrepreneurs are constrained in the amount they can borrow, but have far greater rates of return. Quadrini (2000) also finds entrepreneurs save more relative to paid workers, and they document differences in asset holdings and wealth mobility.

The remainder of the paper proceeds as follows. Section 2 will present the model that will be used. Section 3 will introduce the data. Section 4 will discuss the results of the modeling. Finally, section 5 will draw conclusions and discuss open questions.

2 Theory

Predictions and expectations for self-employment earnings differentials differ across papers: empirically, the existence and sign of the earnings differential is unresolved.

(B. Hamilton 2000) notes that investment, agency, matching, learning, and compensating differential models all offer different expectations. Here, I assume that individuals are wealth maximizers and will choose self-employment if it yields the highest expected present value of career earnings. I denote Y_{ijt} as the earnings of individual i in sector j at time t. The two sectors are either self-employment(SE) or paid employment(PE). The time will be measured in years. Let

$$Y_{ijt} = H_{it}\delta_j + f_j(X_{ijt}, T_{ijt}) + \epsilon_{ijt} \tag{1}$$

H_{it} represents a vector of observed characteristic traits: education, marital status, and race. X_{ijt} is the potential labor market experience and T_{ijt} is the amount of time spent in the current job, or tenure.[2] Finally, ϵ_{ijt} is a sector-specific random error term.

Some models argue that individuals have unobserved, time-invariant, sector-specific abilities (Jovanovic 1981). In this case, the error term in equation (1) would actually be represented by

$$\epsilon_{ijt} = m_{ij} + \eta_{ijt} \tag{2}$$

where m_{ij} represents the sector specific ability. In the case that the worker knows their m_{ij} and matches to the type of employment where they will be most successful, the workers of each sector should have the same earnings all else equal. However, Jovanovic (1981) argues that workers are uncertain of which sector they achieve the most success at and therefore there will be some selection over time in which low skilled workers will switch types of employment. Over time then, the earnings of self-employed workers should catch up to those of their paid employee counterparts.

2. Potential labor market experience = age - years of education - 6

3 Data

This study uses data from the 1984, 1996, 2001, 2004, 2008, and 2014 Survey of Income and Program Participation (SIPP) data set. Pre-2014, the SIPP was organized into monthly groupings called waves. Each wave represents one interview in which the respondent answers questions about the previous four months. In the 2014 SIPP, each wave contains twelve months. Each SIPP contains between nine and sixteen waves. Our total coverage is 1984-1985, 1996-1999, 2001-2006, and 2008-2016.

Our sample selects males aged 18-65 working in the nonfarm sector. The reason for this sample selection is to avoid labor market participation issues associated with women, such as leaving the workforce to become a parent. The farm sector is excluded because of the fact that farm income is heavily subsidized by the government. The sample also excludes highly paid professionals (lawyers and doctors) to avoid the effects of these individuals. Becoming "self-employed" when an individual reaches partnership translates to the highest earners showing disproportionate salaries as self-employment salaries. Workers in these sectors only become self-employed after they have achieved success and likely have very high earnings. Due to the high attrition of the SIPP panel, I leave our sample unbalanced.[3][4]

In the 1984 and 2014 SIPPs, respondents answer questions related to whether they engage in employment and if so, what type of employment: working a job, engaging in self-employment, or both. There is also a question asking if an individual's business will gross a certain amount of money in that year.[5] I classified individuals as self-employed if a person answered yes to their business grossing above the threshold and labeled themselves self-employed. For 1984, if the respondent answered "both" to type of employment, I classify them as self-employed if their business hours in a given month exceeded their job hours.[6] In all other years of the SIPP, the variable

3. The 2004 SIPP loses half the sample after a little over a year.

4. When fully balancing the panel married, white, highly educated salaried employees were more likely to stay in the dataset.

5. $1000 for 1984 and $2500 for the remaining SIPPs

6. In 2014, it is not possible to distinguish between the people who listed "both" or "other" work type.

about type of employment was held is not present. Instead of first classifying based on their own labelled job type, I simply use the question of if the business will gross and then use the person's hours worked to determine employment[7]. A person with three or more months in a given year was labeled as self-employed for that year. This decision is designed to eliminate those who consider their self-employment casual or are seasonally self-employed. Although the SIPP's questionnaire and structure changed in 1993 and again in 2014, our data selection criteria replicate the choices B. Hamilton (2000) made using the 1984 SIPP data.

Table 1 shows summary statistics of the 1984 and 2014 SIPPs.[8] The summary statistics vary slightly from B. Hamilton (2000), but overall are quite similar. The cause of the difference is likely due to the fact that Hamilton was working with an early version of the 1984 SIPP, which has since been revised for corrections. Another cause is likely due the classification of how long each educational status is in years.[9] Given that the main difference is a two year difference in the potential labor market experience, it is likely I have a slightly different attribution of years for various educational inputs. X_{ijt}, potential labor market experience, has experienced a large change between 1984 and 2014. For paid employees and self-employed, potential labor market experience has increased just over 4 years. Since education levels increased, an increase in the age of workers must be the cause of the increase in potential labor market experience. The base group in our model is an individual with "some college" or a shorter than four year college degree. The education of the sample also increased, with high school dropouts, $HDROP$, dropping 10% for paid and 12% for self. $CGRAD$ increased significantly: 11% for paid employees and 13% for self-employed. T_{ijt}, or tenure, remains consistent between 1984 and 2014. Even though the workforce is getting older, it appears that workers are remaining in one job for the same amount of time. The percentage of our sample that is married,

7. To test effectiveness, I try using only the hours worked and the business gross variable for 1984, which results in only 2 people switching between employment types.

8. Summary statistics for other SIPP years are available upon request.

9. For example, how many years do you assign someone who marked they had "Some College" or they finished "1st, 2nd, 3rd, or 4th Grade". I assign the mean years so for the previous example 2.5 years. All education classifications I make are available upon request.

$MARRY$, decreased 7% for paid employees and 8% for self-employed. Finally, $NONW$, or the percentage of nonwhite workers has increased significantly, 7% for paid employees and 10% for self-employed. This also makes sense given the increase in nonwhites in the United States over the past 30 years. The observations shows the number of unique individuals present for each SIPP. Since I aggregate to the year level, a unique individual can have up to two total observations in the 1984 SIPP and up to four total in the 2014 SIPP.

3.1 Employment Earnings

The SIPP data set provides monthly observations of each individual, but our regressions are aggregated to $t = year$. This was chosen because month to month observations in the SIPP are known to have significant seam bias between waves. For key explanatory variables (marital status, education, and time in job, etc.), the first observation for each individual in each year is used. I consider three different methods of measuring income: inputted and calculated hourly income[10], only calculated hourly income, and total income. Total income is calculated as the sum of an individual's monthly income for the year. To impute calculated hourly income, I divide monthly income by hours worked. Hours worked is calculated by average weekly hours for the month multiplied by weeks worked that month. After that, I average monthly hourly income across all months an individual was working in a year. I calculate this hourly income variable identically for self-employed and paid employees.[11] Inputted and calculated hourly income, from here on *mixed*, is created using a variable for paid employees that denotes if they were paid hourly or salaried. Individuals who are paid hourly (as opposed to salary workers) also reported their hourly rate. If an hourly pay rate was given for the month I use that, otherwise I calculate an individuals rate using the second method. Notice that self-employed hourly income remains the same in this method. The SIPP topcodes its income

10. This is the method used in (B. Hamilton 2000)

11. All SIPPs before 2014 have different variables for a job and a business, but the method of calculation is the same.

variables for anyone making $150,000 in a given year. That means no four month wave can show more that $50,000. This topcoding threshold has remained the same since 1984 even though inflation has decreased the real value of a dollar over time.

