

The Gender Wealth Gap in the United States

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Abstract

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Wealth has been found to be associated with financial wellbeing in ways not captured by income as well as increased social connections, improved physical and mental health, and increased emotional, cognitive, and behavioral development among children. Preliminary research indicates that a gender disparity in net worth exists in the U.S. However, research in the U.S. thus far has been limited to unmarried households. Research conducted in Germany finds that the gender wealth gap is substantially larger among married households as compared to unmarried households. Using the 2008 panel of the Survey of Income and Program Participation, this dissertation is the first to examine whether the same is true in the U.S.

This dissertation is comprised of three papers: Paper 1 descriptively examines the individual wealth holdings of men and women among married, widowed, divorced, and never married individuals. Results further consider the intersectionality of gender and race in relation to asset ownership and liabilities. Paper 2 provides the first examination of the determinants of the gender wealth gap in the U.S. among the married as well as the unmarried. Blinder-Oaxaca decompositions are conducted in order to examine how much of the gender wealth gap can be explained by labor market characteristics, education, demographic characteristics, and receipt of benefits. DiNardo, Fortin, and Lemieux decompositions are additionally conducted to determine if determinates differ across the wealth distribution. Paper 3 is the first attempt to merge the gender earnings and net worth disparities literature. Weisbrod & Hansen (1968)'s augmented earnings measure is utilized to combine net worth and earnings into one annual measure. Annual earnings, net worth, and augmented earnings are descriptively compared.

Paper 1 multivariate results indicate that divorced and never married women own less than \$0.30 of wealth for each dollar owned by comparable men while married women own \$0.92 for each dollar owned by married men. Black women experience a substantially larger gender wealth gap. Paper 2 finds that the gender wealth gap among divorced and unmarried individuals is not explained by the characteristics listed above and is instead primarily attributable to differences in the rewards or penalties men and women receive for characteristics. Among married individuals, the gender gap can be explained largely by differences in characteristics, particularly labor market characteristics. Paper 3 finds that the gender gap in augmented earnings very slightly increases the disparity as compared to earnings alone.

Results indicate that the gender wealth gap among married individuals in the United States is substantially smaller than among unmarried individuals. Paper 2 indicates that for the most part, married couples share assets and debts. The remaining differences in wealth may then be a direct result of the division of labor as determined by the labor market characteristics. Racial differences in the gender wealth gap are stark and particularly concerning. Lastly, Paper 3 indicates that although the augmented earnings measure increased gender disparities only slightly, it suggests that the gender wealth gap captures additional aspects of disparities not captured by earnings. Future research is needed to determine the impact this disparity has on wellbeing.

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Dedication

To Ned Sariscsany, because you would have gotten a kick out of seeing your name on a doctoral dissertation. "...anywhere I go you go, my dear" – E.E. Cummings

Introduction

The American Academy of Social Work & Social Welfare recently identified the *12 Grand Challenges for Social Work* as our profession's social agenda. One of these Grand Challenges is to reduce extreme economic inequality (Elliott III et al., 2016). In order to achieve a sustainable reduction in inequality, it is essential to consider gender economic equity in addition to national levels of inequality. More than half of children today will spend some time in a single-parent household before reaching adulthood (Bumpass & Raley, 1995; Bumpass & Sweet, 1989). The single parent is most often the mother (Vespa, Lewis, & Kreider, 2013). Furthermore, an increasing number of mothers have never been married (Caumont, 2013). As has been extensively examined for several decades, women in the U.S. continue to experience gender disparities in earnings (Blau & Kahn, 2017; England, 2010; Gangl & Ziefle, 2009; Jarrell & Stanley, 2004; Pal & Waldfogel, 2016; Semega, Fontenot, & Kollar, 2017; Staff & Mortimer, 2012; Stanley & Jarrell, 1998; Waldfogel, 1998; Weeden, Cha, & Bucca, 2016; Weichselbaumer & Winter-Ebmer, 2005). Additionally, although it has received less attention, research has indicated that there is a gender disparity in net worth among single headed households (Chang, 2010; Conley & Ryvicker, 2004; Ruel & Hauser, 2013; Schmidt & Sevak, 2006; Yamokoski & Keister, 2006). Economic mobility in the U.S. has decreased in recent decades. Children born in the 1980's are at the lowest likelihood of attaining more education or earnings than their parents since those born in 1940, at least (Chetty et al., 2017; Narayan et al., 2018). If economic mobility is decreasing and children are increasingly likely to be raised in households which have systemically less wealth and income, I theorize that extreme economic inequality will remain extreme until gender disparities decrease.

In order to address gender economic inequality, it is essential that we understand what it is. As mentioned, although earning disparities by gender have been extensively examined, wealth inequality by gender has only been examined among single-headed households within the U.S. This is primarily a result of data availability. The majority of surveys which measure net worth do so at a household level, making it impossible to examine differences in wealth within households or between spouses. However, two studies using individual-level German wealth data have examined the gender wealth gap within both married and unmarried households. Results indicate that the gender wealth gap in Germany is substantial and nearly twice as large in couple-headed households as compared to single-headed households and that previous research excluding married households underestimated the gender wealth gap (Grabka, Marcus, & Sierminska, 2015; Sierminska, Frick, & Grabka, 2010). Based on Grabka et al. (2015)'s and Sierminska et al. (2010)'s findings, there is reason to believe that current research in the U.S. may also underestimate the gender wealth gap by excluding married households.

Thus, this dissertation aims to examine this gap in literature by providing the first comprehensive examination of gender wealth inequality and the drivers of this inequality, in the United States. This dissertation further extends literature by providing the first attempt to merge earnings and wealth in order to create a comprehensive gender economic inequality measure. The findings aim to take an important step towards meeting one of social work's Grand Challenges by increasing our understanding of gender economic disparities in the United States.

Paper 1 : Describing the Gender Wealth Gap in the United States

In the U.S., the ratio of female to male median earnings is at a record high 80.5%. Studies suggest men and women will reach earnings parity in 2059 (Semega, Fontenot, & Kollar, 2017). However, earnings are not the only financial resource in which there are gender disparities. Despite a decreasing gap in wages by gender, research indicates that the gap in wealth by gender in the U.S. not only remains substantial but is on the rise (Chang, 2010; Conley & Ryvicker, 2004; Ruel & Hauser, 2013; Schmidt & Sevak, 2006; Yamokoski & Keister, 2006).

Research on the gender wealth gap in the U.S. is limited. This is a critical oversight as net worth (assets less liabilities) provides insight into financial wellbeing that is not captured by income alone. While some assets generate current money income (dividends, interest, or rent), many of the principle components of household assets do not, including primary residences and retirement accounts (Wolff & Zacharias, 2007). Nevertheless, these non-income generating assets contribute to the financial wellbeing of households, for instance by providing additional economic security. Assets that do generate current income may also contribute to economic wellbeing by providing a safety net to smooth consumption when households experience a loss of income. Wealth further captures intergenerational transfers of economic resources, a key factor in the economic inequality experienced by black households in the United States according to research (Fox, 2016; Oliver & Shapiro, 1990; Shapiro, 2017).