The self-employed income is a variable called *draw*, which represents how much money from the business the individual received in the month. A business owner can either draw money from their business, or reinvest into the business. Given the poor reporting of the equity variable, it was not possible to recreate the draw plus change in equity measure used in B. Hamilton (2000).

Table 2 reports self-employed income. The 2014 columns are reported in 1984 dollars. Self-employed workers' total income increased 56% for the median self-employed worker and 75% for the mean worker. The calculated draw per hour shows that self-employed workers have had a large increase between 1984 and 2014, a near 500% increase at the median and just over 600% increase for the mean self-employed. These are much higher increases than the total income, therefore hours must have decreased in 2014.

Table 3 reports the identical calculations for paid employees with the addition of the mixed calculation method. The paid employee total income sees a much slower growth than self-employed in all quantiles. A big disparity can be seen in the 25th percentile of paid employees. For the calculated wage per hour the paid employees see a 354% increase while the mixed wage only shows a 42% increase. In 1984, the difference between the the 25th percentile in the calculated and mixed calculated hourly rate was a lowly 4.6%. In 2014, the same difference was 67%. In 2014, there was a significant difference between a person's reported hourly income, and what their calculated income was based on their monthly reported income and their monthly reported hours.

Table 4 reports the hours worked in 1984 and 2014. In 1984, paid employees were working a mean of 40.52 hours a week. This decreases slightly to 39.93 hours in 2014. In the upper quantiles of .75 and .9, paid employees increase 2.5 hours a piece. The decrease in the mean is represented by the drop of the .1 percentile from

30 hours a week down to 24.75 hours. Part time workers appear to be working less per week in 2014. For self-employed workers, the opposite shift in hours occurs. The top quantiles of .75 and .9 see decreases of 1.5 and 6.5 hours respectively. Meanwhile, the .1 quantile increases 3.5 hours per week. The mean drops just over 2 hours a week, from 45.34 to 43.13. The mean self-employed workers of 1984 were working almost 5 hours more per week, compared to just over 3 hours more per week in 2014. This helps identify the higher increase in calculated wage per hour for the self-employed, they saw a higher drop in hours.

4 Results

For each SIPP data set and employment type, I run a pooled OLS regression using $t = year$ and the person identification number to track individuals. I also run quantile regressions for the .25, .5, and .75 quantiles. The quantile regressions do not exploit the panel aspect of the SIPP. Table 5 shows the 1984 regression results with mixed calculation as the method of calculating the left hand side. In the first half of the table, I show the paid employees with dependent variable wage per hour. The second half shows the self-employed who have dependent variable draw per hour. All the dependent variables are deflated to the 1984 dollar, and all regressions are weighted using person weights. Each table has the pooled OLS regression in column 1, followed by the .25 quantile regression in column 2, the median quantile regression in column 3, and the .75 quantile regression in column 4. Table 6 shows the results for 2014. The regression tables for the other two dependent variables — only calculated wage per hour and total income — are available in the appendix.[12]

Table 5 checks to compare my results to B. Hamilton (2000).[13] For paid employees, all variables for all four regressions are significant at the .01 level. For our key variables, potential labor market experience and time in job, our estimates line up with B. Hamilton (2000) almost exactly. For self-employed, the results vary a

12. Similar regression results from 1996, 2001, 2004, and 2008 are available upon request.

13. Hamilton included dummy variables for disability and retirement from another job, which I omit from the regression due to low response in many of the SIPPs.

little more. All signs are the same, except for the .25 and .50 coefficients for high school graduates. The magnitudes of our experience variables for self-employed in 1984 are slightly smaller than those of B. Hamilton (2000), and the magnitudes of the squared experience variables are slightly larger.

In 2014, the experience variables and squared experience variables are significant, with the exception of time in job squared. The dependent variables for 2014 were all deflated to 1984 dollars. Both X and T see substantial increases. *Ceteris paribus*, at the mean a one year increase in potential labor market experience is expected to increase your hourly wage almost \$2, as opposed to \$0.35 in 1984. The dummy variables for education become much more volatile in 2014. Dropping out of high school is associated with an hourly wage decrease of \$16. Graduating college is associated with an increase of \$36 an hour – compared to \$2.5 and \$3.5 respectively in 1984. Being married is associated with an increase of \$9.5 an hour in 2014, compared to \$1 in 1984. For the self-employed, the difference in income based on marital status is not statistically significant. Being a non white entrepreneur is associated with making \$21 less per hour at the mean. Being a high school graduate entrepreneur is associated with an expected \$1 per hour increase compared to a decrease of almost \$9 in paid employment. Being a high school drop out is associated with an expected decrease of \$17 per hour. College graduates are also expected to earn nearly \$40 more per hour.

4.1 Predicted Earnings

I use the regressions to predict the earnings of paid employees and self-employed workers. I use our regression coefficients and the mean summary statistics of self-employed, to compare a self-employed person's predicted earnings at any given time in self-employment vs paid employment. I do this for both the OLS model and the three quantile regressions. For our experience variables, I use the model of an individual starting with ten years of potential labor market experience until they reach 35 years of potential labor market experience. I further assume this person is in the same job over this time period, starting with 0 years in their job, and ending with 25. I create 95% confidence interval bounds using the delta method.

Figure 1 shows the mixed hourly wage calculation graphs for both years and both types of employment. In 1984, paid employees and the self-employed start about the same, but immediately see sharper increases for all quantiles and the mean. The .75 quantile of self-employed keep up with the respective paid employees for most of the lifetime. In 2014, the self-employed start higher for all quantiles and the mean. The shapes of the curves are similar to their 1984 counterparts, but the 2014 paid employees of the .25 quantile start far behind, and struggle to even match the growth of the other quantiles. Figure 2 shows the same graphs, but using only the calculated wage per hour. The main difference comes in the picture for 2014 paid employees. The median and .25 quantiles start with a higher intercept, and experience a faster growth for their predicted hourly earnings. Finally, figure 3 shows the graphs for the predicted total income. The self-employed confidence intervals are much tighter for the total income measurement. The 1984 self-employed picture shows they struggle to match the growth in income that the paid employees see. In 2014, the self-employed predicted earnings grow at a relatively similar rate as paid employees, but start at a higher income. This may reflect the findings of Cagetti and De Nardi (2016), that self-employed now come into the business with large amounts of wealth and therefore can afford to pay themselves instead of reinvesting all profits into the business.

Now, I construct a graph that shows the ratio of paid employees' predicted incomes over self-employed predicted incomes for each of our SIPP data sets. I do this with only the mixed calculation of hourly income so I can directly compare results to B. Hamilton (2000). Figure 4 shows the result. In 1984, paid employees have a positive earnings differential for the duration of a lifetime in all quantiles, with the exception of the very end of the .75 quantile. For .25 and median quantiles, paid employees' earnings differential in 1984 is between 25-50%. For all other years in the SIPP, the earnings differential favors the self-employed. In the .25 quantile, the difference between 1984 and the rest of the years is between 50-75%. In the median, the difference is between 30 and 60%. The shapes of these two quantiles are opposite: in 1984, paid employees predicted earnings out grow self-employed until the last five years. For the other years, self-employed predicted earnings out grow paid employees until the last five years. For the mean and .75 quantile, self-employed workers start with varying magnitudes of a positive earning differential and the paid employees catch up over time narrowing the positive differential for self-employed to just above or near 0. Our 1984 results are close to B. Hamilton (2000). Using the same method of wage calculation I have shown that the picture of earnings differential has changed dramatically between 1984 and the other years. The positive earnings differential for paid employees may have existed in 1984, but the picture has clearly shifted towards favoring self-employed.

Finally, I create the same ratio of paid employment income over self-employed income for only 1984 and 2014, but using all three methods of income calculation. Figure 5 reports the results. In 1984, calculated and mixed hourly calculation offered nearly identical predictions for the wage ratio. In 2014, the same methods offer very different conclusions. This could be the result of changes in reporting. Paid employees were working more hours in 2014. As an inputted hourly rate does not account for overtime, it could be underestimating monthly income. Another source of measurement error could be the reported hours. Since 1984, there has been a large increase in contingent workers. These workers' could be working much higher variance of hours in a month. The SIPP asks for average hours in the month, so if an hourly worker reported 40 hours worked on average that month, but actually worked 30,30,50, and 50 hours their income would be different than just 40 hours a week. However, regardless of the measure that I use, the ratio of income between 1984 and 2014 has changed towards being near or below one. Using the most conservative estimate, the earnings differential has dropped 20% for the mean, 30% for the .25 quantile, 15% for the median, and 15% for the .75 quantile. The method of calculation may change the magnitude of the difference between the years, but it does not change the result that self-employed are earning equal or better pay than paid employees in 2014.

5 Conclusion

There have been vast changes in the earnings differential between paid and self-employed workers over time. For all three types of wage calculation and all quantiles of workers, I showed that self-employed workers have gained ground and are expected to earn the same or more than their paid employee counterparts. Using the same wage calculation method as B. Hamilton (2000), I show that all five SIPPs after 1984 show predicted earnings ratios that favor self-employed workers over paid employees. There are several possible reasons this switch has occurred: larger companies and globalization have ended the era of mom and pop shops, and only higher earning self-employed continue in their business rather than switching to paid employment. Self-employed are working less hours while paid employees are now working more hours, bringing the hourly wages closer together. I have shown that the question of an earnings differential between paid and self-employed workers is by no means resolved, and that recent evidence points against the commonly held idea that paid employees earn more than the self-employed.

References

Åstebro, Thomas, and Jing Chen. 2014. "The entrepreneurial earnings puzzle: Mismeasurement or real?" *Journal of Business Venturing* 29 (1): 88–105. ISSN: 08839026. https://doi.org/10.1016/j.jbusvent.2013.04.003. (Cited on page 4).

Blanchflower, David. 2000. "Self-employment in OECD countries." *Labour Economics* 7 (5): 471–505. ISSN: 09275371. https://doi.org/10.1016/S0927-5371(00)00011-7. (Cited on page 4).

Blanchflower, David. 2004. "Self-Employment: More may not be better." *NBER,* no. February, 1–30. ISSN: 1098-6596. arXiv: 1011.1669. http://www.nber.org/papers/w10286.pdf. (Cited on page 4).

Cagetti, Marco, and Mariacristina De Nardi. 2016. "Entrepreneurship , Frictions , and Wealth." *Journal of Political Economy* 114 (5): 835–870. (Cited on pages 4, 12).

Carter, Sara. 2011. "The Rewards of Entrepreneurship: Exploring the Incomes, Wealth, and Economic Well-Being of Entrepreneurial Households." *Entrepreneurship: Theory and Practice* 35 (1): 39–55. ISSN: 10422587. https://doi.org/10.1111/j.1540-6520.2010.00422.x. (Cited on page 4).

Center, Pew Research. 2015. "Three-in-Ten U.S. Jobs Are Held by the Self-Employed and the Workers They Hire." *Pew Research Center,* (cited on page 2).

Debacker, Jason, Vasia Panousi, and Shanthi Ramnath. 2014. "A Risky Venture : Income Dynamics within the Non-Corporate Private Business Sector," no. January, 1–76. (Cited on page 4).

Evans, David, and Linda Leighton. 1989. "Some Empirical Aspects of Entrepreneurship Published by : American Economic Association Stable URL : http://www.jstor.org/stable/1 *The American Economic Review* 79 (3): 519–535. (Cited on page 4).

Hamilton, B. 2000. "Does entrepreneurship pay? An empirical analysis of the returns to self-employment." *Journal of Political Economy* 108 (3): 604–631. ISSN: 00223808. https://doi.org/10.1086/262131. (Cited on pages 1–3, 5, 7–14).

Hamilton, Barton. 2000. "Does Entreprenuership Pay? An Empirical Analysis of the Returns to Self-Employment." *Journal of Political Economy,* (cited on page 25).

Jovanovic, Boyan. 1981. "Selection and the Evolution of Industry." *The Econometric* 50 (3): 649–670. (Cited on page 5).

Quadrini, Vincenzo. 2000. “Entrepreneurship, Saving, and Social Mobility.” *Review of Economic Dynamics* 3 (1): 1–40. ISSN: 10942025. https://doi.org/10.1006/redy.1999.0077. (Cited on page 4).

Table 1: Summary Statistics of Sample

		Paid Employment		Self-Employment	
Variable	Description	1984	2014	1984	2014
X	age-education-6	16.28	20.32	22.83	27.19
T	Years in current job	7.19	6.92	11.06	10.51
HDROP	High school dropout	.20	.10	.21	.09
HGRAD	High school graduate	.35	.30	.31	.245
CGRAD	4+ years of college	.20	.31	.25	.38
MARRY	Married, spouse present	.60	.53	.78	.70
NONW	Race is not white	.13	.20	.06	.16
OBS.	Unweighted count	13139	14569	1706	895

The summary statistics are calculated using weighted means. The SIPP provides person weights for each individual. The other SIPPs used in the study show similar trends and are available upon request.

Table 2: Self-employment income in 1984 dollars

	Total Income		Calculated Draw Per Hour	
Quantile	1984	2014	1984	2014
.1	2369	4800	1.99	13.48
.25	5681	10496	3.97	22.72
.5	12574	19693	6.76	38.68
mean	17849	31134	9.42	66.68
.75	23611	35774	11.89	69.74
.9	40438	63162	19.92	132.82

This table shows weighted quantiles and mean of self-employment income in the 1984 and 2014 SIPPs. The SIPP provides person weights for each individual. These figures are an average over the years in their respective SIPP: 1984 contains 1984-1985 and 2014 contains 2013-2016.

Table 3: Paid employment income in 1984 dollars

	Total Income		Calculated Wage Per Hour		Mixed Wage Per Hour	
Quantile	1984	2014	1984	2014	1984	2014
.1	2181	2556	2.91	15.59	3.23	4.41
.25	6549	7439	4.76	21.62	4.98	7.10
.5	14780	15778	7.82	34.80	7.96	24.55
mean	16685	22225	8.77	48.86	8.87	40.45
.75	23521	28251	11.54	58.08	11.56	53.38
.9	32777	46374	15.52	93.72	15.30	90.32

This table shows weighted quantiles and mean of paid employment income in the 1984 and 2014 SIPPs. The SIPP provides person weights for each individual. These figures are an average over the years in their respective SIPP: 1984 contains 1984-1985 and 2014 contains 2013-2016

Table 4: Hours Worked

	Paid Employment		Self-Employment	
Quantile	1984	2014	1984	2014
.1	30	24.75	22.5	26
.25	40	40	40	40
.5	40	40	42	41.25
mean	40.52	39.93	45.34	43.13
.75	42.5	45	55	53.5
.9	50	52.5	65.5	59

This table shows weighted quantiles and mean of the hours worked in the 1984 and 2014 SIPPs. The SIPP provides person weights for each individual. These figures are an average over the years in their respective SIPP: 1984 contains 1984-1985 and 2014 contains 2013-2016