Net worth additionally captures indebtedness. It has been estimated that one-third of households in the U.S. have negative net worth (Oliver & Shapiro, 1990). Debt has a large impact on an individual's financial wellbeing. Debt can do more than consume a portion of income. Bad credit can lead to difficulties in renting a home or getting a loan and increase the

likelihood of receiving subprime loans (Wolff & Zacharias, 2007). Once again, this represents a dimension of financial wellbeing that is not captured from an exclusive focus on income.

In addition to financial wellbeing, wealth impacts a number of other aspects of wellbeing not fully captured when analyzing income alone. Asset ownership has been found to be associated with increased social connections, improved physical and mental health, and increased emotional, cognitive, and behavioral development among children (Green & White, 1997; Haurin, Parcel, & Haurin, 2002; Wilkinson, 2005; Williams, 2003; Yadama & Sherraden, 2009). Wealth also provides opportunities to shape or influence political and social agendas through donations to politicians, issue-oriented organizations, and/or foundations (Chang, 2010; Sierminska et al., 2010; E. Wolff & Zacharias, 2007).

Lastly, net worth further reveals depths and patterns of economic inequality not seen when exclusively studying income (Oliver & Shapiro, 1990). As stated, emerging research has indicated that this is true when analyzing differences in wealth by gender. Among single-headed households, Chang (2010) finds that for each dollar income increases, men's wealth increases considerably faster than women's.

This paper provides the first comprehensive examination of the gender wealth gap in the U.S. I further examine how the gap differs by household structure, age, parental status, and race.

1.1 Literature Review

There is limited research on the wealth inequality experienced by gender in the U.S. The research that is available has primarily focused on unmarried households (Chang, 2010; Conley & Ryvicker, 2004; Schmidt & Sevak, 2006; Yamokoski & Keister, 2006). This is chiefly a result of data availability. The vast majority of surveys which measure wealth ask the head of household to report household level assets and liabilities (Grabka et al., 2015). Among married

couples, this eliminates researchers' ability to differentiate between the wealth owned by each spouse individually. As a result, researchers have typically chosen to analyze the gap between female-headed and male-headed households or among exclusively single-headed households (Chang, 2010; Conley & Ryvicker, 2004; Ruel & Hauser, 2013; Schmidt & Sevak, 2006; Yamokoski & Keister, 2006). The latter does not provide a complete picture of the gender wealth gap. Exclusively analyzing single-headed households additionally limits our understanding of the gender wealth gap across the life-course, as the average single-headed household is led by a young adult who will marry later in life and transition into a dual-headed household. Thus, this mid- to later-adulthood period is generally excluded in gender wealth gap analyses which exclusively analyze single-headed households. Measuring wealth based on the gender of the household-head is also likely to result in bias. First, Frick, Grabka, & Sierminska (2007) find that measuring inequalities at a household level, particularly wealth, results in an underestimation of the gender wealth gap in Germany. Secondly, the majority of married couples report the male as the head of household (Schmidt & Sevak, 2006). Thus, it is likely that married couples who report the female as the household head differ in a number of unobserved characteristics. Furthermore, the average female in the sample is likely to be significantly younger than the average male, therefore likely to additionally have less wealth, biasing results.

Excluding married couples may seem theoretically sound to those who argue that the gender wealth gap is not applicable to married couples. One could argue that married couples share wealth equally, and even if ownership differs slightly within couples, wealth would still be consumed equally during marriage and split evenly in the case of divorce. However, this is not always the case. First, research indicates that asset ownership is likely not equal between married couples (Chang, 2010; Frick et al., 2007). Furthermore, within a marriage the individual with a

higher level of asset ownership is likely to have more bargaining power (Lee & Pocock, 2007). Unequal asset ownership among married couples may also lead to economic dependency, which may make leaving dysfunctional or abusive relationships more difficult (Chang, 2010).

In the U.S., approximately half of all marriages now end in divorce (Chang, 2010). This further emphasizes the importance of understanding wealth ownership among married couples. Assets are not necessarily split evenly in divorce proceedings. The majority of states in the U.S. are common law states, in which spouses are given “equitable shares” of assets upon divorce. This division is determined in divorce courts and differs by state. Only nine states in the U.S. are community property states, in which assets accrued during marriage are split evenly in divorce proceedings. However, residing in a community property state may still not protect women from an unanticipated loss of wealth (Chang, 2010). The gender wealth gap exists prior to marriage (Sierminska et al., 2010). Thus, women are likely to continue to experience a discrepancy in wealth after divorce even when wealth accrued during marriage is split equally. As the average age of marriage increases and a larger proportion of lifetime wealth acquisitions occur prior to marriage, divorced women, even in community property states, may experience increased wealth inequality.

Only two previous studies have examined the gender wealth gap among both married and unmarried households utilizing individual level wealth data. Both previous studies examine the German gender wealth gap using data provided by the German socio-economic panel (SOEP). Sierminska et al. (2010) analyze the difference in wealth between German men and women. Results indicate that the gender wealth gap in Germany is substantial and nearly twice as large in couple-headed households as compared to single-headed households (Sierminska et al., 2010).

Grabka et al. (2015) utilize the SOEP data to analyze intra-household wealth inequality. The authors find that women, on average, own 37% of total household wealth. The wealth gap is found to be higher among couples with children and households in which the male partner manages the household finances. However, the authors point out that household's total net worth is also lowest among couples in which the woman controls the finances indicating potential reverse causality (Grabka et al., 2015). Lastly, results indicate that the gender wealth gap increases as total household wealth increases.

Research on the gender wealth gap in the U.S. has been limited to unmarried households. Chang (2010) using the 2004 Survey of Consumer Finances (SCF) descriptively show that the typical households headed by a never-married woman own only 6 cents of wealth for every dollar owned by a household headed by never-married male. Households headed by divorced women own an average of \$0.51, and households headed by widowed women own \$0.60 in wealth for each dollar owned by households headed by comparable men (Chang, 2010). Conley & Ryvicker (2004) and Schmidt & Sevak (2006) use the Panel Study of Income Dynamics (PSID) and find similar and significant difference in the net worth of male and female headed households.

An essential consideration when examining wealth in the United States is race. Previous research has repeatedly illustrated that there remains a black-white gap in wealth (Chang, 2010; Fox, 2016; Kocchar & Fry, 2014; Oliver & Shapiro, 1990; Shapiro, 2017). Oliver & Shapiro (1995) find that regardless of age, income, professional and self-employment status, number of workers in the household, race, sex, region, and education, black individuals faced a wealth disadvantage of \$27,075. However, Fox (2016) found that as of 2009, black-white wealth inequality was at a 25-year high. Kocchar and Fry (2015) further find that since the end of the

Great Recession, black families have lost 50% of their wealth and Hispanic families have lost 66% of theirs.