Table 5: 1984 Hourly Earnings Regression Coefficients

	OLS	*.25*	*.50*	*.75*
	(1)	(2)	(3)	(4)
Dependent Variable: Wage ($N = 23,786; R^2 = .381$)				
Intercept	4.569***	2.839***	4.101***	5.851***
	(0.079)	(0.061)	(0.071)	(0.087)
X	0.334***	0.216***	0.293***	0.397***
	(0.008)	(0.007)	(0.008)	(0.010)
X^2	−0.006***	−0.004***	−0.006***	−0.007***
	(0.0002)	(0.0002)	(0.0002)	(0.0002)
T	0.225***	0.261***	0.261***	0.217***
	(0.009)	(0.011)	(0.009)	(0.013)
T^2	−0.003***	−0.004***	−0.004***	−0.003***
	(0.0003)	(0.0004)	(0.0002)	(0.0004)
HDROP	−2.598***	−1.544***	−2.074***	−2.833***
	(0.087)	(0.064)	(0.077)	(0.093)
HGRAD	−0.985***	−0.485***	−0.608***	−1.089***
	(0.073)	(0.066)	(0.072)	(0.086)
CGRAD	3.492***	1.906***	3.279***	4.747***
	(0.083)	(0.099)	(0.122)	(0.147)
MARRY	1.027***	0.994***	1.000***	0.964***
	(0.067)	(0.063)	(0.070)	(0.083)
NONW	−1.069***	−0.733***	−0.890***	−1.089***
	(0.083)	(0.063)	(0.073)	(0.102)
Dependent Variable: Draw ($N = 3007; R^2 = .076$)				
Intercept	6.350***	2.217***	3.939***	8.368***
	(0.634)	(0.303)	(0.426)	(0.859)
X	0.094*	0.049*	0.118***	0.144*
	(0.056)	(0.029)	(0.036)	(0.074)
X^2	−0.001	−0.001	−0.002***	−0.002
	(0.001)	(0.001)	(0.001)	(0.001)
T	0.179***	0.087***	0.079***	0.232***
	(0.044)	(0.029)	(0.025)	(0.076)
T^2	−0.003***	−0.001*	−0.001**	−0.003
	(0.001)	(0.001)	(0.0005)	(0.002)
HDROP	−2.725***	−0.821***	−1.308***	−3.572***
	(0.523)	(0.270)	(0.340)	(0.707)
HGRAD	−0.666	0.035	0.086	−1.019
	(0.441)	(0.222)	(0.322)	(0.656)
CGRAD	3.933***	1.931***	3.256***	4.685***
	(0.463)	(0.280)	(0.433)	(0.865)
MARRY	0.673	0.913***	0.744**	0.181
	(0.420)	(0.222)	(0.309)	(0.635)
NONW	−2.281***	−0.933**	−1.678***	−2.964***
	(0.662)	(0.394)	(0.422)	(0.665)
Note:				*p<0.1; **p<0.05; ***p<0.01

Table 6: 2014 Hourly Earnings Regression Coefficients

	OLS	*.25*	*.50*	*.75*
	(1)	(2)	(3)	(4)
Dependent Variable: Wage ($N = 42,768; R^2 = 0.158$)				
Intercept	2.835***	2.683***	2.848***	11.467***
	(1.038)	(0.102)	(0.326)	(0.674)
X	1.967***	0.286***	1.105***	2.016***
	(0.077)	(0.012)	(0.038)	(0.064)
X^2	−0.033***	−0.005***	−0.019***	−0.032***
	(0.002)	(0.0003)	(0.001)	(0.001)
T	0.727***	0.385***	0.766***	0.549***
	(0.195)	(0.067)	(0.109)	(0.154)
T^2	−0.005	−0.003	−0.006	0.002
	(0.007)	(0.003)	(0.005)	(0.006)
HDROP	−16.115***	−2.230***	−8.013***	−16.008***
	(0.965)	(0.100)	(0.361)	(0.661)
HGRAD	−8.705***	−0.935***	−3.717***	−9.542***
	(0.670)	(0.077)	(0.313)	(0.524)
CGRAD	36.017***	22.057***	32.250***	42.049***
	(0.662)	(0.607)	(0.548)	(0.953)
MARRY	9.505***	2.838***	9.681***	10.950***
	(0.573)	(0.173)	(0.426)	(0.579)
NONW	−1.017	−0.438***	−0.136	0.019
	(0.632)	(0.088)	(0.302)	(0.557)
Dependent Variable: Draw ($N = 2,465; R^2 = .039$)				
Intercept	15.510	10.885***	13.705***	24.378***
	(15.043)	(2.260)	(3.466)	(6.071)
X	2.910***	0.517***	1.291***	2.333***
	(1.042)	(0.182)	(0.283)	(0.425)
X^2	−0.046**	−0.010***	−0.019***	−0.037***
	(0.019)	(0.003)	(0.006)	(0.008)
T	−1.069	0.349	0.247	−0.028
	(1.617)	(0.293)	(0.480)	(0.839)
T^2	0.035	−0.006	−0.001	0.013
	(0.053)	(0.010)	(0.020)	(0.027)
HDROP	−17.661*	−3.517**	−9.623***	−20.693***
	(9.186)	(1.405)	(1.982)	(3.288)
HGRAD	1.143	0.197	−1.857	−0.905
	(6.643)	(1.186)	(1.897)	(3.082)
CGRAD	39.523***	7.624***	19.254***	43.461***
	(6.015)	(1.578)	(2.758)	(5.730)
MARRY	3.482	5.159***	5.394***	4.804
	(5.416)	(1.096)	(2.031)	(3.206)
NONW	−21.437***	−2.362**	−8.328***	−14.744***
	(6.418)	(0.975)	(1.670)	(3.907)
Note:				*p<0.1; **p<0.05; ***p<0.01

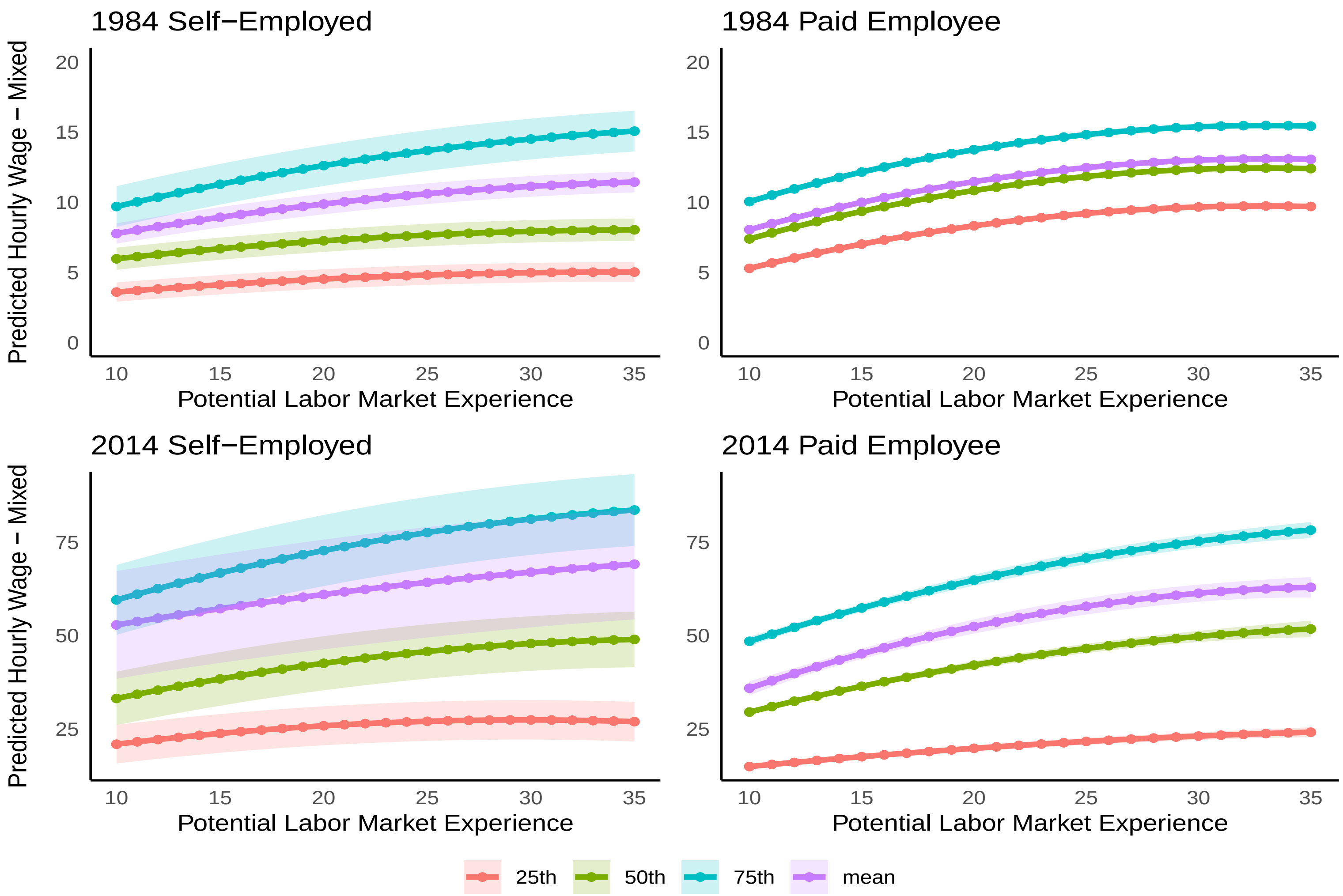

Figure 1: Tenure profiles for paid and self-employment with mixed calculation of hourly wage as the dependent variable. Shaded areas represent a 95% confidence interval using delta method standard errors

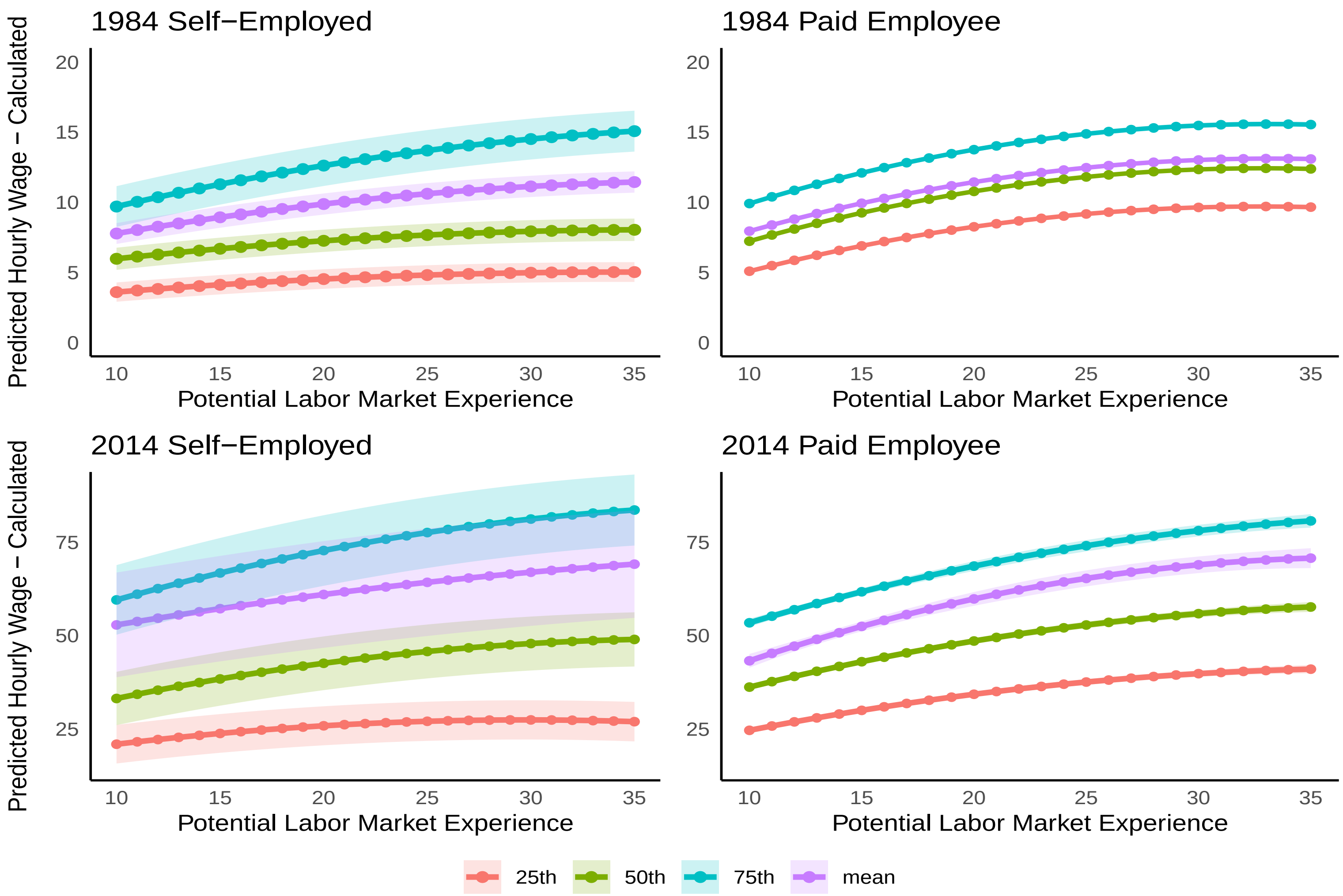

Figure 2: Tenure profiles for paid and self-employment with only calculated hourly income as the dependent variable. Shaded areas represent a 95% confidence interval using delta method standard errors