Chang (2010) found that the gender wealth gap also differs in important ways by race among unmarried households. In terms of the gender wealth gap, Chang (2010) found that Asian unmarried women fare best overall, owning 53 cents for every dollar held by Asian unmarried men. White unmarried women had the next highest wealth compared to men (46%), followed by black unmarried women (42%). Hispanic unmarried women had the least wealth compared to men (the median wealth for unmarried Hispanic women was zero). However, due to the previously mentioned limitations regarding individual level wealth measures, no research has yet examined the gender wealth gap by race among married households.

This paper contributes to literature by providing the first comprehensive estimate of the gender wealth gap in the U.S. by utilizing individual-level data. This paper will further be the first to comprehensively examine how race interacts with gender to impact wealth holdings at an individual level.

1.2 Data and Methods

This study utilizes the 2008 Panel of the Survey of Income and Program Participation (SIPP). SIPP is a continuous series of nationally representative panels. The 2008 Panel consists of 52,000 households. The sample is representative of the U.S. civilian non-institutionalized population. SIPP is particularly well suited to analyze the gender wealth gap for reasons. First and most importantly, the SIPP interviews all household members 15 years or older. This differs from other surveys that typically only interview the household head. As a result, assets and

liabilities can be measured at an individual level¹. Second, SIPP provides a more comprehensive list of assets and liabilities than is available in the majority of survey data. A list of assets and liabilities included in SIPP can be found in the Table 1:1. Third, SIPP oversamples low-income households. Although low-income is not equivalent to low wealth, it does increase the probability of SIPP accurately capturing wealth at the bottom of the distribution. Although other surveys oversample the top of the distribution, this is not often done at the bottom. The gender wealth gap may arguably have a greater impact on the wellbeing of women at the bottom of the distribution in which a small difference in wealth may translate into a large difference in financial stability.

Table 1:1 Net Worth Components included in SIPP

Assets:	Liabilities:
<ul style="list-style-type: none"> ○ Retirement accounts <ul style="list-style-type: none"> ○ IRA and KEORH accounts ○ 401k, 403b, 503b, and Thrift Savings Plan accounts ○ Interest-earnings assets <ul style="list-style-type: none"> ○ Government securities ○ Interest-earnings checking accounts ○ Savings accounts ○ Money market accounts or funds ○ Certificates of deposit ○ Municipal and corporate bonds ○ Other income-generating assets <ul style="list-style-type: none"> ○ Stocks ○ Mutual funds ○ Rental property ○ Annuities ○ Trusts ○ Other assets <ul style="list-style-type: none"> ○ Regular (non-interest earning) check accounts 	<ul style="list-style-type: none"> ○ Debt secured by assets <ul style="list-style-type: none"> ○ Primary residence debt (for non-mobile homes) ○ Primary residence debt (for mobile homes) ○ Rental property debt ○ Vehicle debt ○ Recreational vehicle debt ○ Debt on businesses owned as a job ○ Debt on businesses owned as an investment only ○ Debt not secured by an asset (unsecured debt) <ul style="list-style-type: none"> ○ Credit card debt and store bills ○ Other debt

¹ Primary residence, other properties, and vehicles are only measured at a household level. However, ownership of joint assets can be inferred from the reported list of owners.

- Other real estate
 - Businesses owned as a job
 - Businesses owned as an investment only
 - Life insurance policies
 - Primary residence (for non-mobile homes)
 - Primary residence (for mobile homes)
 - Cars, trucks, and vans
 - Recreational vehicles
- Other financial investments
-

1.2.I MEASURES

Individual level assets and liabilities (As listed in Table 1:1) are the primary variables of interest. The 2008 Panel of SIPP measures assets and liabilities in waves, wave 4 in 2009, wave 7 in 2010, and wave 10 in 2011. For the purposes of this paper, the waves are pooled for the analyses. Net worth is measured as the sum of individually owned assets minus liabilities. Although, as stated, SIPP measures wealth at an individual level, assets and/or liabilities in relation to primary residence, other property, and vehicles are reported at a household level. However, SIPP includes a reported list of owners for these assets. This is used to determine which household member to attribute ownership to. The value of jointly owned assets is split evenly between the listed owners.

A number of covariates are also included in analyses. SIPP also includes measurements of gender (Male or Female), race (White non-Hispanic, Black non-Hispanic, Asian, Hispanic, or Other), marital status (Married, Widowed, Divorced, or Never Married), whether the individuals lives in a community property state, and a proxy for permanent earnings (an average of the individual's monthly earnings throughout the 2008-2013 panel). According to the life cycle hypothesis, wealth increases over the lifetime up until retirement(Ando & Modigliani, 1963).

Thus, covariates also include age (18-30, 31-45, 46-64, or Over 65) and whether the individual has ever retired from a job. Covariates related to the labor market are included in the analyses; these variables include: employment status (employed fulltime, employed part-time, employment varies, or unemployed), educational attainment (less than a high school diploma, high school diploma or equivalent, some college, associate's degree or trade school, bachelor's degree, or graduate degree), and whether the individual receives employer provided insurance. Parental status (Child in household under the age of 18) is included in analyses as previous research has indicated that women's likelihood of spending income on children is greater than men's (Blumberg, 1988). This leaves less income available to build wealth. Lastly, nativity is controlled for as previous research has indicated immigrants typically have below-average wealth (Bauer, Cobb-Clark, Hildebrand, & Sinning, 2011). SIPP weights are used in analyses to address oversampling and response and coverage rates.

1.2.II ANALYTIC STRATEGY

Analyses begin by descriptively presenting characteristics of net worth (mean, median, relative wealth position², and the percent with zero or negative wealth), quantile share, and wealth inequality characteristics (GE (2), p90/p50, and p75/p50)³ among individuals over the age of 18, stratified by gender and marital status. The GE (2) is a generalized entropy (GE) inequality measure which measures inequality at the top of wealth distribution. Additional figures are constructed, separately analyzing the gender wealth gap by race, age group, and marital status. Next, linear OLS regressions are conducted controlling for all previously

² The mean wealth of the relevant gender and marital status group divided by total wealth multiplied by one hundred.

³ P90/p50 provides the ratio of the 90th percentile to the 50th percentile, p75/p50 provides the ratio of the 75th percentile to the 50th percentile.

discussed variables. Lastly, the portfolio composition of adult men and women, stratified by marital status, is analyzed, and the relative gender wealth gap by each asset and liability is presented.

1.3 Results

Results investigate gender differences in wealth holdings for all adult household members (18 years or older). Table 1:2 describes wealth holdings and their distribution among men and women by marital status. On average, women own nearly \$14,000 less or 87% of the wealth owned by men. The difference is nearly \$300 on average when using median wealth.