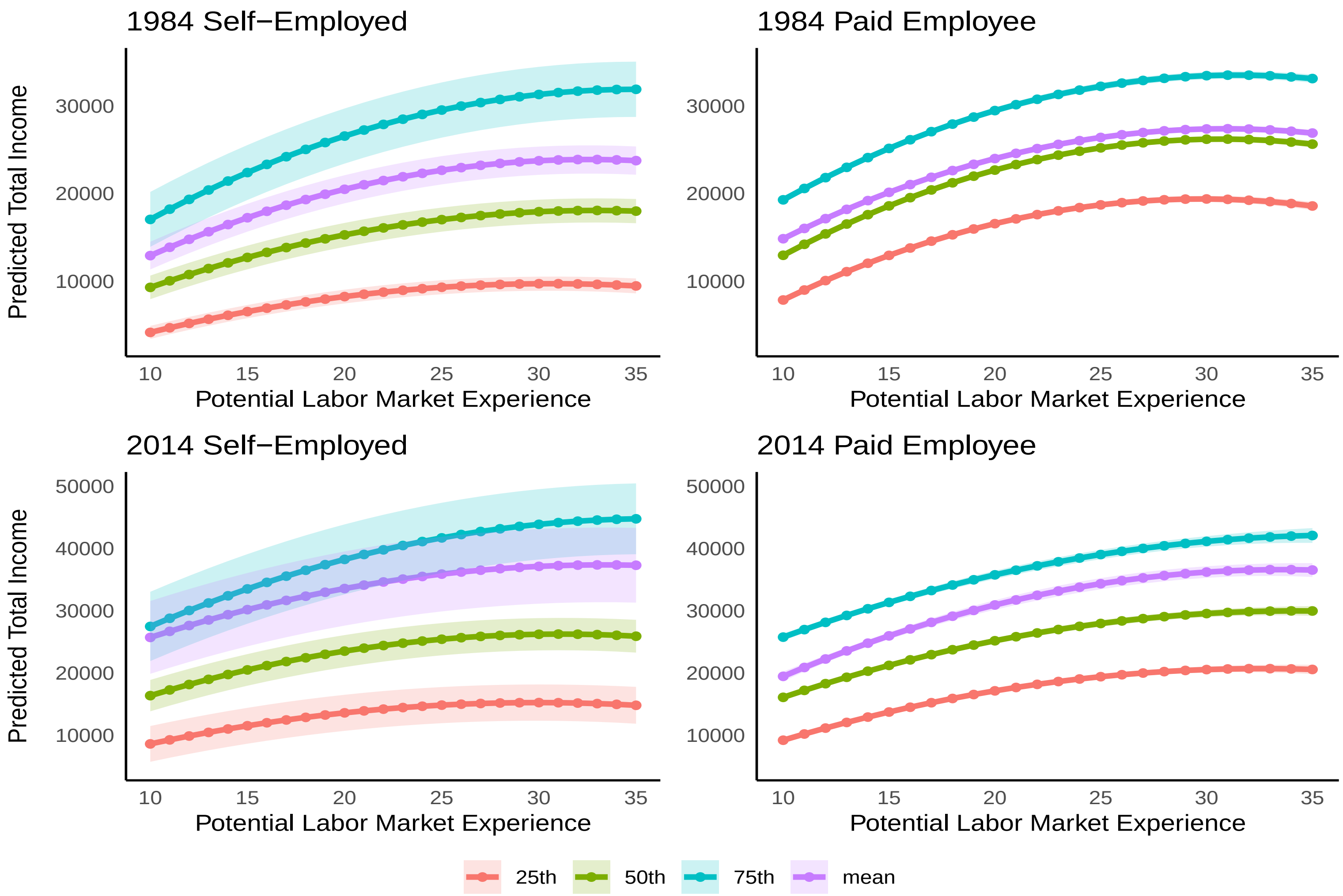

Figure 3: Tenure profiles for paid and self-employment with total income as the dependent variable. Shaded areas represent a 95% confidence interval using delta method standard errors

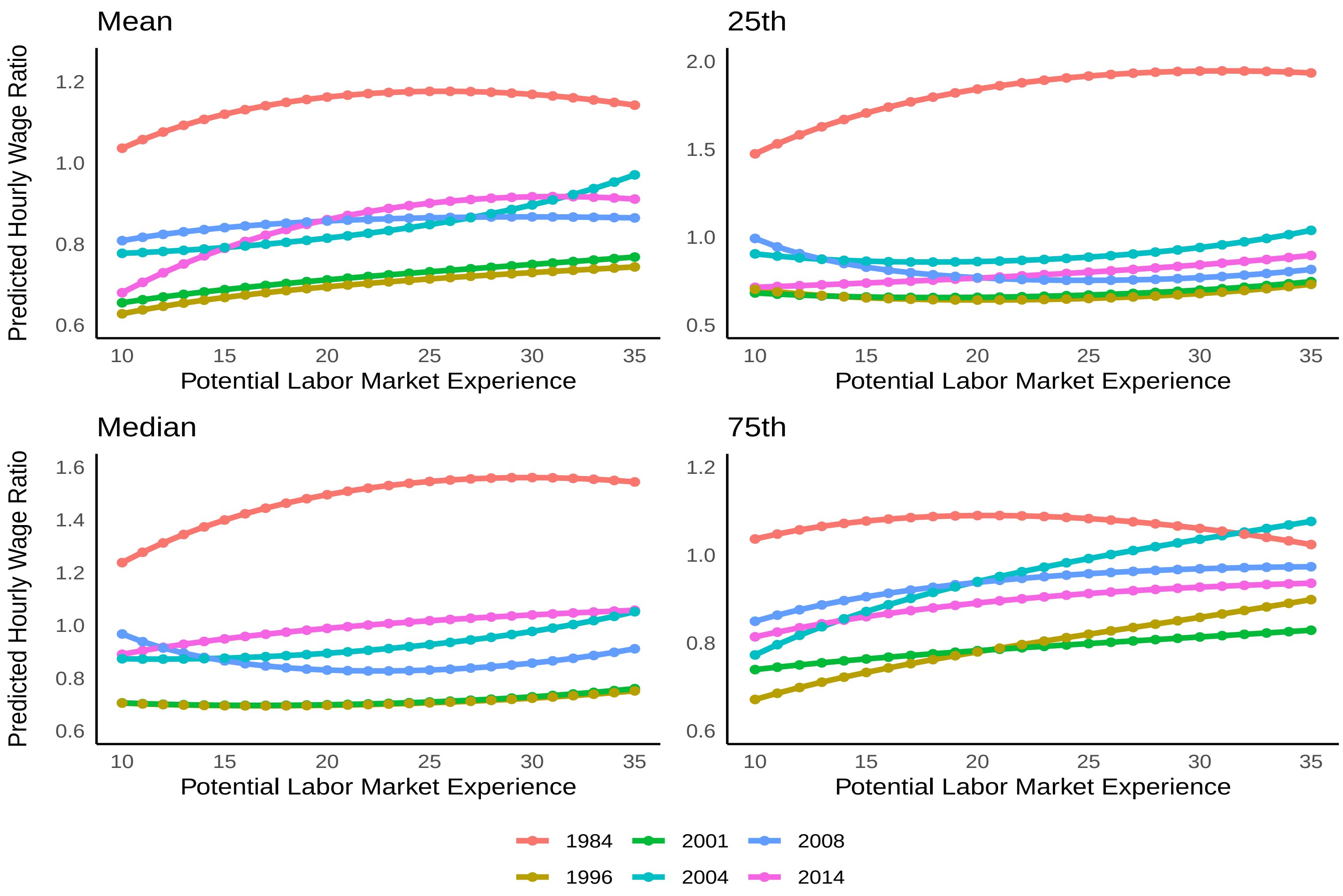

Figure 4: Predicted paid employee earnings over predicted self-employment earnings using the mixed method of calculating hourly wage per (Barton Hamilton 2000). Delta method 95% confidence interval is sufficiently small that it does not appear.

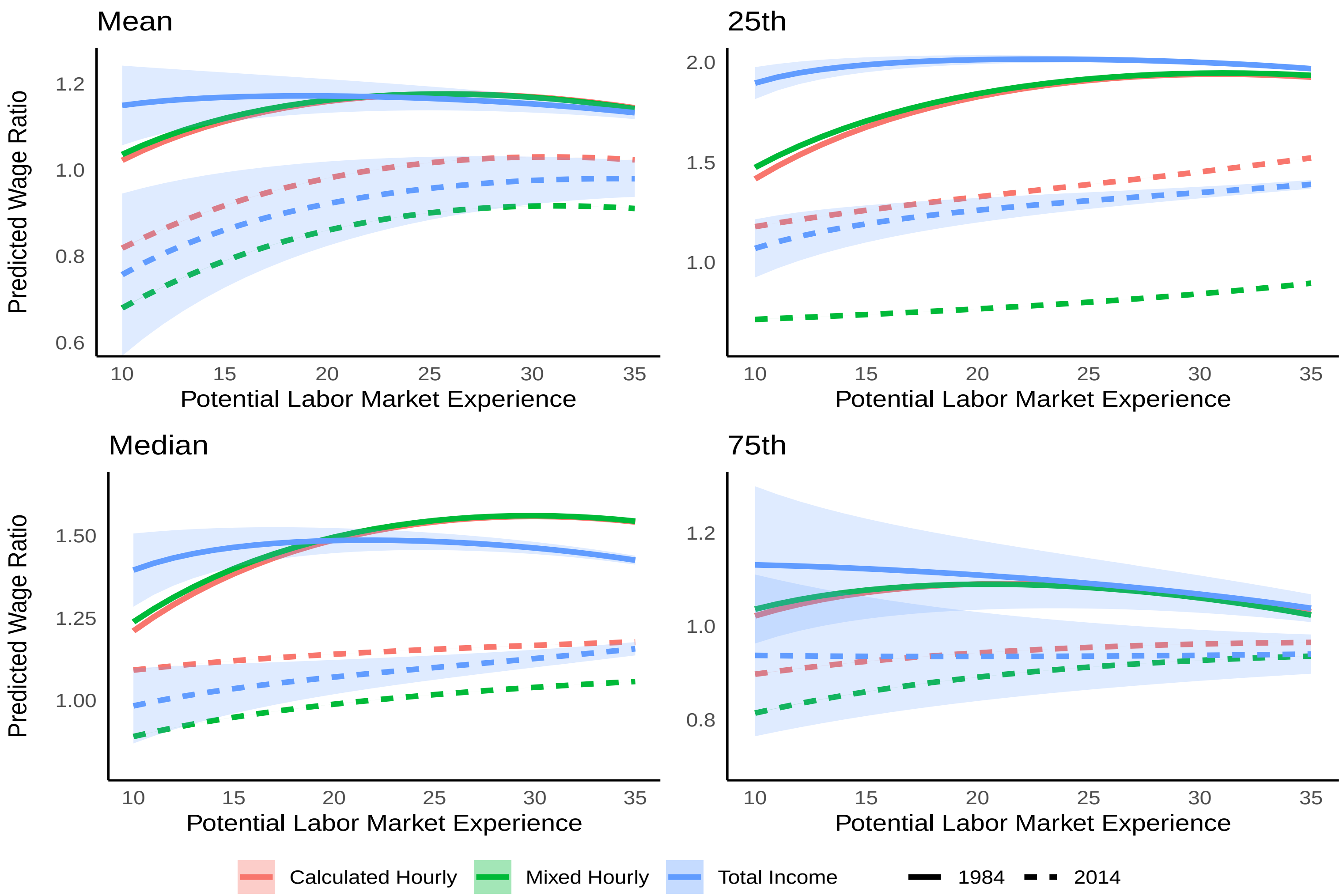

Figure 5: Predicted paid employee earnings over predicted self-employment earnings. Shaded areas represent a 95% confidence interval using delta method standard errors

Table 7: 1984 Only Calculated Hourly Wage Regression Coefficients

	OLS (1)	*.25* (2)	*.50* (3)	*.75* (4)
Dependent Variable: Wage ($N = 23,786; R^2 = .373$)				
Intercept	4.499***	2.593***	3.913***	5.737***
	(0.083)	(0.059)	(0.069)	(0.096)
X	0.334***	0.220***	0.295***	0.395***
	(0.009)	(0.007)	(0.009)	(0.011)
X^2	−0.006***	−0.005***	−0.006***	−0.007***
	(0.0002)	(0.0002)	(0.0002)	(0.0002)
T	0.236***	0.279***	0.275***	0.239***
	(0.010)	(0.011)	(0.009)	(0.013)
T^2	−0.003***	−0.004***	−0.004***	−0.003***
	(0.0003)	(0.0004)	(0.0002)	(0.0004)
HDROP	−2.810***	−1.702***	−2.130***	−2.904***
	(0.091)	(0.070)	(0.081)	(0.102)
HGRAD	−1.067***	−0.573***	−0.679***	−1.172***
	(0.077)	(0.062)	(0.071)	(0.095)
CGRAD	3.461***	1.999***	3.362***	4.657***
	(0.087)	(0.099)	(0.124)	(0.148)
MARRY	1.093***	1.067***	1.045***	1.059***
	(0.070)	(0.063)	(0.072)	(0.090)
NONW	−1.112***	−0.753***	−0.966***	−1.162***
	(0.086)	(0.069)	(0.083)	(0.113)
Dependent Variable: Draw ($N = 3,007; R^2 = .076$)				
Intercept	6.350***	2.217***	3.939***	8.368***
	(0.634)	(0.303)	(0.426)	(0.859)
X	0.094*	0.049*	0.118***	0.144*
	(0.056)	(0.029)	(0.036)	(0.074)
X^2	−0.001	−0.001	−0.002***	−0.002
	(0.001)	(0.001)	(0.001)	(0.001)
T	0.179***	0.087***	0.079***	0.232***
	(0.044)	(0.029)	(0.025)	(0.076)
T^2	−0.003***	−0.001*	−0.001**	−0.003
	(0.001)	(0.001)	(0.0005)	(0.002)
HDROP	−2.725***	−0.821***	−1.308***	−3.572***
	(0.523)	(0.270)	(0.340)	(0.707)
HGRAD	−0.666	0.035	0.086	−1.019
	(0.441)	(0.222)	(0.322)	(0.656)
CGRAD	3.933***	1.931***	3.256***	4.685***
	(0.463)	(0.280)	(0.433)	(0.865)
MARRY	0.673	0.913***	0.744**	0.181
	(0.420)	(0.222)	(0.309)	(0.635)
NONW	−2.281***	−0.933**	−1.678***	−2.964***
	(0.662)	(0.394)	(0.422)	(0.665)
Note:				*p<0.1; **p<0.05; ***p<0.01

Table 8: 2014 Only Calculated Hourly Wage Regression Coefficients

	OLS	*.25*	*.50*	*.75*
	(1)	(2)	(3)	(4)
Dependent Variable: Wage ($N = 42,757; R^2 = .139$)				
Intercept	13.135***	11.583***	14.874***	20.870***
	(1.001)	(0.235)	(0.297)	(0.545)
X	1.958***	0.766***	1.194***	1.821***
	(0.074)	(0.023)	(0.030)	(0.050)
X^2	−0.033***	−0.014***	−0.020***	−0.029***
	(0.002)	(0.001)	(0.001)	(0.001)
T	0.728***	0.687***	0.691***	0.558***
	(0.188)	(0.068)	(0.081)	(0.133)
T^2	−0.004	−0.007**	−0.005	0.0005
	(0.007)	(0.003)	(0.003)	(0.005)
HDROP	−16.457***	−6.652***	−10.498***	−14.894***
	(0.930)	(0.199)	(0.264)	(0.548)
HGRAD	−7.996***	−2.548***	−4.097***	−7.250***
	(0.646)	(0.192)	(0.258)	(0.419)
CGRAD	30.039***	11.980***	22.849***	37.050***
	(0.638)	(0.403)	(0.523)	(0.817)
MARRY	8.698***	5.323***	7.021***	9.131***
	(0.552)	(0.235)	(0.302)	(0.506)
NONW	−2.120***	−1.826***	−1.996***	−1.515***
	(0.609)	(0.190)	(0.276)	(0.468)
Dependent Variable: Draw ($N = 2,465; R^2 = .039$)				
Intercept	15.510	10.885***	13.705***	24.378***
	(15.043)	(2.260)	(3.466)	(6.071)
X	2.910***	0.517***	1.291***	2.333***
	(1.042)	(0.182)	(0.283)	(0.425)
X^2	−0.046**	−0.010***	−0.019***	−0.037***
	(0.019)	(0.003)	(0.006)	(0.008)
T	−1.069	0.349	0.247	−0.028
	(1.617)	(0.293)	(0.480)	(0.839)
T^2	0.035	−0.006	−0.001	0.013
	(0.053)	(0.010)	(0.020)	(0.027)
HDROP	−17.661*	−3.517**	−9.623***	−20.693***
	(9.186)	(1.405)	(1.982)	(3.288)
HGRAD	1.143	0.197	−1.857	−0.905
	(6.643)	(1.186)	(1.897)	(3.082)
CGRAD	39.523***	7.624***	19.254***	43.461***
	(6.015)	(1.578)	(2.758)	(5.730)
MARRY	3.482	5.159***	5.394***	4.804
	(5.416)	(1.096)	(2.031)	(3.206)
NONW	−21.437***	−2.362**	−8.328***	−14.744***
	(6.418)	(0.975)	(1.670)	(3.907)
Note:				*p<0.1; **p<0.05; ***p<0.01