Table 1:2 Net Worth by Gender and Marital Status, 2011 Dollars

	Male					Female				
	Total	Married	Widowed	Divorced	Never Married	Total	Married	Widowed	Divorced	Never Married
Net wealth (nominal)										
Mean	101,631	136,557	212,474	89,933	32,077	88,071	109,116	162,865	76,472	21,963
Median	12,875	49,770	99,113	7,455	31	12,600	42,420	82,400	5,246	0
Relative wealth position	107	144	226	96	34	93	115	173	81	23
% share of wealth = 0	12	3	10	13	31	12	4	11	13	29
% share wealth < 0	15	14	5	15	18	17	15	7	20	22
Quintile shares										
Bottom	29	18	15	29	48	30	21	17	33	52
2	11	6	8	13	18	11	7	10	14	18
3	21	21	13	23	19	19	20	13	20	18
4	19	26	24	17	7	21	27	24	17	7
Top	21	28	40	18	6	19	24	36	16	5
Inequality										
GE (2)	2.52	1.65	1.23	3.18	10.26	2.30	1.63	1.134	3.13	11.66
P90/p50	23.58	7.77	5.63	34.61	2,333.33	20.99	7.05	5.22	44.17	*
P75/p50	8.59	3.32	2.75	11.58	230.84	8.38	3.30	2.64	14.81	*
Gender specific population share in %	100%	58%	3%	11%	28%	100%	52%	10%	15%	23%
Overall pop. Share in %	47%	27%	2%	5%	13%	53%	27%	6%	8%	12%
N	90,864	52,834	2,899	10,069	25,062	102,494	53,076	10,741	15,259	23,418

*P90/p50 and P75/50 could not be calculated because median wealth among never married women is zero.

Never-married individuals have substantially lower mean and median wealth than other marital groups. In fact, never-married women's median wealth is zero. Women are more likely to have negative net worth among all marital groups⁴. Men are more likely to be in the top quintile and women in the bottom quintile of wealth holdings. According to the inequality estimates, wealth is most unequal among never-married individuals and least among widows. However, they do not differ significantly between genders.

Net worth estimates are highly skewed. In order to mitigate the influence of outliers, net worth is transformed using the Inverse Hyperbolic Sine (IHS). The IHS is similar to the logarithmic transformation. However, it can include zero and negative values. As Table 1:2 shows, around 30% of the sample have wealth equal to or less than zero. The IHS is therefore a more suitable transformation for this analysis.

⁴ Interestingly, although women are more likely to have negative net worth, men with negative net worth have a higher amount of debt on average than women with negative net worth.

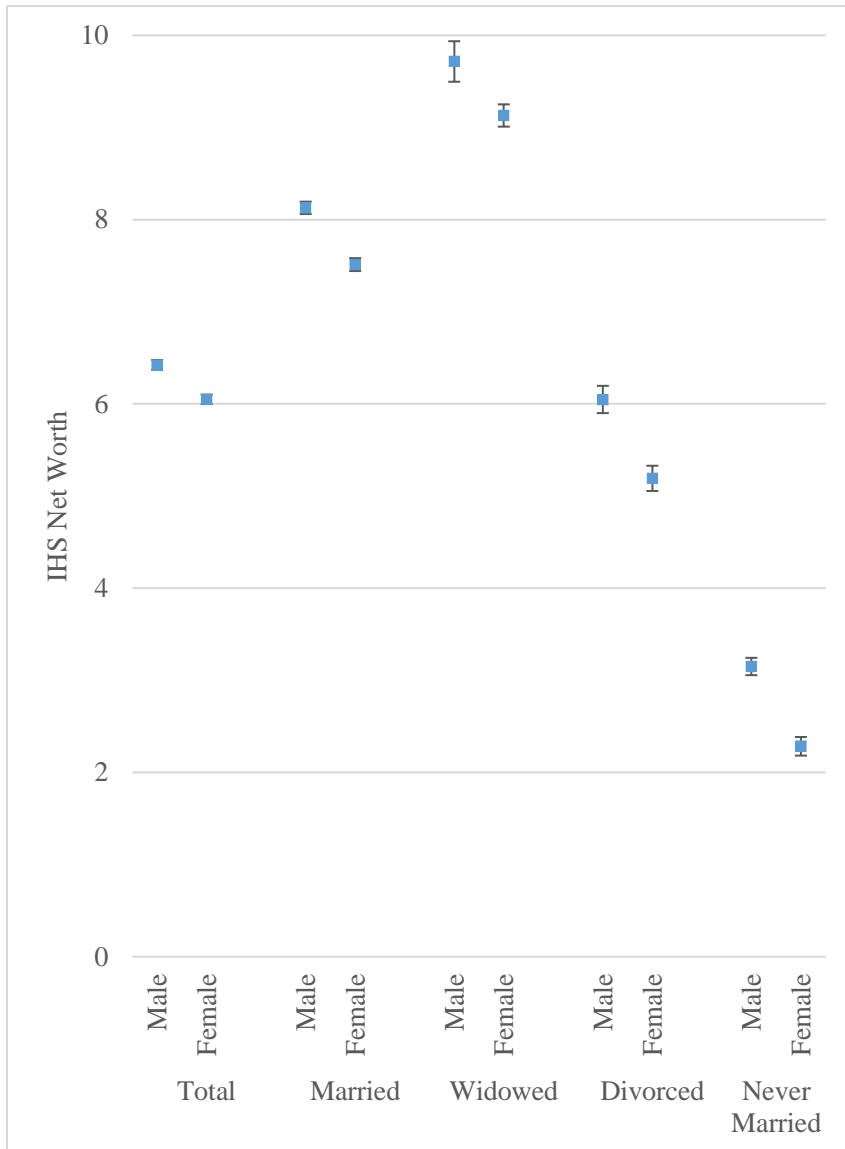


Figure 1:2 IHS Net Worth by Gender and Marital Status

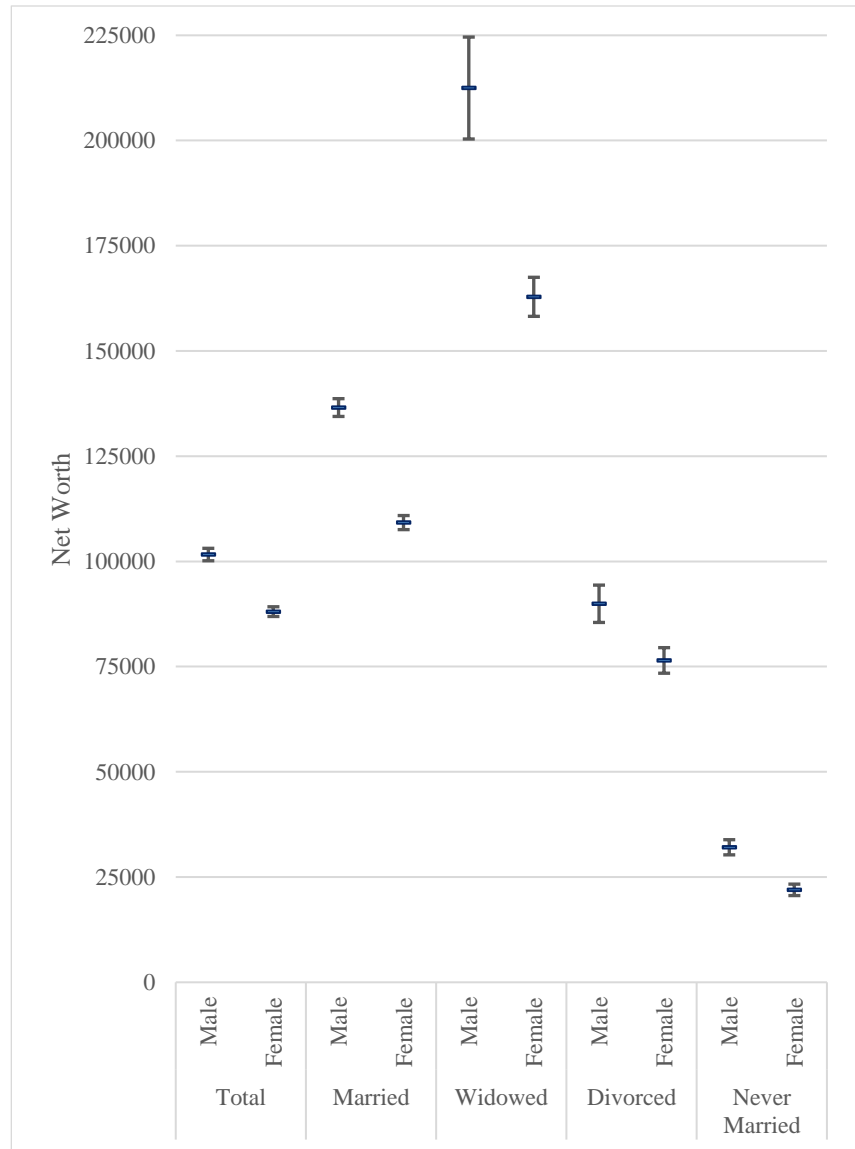


Figure 1:1 Net Worth by Gender and Marital Status

Figures 1:1 & 1:2 present nominal net worth and IHS transformed net worth, respectively, with 95% confidence bands by gender and marital status. Results show that the gender wealth gap is statistically significant among all marital groups. The non-transformed gap is largest among the widowed (\$50,000), followed by the married (\$27,000). Never-married individuals experience the smallest gap, at around \$10,000. However, this may be because widowed and married individuals also hold a greater average nominal net worth than never-married individuals. If we instead compare the percentage difference in wealth, the gap is largest among never-married women who own 68 cents in wealth for each dollar owned by never-married men. The gap is smallest among divorced women who own an average of 85 cents for every dollar owned by divorced men. Results differ slightly in Figure 1:2 using the IHS transformed net worth. The gap is largest among the never-married (73%), followed by the divorced (86%). The widowed experience the smallest gap (94%) once skewness is accounted for.

It is essential to consider the intersectionality of race and gender when analyzing the gender wealth gap. Figures 1:3 and 1:4 do so by again using average wealth and IHS wealth with 95% confidence bands. Consistent with previous research, whites own substantially more wealth than black and Hispanic individuals. Smaller, although significant, differences also exist between white and Asian men and women. When analyzing the gender wealth gap within race, Figure 1:3 indicates that gender differences are only statistically significant among white individuals. However, results once again differ when wealth is IHS transformed. The gender wealth gap among black individuals not only becomes statistically significant but is more than twice as large as the gap within the white population.