Table 9: 1984 Total Income Regression Coefficients

	OLS	*.25*	*.50*	*.75*
	(1)	(2)	(3)	(4)
	Dependent Variable: Wage ($N = 23,786; R^2 = .403$)			
Intercept	6,066.428***	1,776.688***	4,615.160***	8,956.357***
	(185.676)	(118.967)	(161.990)	(219.839)
X	754.078***	407.415***	653.679***	849.029***
	(19.653)	(17.393)	(18.306)	(25.300)
X^2	−15.424***	−9.925***	−13.915***	−16.671***
	(0.421)	(0.378)	(0.387)	(0.539)
T	758.489***	959.454***	908.065***	813.940***
	(21.349)	(28.557)	(25.905)	(32.317)
T^2	−13.431***	−19.632***	−17.128***	−14.361***
	(0.632)	(1.056)	(0.881)	(0.983)
HDROP	−5,506.986***	−2,431.701***	−4,230.764***	−6,198.433***
	(203.585)	(155.842)	(164.759)	(234.268)
HGRAD	−2,134.354***	−596.997***	−1,170.735***	−2,190.808***
	(171.777)	(134.501)	(162.730)	(223.416)
CGRAD	7,624.755***	4,286.173***	6,863.507***	10,516.970***
	(195.144)	(224.632)	(277.076)	(334.552)
MARRY	3,669.747***	3,439.269***	3,672.633***	3,899.839***
	(157.740)	(149.282)	(151.519)	(212.461)
NONW	−3,161.856***	−1,685.541***	−2,480.026***	−3,201.313***
	(193.258)	(134.140)	(145.669)	(200.768)
	Dependent Variable: Draw ($N = 3,007; R^2 = .115$)			
Intercept	5,648.523***	822.317*	2,631.762***	7,108.361***
	(1,175.353)	(423.198)	(659.256)	(1,457.612)
X	423.932***	156.137***	381.541***	561.039***
	(102.994)	(41.097)	(63.947)	(138.797)
X^2	−8.701***	−4.046***	−8.212***	−11.209***
	(2.063)	(0.911)	(1.275)	(2.826)
T	722.588***	465.075***	549.184***	852.522***
	(80.973)	(38.659)	(77.612)	(116.872)
T^2	−12.849***	−9.077***	−8.516***	−12.606***
	(2.078)	(0.687)	(2.310)	(2.779)
HDROP	−3,619.061***	−1,232.085***	−2,216.577***	−3,948.796***
	(969.251)	(425.624)	(697.111)	(1,241.509)
HGRAD	−946.204	227.151	66.146	−751.745
	(817.589)	(380.850)	(596.870)	(1,266.369)
CGRAD	6,198.945***	1,921.262***	5,433.533***	11,928.500***
	(859.250)	(620.966)	(802.941)	(1,832.188)
MARRY	4,784.986***	2,504.316***	3,752.495***	4,986.598***
	(779.208)	(369.673)	(583.077)	(1,135.592)
NONW	−5,440.549***	−1,511.562**	−2,995.179***	−5,480.510***
	(1,227.992)	(600.122)	(708.559)	(1,155.710)

Note: *p<0.1; **p<0.05; ***p<0.01

Table 10: 2014 Total Income Regression Coefficients

	OLS	*.25*	*.50*	*.75*
	(1)	(2)	(3)	(4)
Dependent Variable: Wage ($N = 42,768; R^2 = .229$)				
Intercept	1,048.873**	−323.123**	2,191.803***	6,331.168***
	(435.254)	(131.755)	(171.117)	(290.735)
X	1,249.017***	624.542***	881.376***	1,196.140***
	(32.160)	(12.401)	(16.627)	(25.561)
X^2	−21.807***	−11.770***	−15.499***	−19.709***
	(0.704)	(0.244)	(0.406)	(0.608)
T	641.509***	628.152***	573.001***	428.834***
	(81.788)	(33.516)	(45.793)	(70.429)
T^2	−9.057***	−10.746***	−8.087***	−3.413
	(2.901)	(1.508)	(1.814)	(2.800)
HDROP	−8,176.979***	−3,013.116***	−5,374.390***	−8,258.289***
	(404.486)	(131.259)	(142.718)	(216.335)
HGRAD	−3,547.190***	−903.963***	−2,015.006***	−3,727.541***
	(280.872)	(131.500)	(159.742)	(224.495)
CGRAD	15,377.090***	6,121.099***	11,744.680***	18,824.750***
	(277.455)	(253.680)	(303.215)	(439.162)
MARRY	5,900.331***	3,950.979***	4,746.837***	5,891.278***
	(240.037)	(153.936)	(183.593)	(258.279)
NONW	−2,100.850***	−1,136.189***	−1,447.882***	−1,629.330***
	(264.990)	(140.673)	(162.769)	(218.342)
Dependent Variable: Draw ($N = 2,465; R^2 = .067$)				
Intercept	4,539.501	2,191.437	3,189.112***	7,577.752**
	(5,372.517)	(1,428.813)	(967.832)	(3,552.458)
X	1,477.994***	376.597***	922.638***	1,415.559***
	(371.994)	(95.972)	(104.000)	(287.611)
X^2	−25.874***	−8.007***	−15.290***	−22.575***
	(6.901)	(1.787)	(2.114)	(5.353)
T	37.973	449.572*	320.101	368.703
	(577.546)	(234.680)	(281.000)	(410.679)
T^2	4.468	−8.718	−6.927	−3.095
	(18.775)	(8.366)	(10.619)	(13.161)
HDROP	−9,761.245***	−2,949.999***	−5,844.855***	−10,828.080***
	(3,280.525)	(766.690)	(998.455)	(1,869.326)
HGRAD	−3,222.642	−141.569	−1,049.306	−1,725.231
	(2,372.390)	(851.035)	(1,012.734)	(1,991.250)
CGRAD	15,325.250***	2,379.114**	8,558.602***	18,994.330***
	(2,148.084)	(1,038.593)	(1,498.848)	(2,424.885)
MARRY	8,821.713***	4,190.055***	5,116.419***	4,565.546**
	(1,934.370)	(717.565)	(979.325)	(1,845.563)
NONW	−8,948.219***	−706.063	−3,895.050***	−6,803.347***
	(2,292.087)	(743.786)	(898.650)	(2,145.155)
Note:				*p<0.1; **p<0.05; ***p<0.01