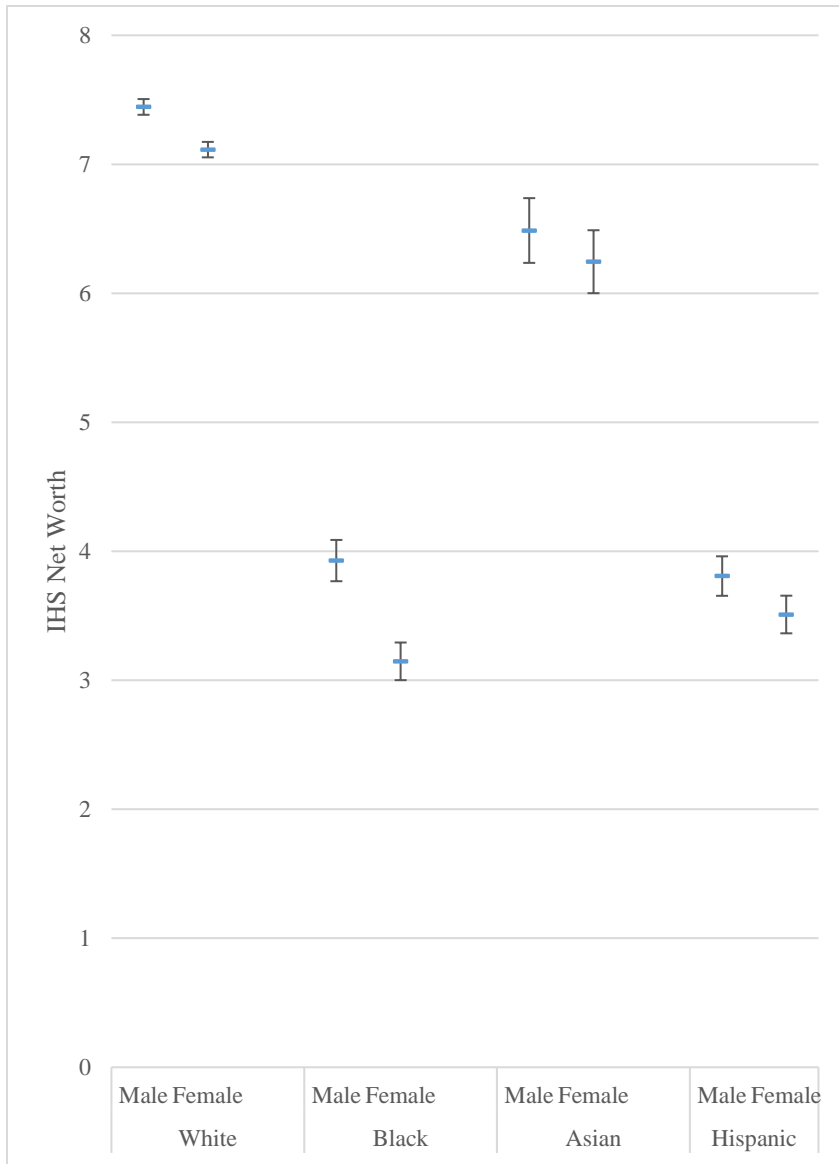


Figure 1:4 IHS Net Worth by Race and Gender

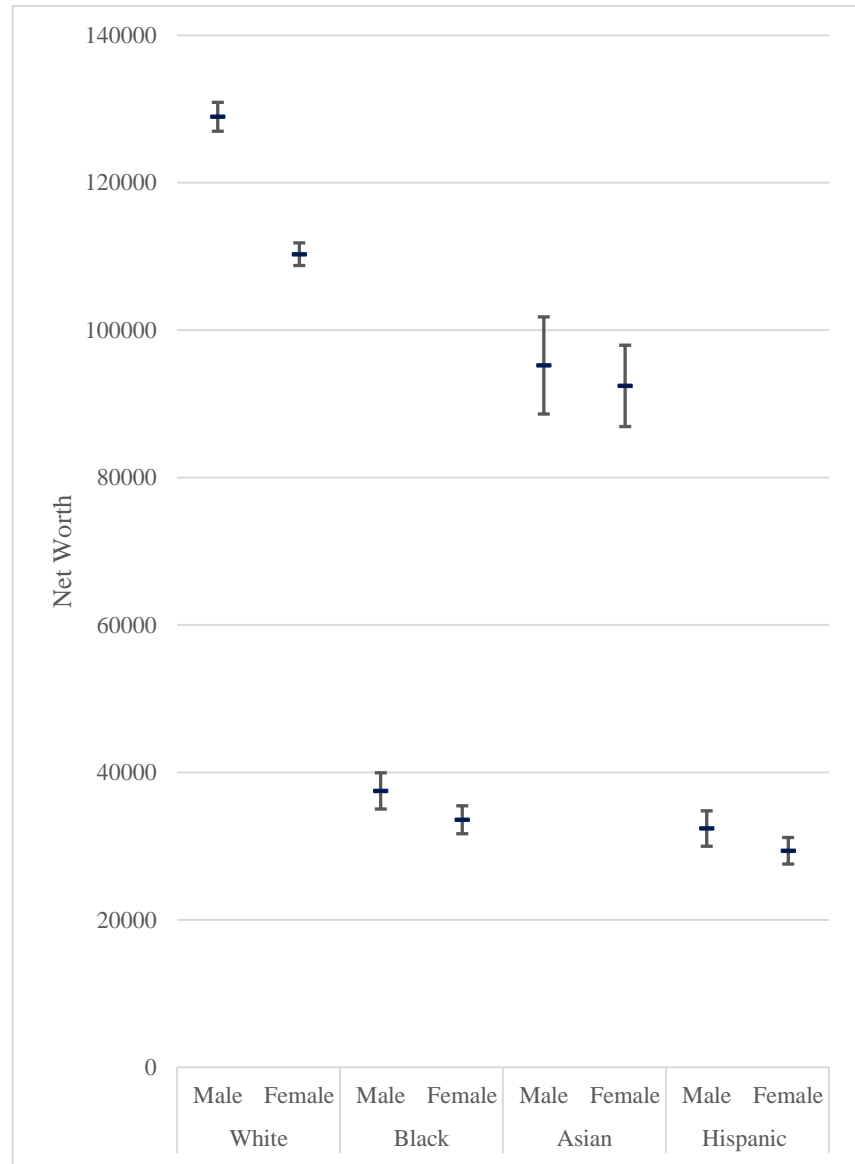


Figure 1:3 Net Worth by Race and Gender

Figures 1:5 and 1:6 dig deeper into the gender wealth gap among black and Hispanic populations to better understand why the differences in the gender gap exist by race. This was not done among the Asian sample as a result of its substantially smaller sample size. Figure 1:5, analyzing the black gender wealth gap illustrates that the gap is statistically significant among all marital groups except for the widowed. The percentage of the gap among never-married black adults is larger than seen in the total population. Women own an average of 55% of the wealth owned by never-married men. Married women experience the smallest gap among black adults (93%). Among Hispanics (Figure 1:6), the gap is statistically significant among the married and marginally so among the never-married. Hispanic never married women own an average of 79 cents for each dollar owned by Hispanic never married men. Hispanic married women own 86% of the wealth of married Hispanic men.

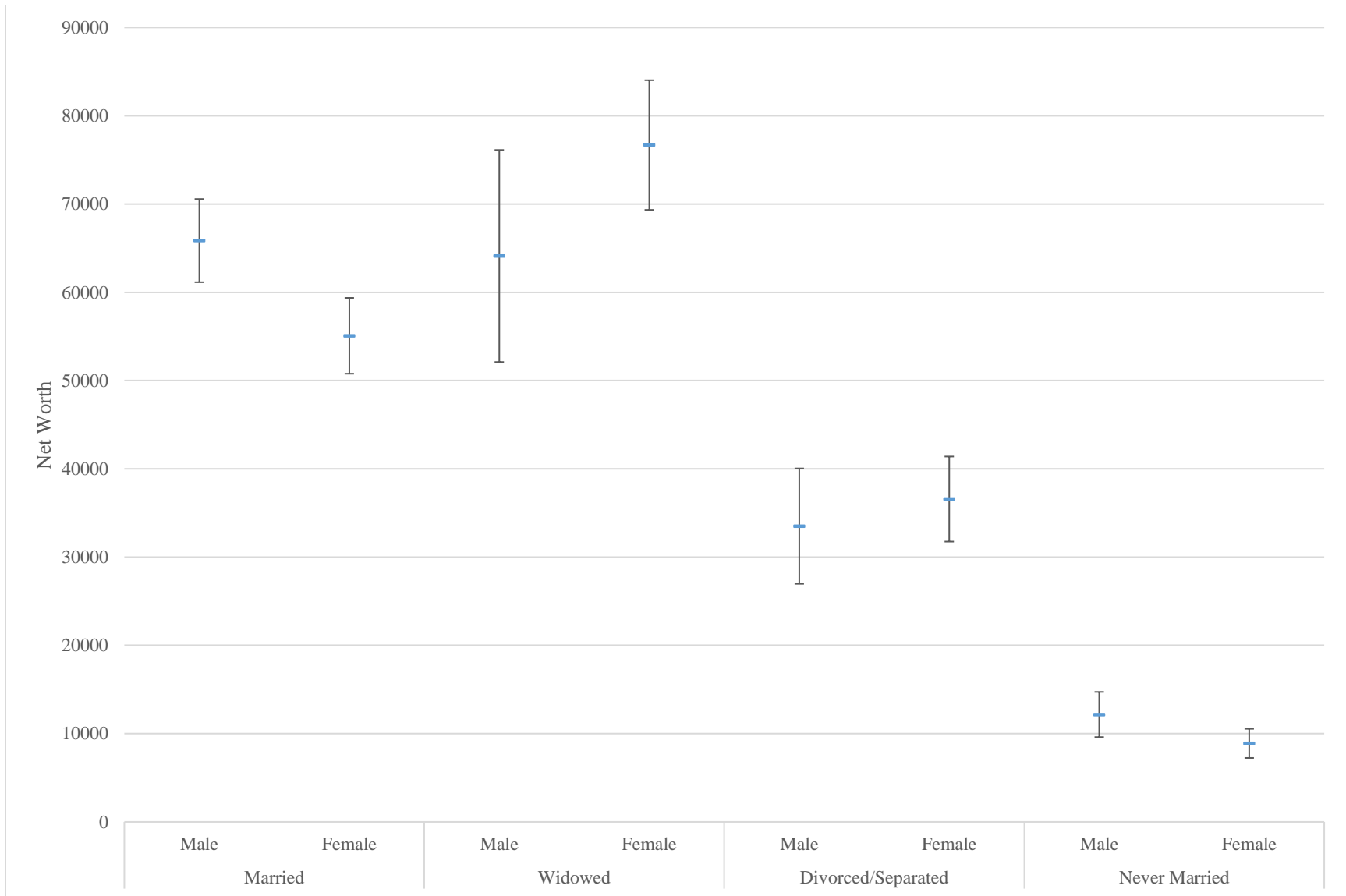


Figure 1:5 IHS Net Worth by Gender and Marital Status among Black Non-Hispanic Adults

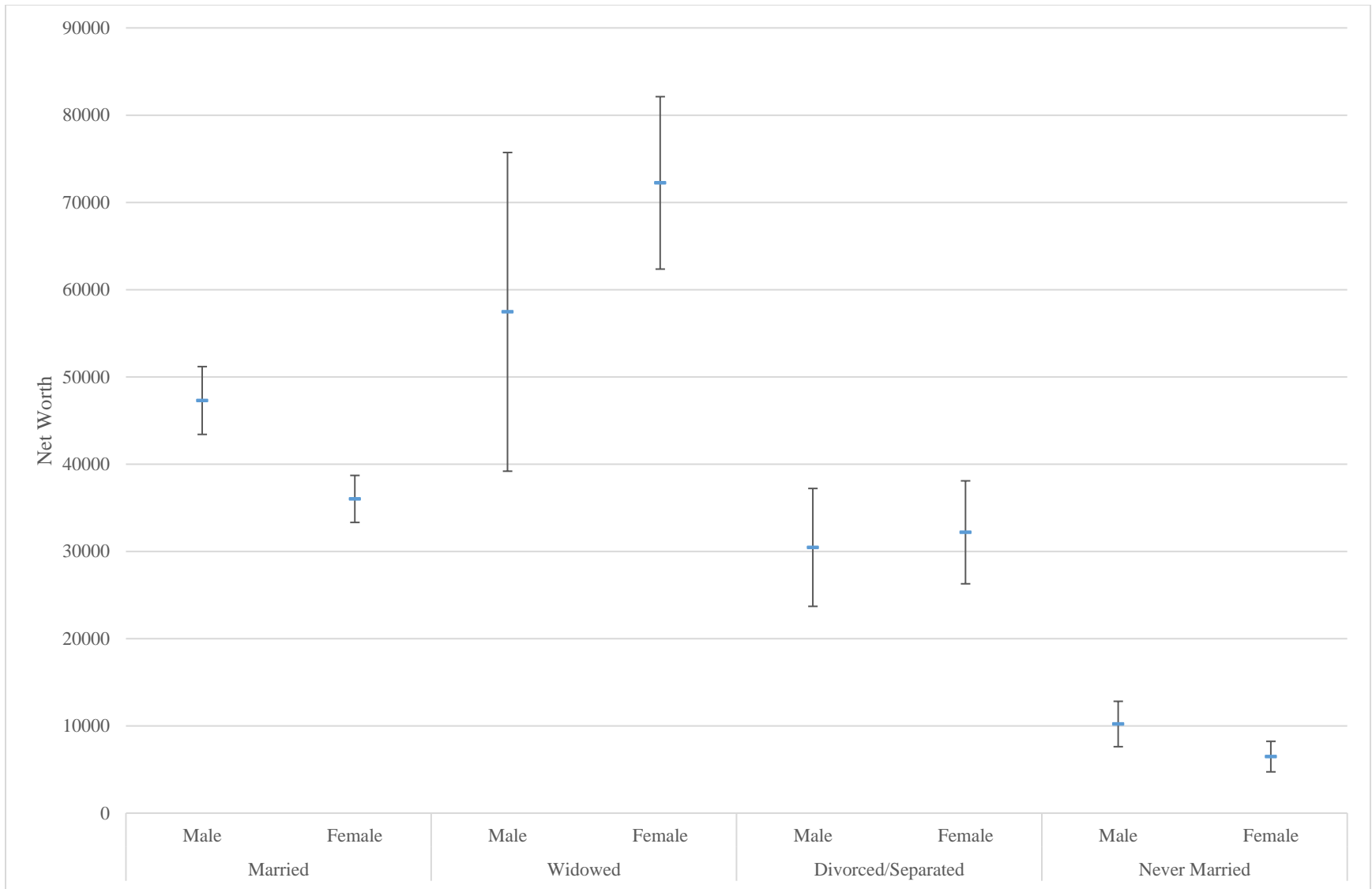


Figure 1:6: IHS Net Worth by Gender and Marital Status Among Hispanic Adults

There are a number of potential explanations for why wealth differs between men and women other than gender. It is likely that men and women also differ in other characteristics which impact their acquisition of wealth. Table 1:3 describes a number of these non-wealth characteristics by gender and marital status. Results indicate that women in the sample are slightly older than the men, with the exclusion of married individuals. This indicates that the traditional marital structure in which husbands are typically older than their wives continues to be prevalent in the U.S. It is possible then that among married individuals the gap is partially a result of men simply having more time to accumulate wealth. Men, on average, have higher monthly earnings than women, particularly among the married. Married men have an average of \$3,076 in monthly earnings compared to \$1,619 among married women. This is partially a result of the number of hours worked. Men are also more likely to work fulltime, with the largest difference between sexes in fulltime work among married individuals. Differences in income are likely to explain a significant portion of the differences in wealth by gender. Differences in education by gender vary by marital status. Never married women have higher rates of college education as compared to never married men. However, the opposite is true among widowed individuals. This may be reflective of generational differences in educational attainment among women.

Table 1:3 Basic Non-Wealth Characteristics by Gender and Marital Status, 2011 Dollars

	Total	Male					Female				
		Total	Married	Widowed	Divorced/ Separated	Never Married	Total	Married	Widowed	Divorced/ Separated	Never Married
<i>Demographics</i>											
Age (in years)	46.3	45.4	51.0	71.9	50.8	30.9	47.1	48.7	73.0	51.2	31.6
% Immigrant	15.4	15.7	17.5	8.3	12.4	14.4	15.1	17.8	13.1	12.1	11.7
Household size	3.0	3.0	3.3	1.8	2.0	3.0	3.0	3.3	1.7	2.4	3.1
Number of children <17	0.7	0.6	0.9	0.2	0.3	0.4	0.7	0.9	0.2	0.6	0.6
<i>Income</i>											
Mean monthly earnings	1,889	2,398	3,076	679	2,122	1,420	1,412	1,619	388	1,636	1,231
Relative income position	100	127	163	36	112	75	75	86	21	86	65
<i>Education (%)</i>											
Less than high school	10.5	10.9	9.8	21.1	10.7	12.1	10.1	8.6	19.8	9.2	10.2
High school diploma	28.4	29.1	26.0	31.5	29.6	34.3	27.7	26.2	36.5	26.6	28.3
Some college	15.6	15.1	12.0	10.1	14.0	21.6	16.0	13.2	11.7	15.3	23.9

Associate degree	18.7	18.1	19.2	17.0	24.5	13.8	19.3	20.0	17.7	25.7	14.7
Bachelor degree	17.4	17.1	19.8	12.6	13.4	14.0	17.7	20.9	8.7	14.6	16.0
Graduate degree	9.5	9.7	13.2	7.8	7.9	4.2	9.2	11.2	5.5	8.5	6.8
<i>Labor market status (%)</i>											
Not employed	39.1	33.2	28.8	77.0	34.9	36.6	44.6	42.2	81.6	38.3	39.4
Employed fulltime	46.7	54.8	62.4	15.6	53.9	44.7	39.1	41.7	11.4	47.5	39.3
Employed part time	11.7	9.5	7.0	6.5	8.6	14.7	13.9	13.9	6.3	11.9	17.8
Employed, hours vary	2.5	2.6	1.9	0.9	2.7	4.1	2.4	2.2	0.7	2.3	3.6

Note: Results are presented as means among continuous variables and percentages among categorical variables.

The average age varies by marital group. It is possible that the change in the gender wealth gap between marital groups is a result of generational differences and not gender and marital status. Figure 1:7 illustrates that the gap does in fact vary by age and gender. The non-transformed value of the gender wealth gap increases with age (available from author upon request). This is not surprising as older age groups have had more time to accumulate wealth. However, Figure 1:7 illustrates that in terms of percentages, the youngest age group experiences the largest gap (64%).

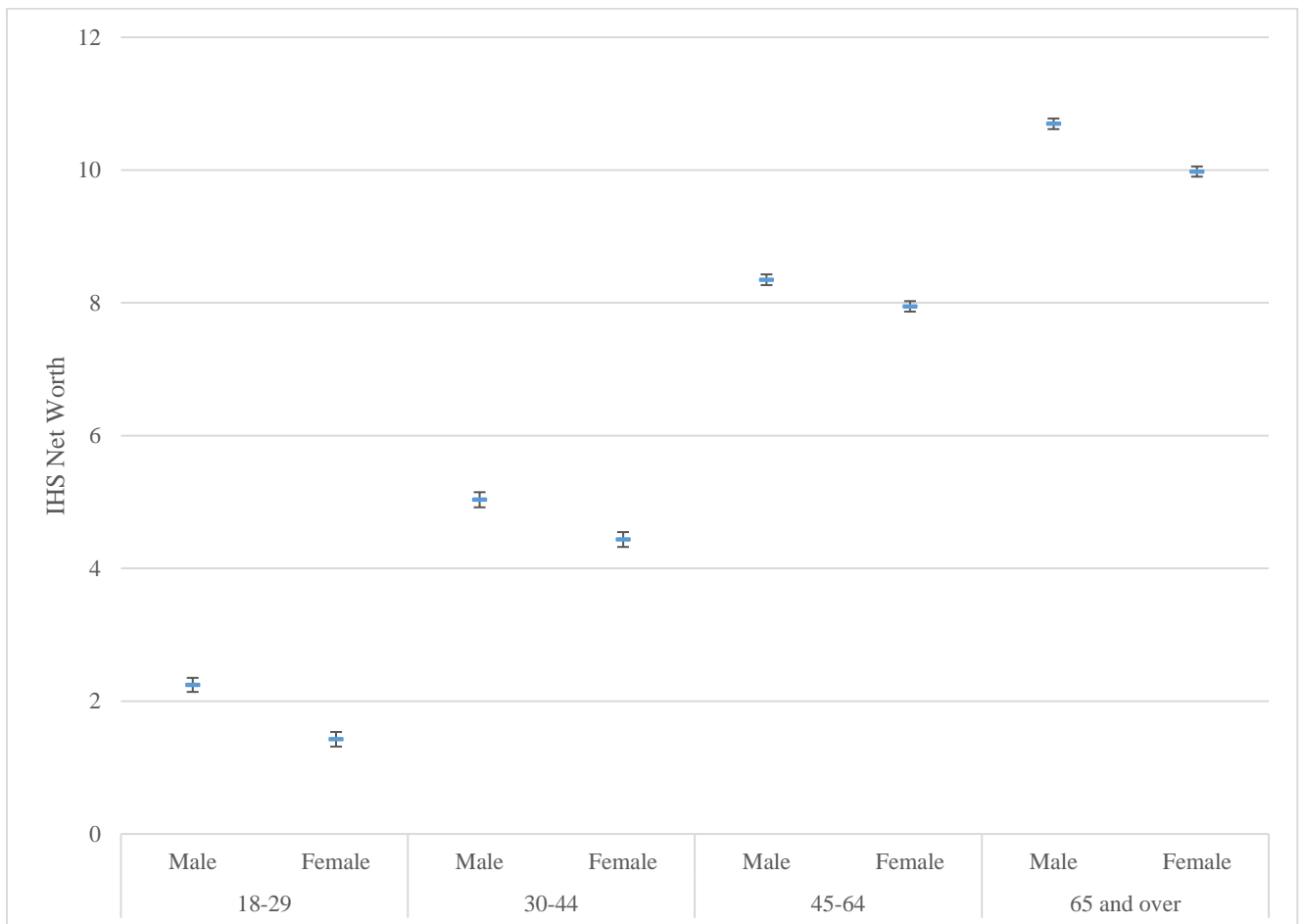


Figure 1:7 IHS Net Worth by Age and Gender

It is clear, that the gender differences in wealth are impacted by a variety of non-wealth characteristics. In order to determine whether the gender wealth gap can be explained by these differences, linear regressions are conducted controlling for race, parental status, age, education, employment status, earnings, retirement, having employer provided insurance, living in a community property state, and nativity (Table 1:4). The IHS net worth is used, and results are stratified by marital status.

Results indicate that the gender wealth gap remains significant among all marital groups, although only moderately among the married. Among the sample as a whole, women own 44% less wealth than men on average, controlling for all other variables. This is a substantially larger gap than seen in Table 1:1 and Figures 1:2 and 1.3. The gender gap also increases substantially among never-married individuals. Never-married women own 83% less wealth than never-married men when controlling for other variables. Never-married women continue to experience the largest gender wealth gap by marital status. Divorced and widowed women own 72% and 41% less wealth, respectively, of comparable men on average. These results are also substantial increases in the gap as compared to descriptive results. Interestingly, the gender wealth gap for married individuals remains the same in multivariate results as compared to descriptive results. Married women once again have the smallest gender wealth gap. Married women own 8% less wealth than married men.

Table 1:4 Linear Regression of the Inverse Hyperbolic Sine of Net Worth on Gender

	Total	Married	Widowed	Divorced or Separated	Never Married
	(n=193358)	(n=105910)	(n=13640)	(n=25328)	(n=48480)
Female	-0.439 (0.0350)***	-0.0811 (0.0485)+	-0.417 (0.123)***	-0.723 (0.105)***	-0.834 (0.0699)***
Race					
White non-Hispanic					
Black non-Hispanic	-2.574 (0.0556)***	-2.457 (0.0910)***	-2.506 (0.159)***	-2.415 (0.149)***	-1.859 (0.0938)***
Asian	-0.302 (0.0969)**	-0.323 (0.124)**	-0.792 (0.335)*	-0.326 -0.391	-0.0705 -0.189
Hispanic	-1.589 (0.0576)***	-1.705 (0.0813)***	-1.72 (0.219)***	-1.625 (0.173)***	-1.15 (0.102)***
Other	-1.592 (0.107)***	-2.112 (0.155)***	-1.143 (0.327)***	-0.539 (0.304)+	-1.011 (0.191)***
Parent	0.288 (0.0398)***	-0.34 (0.0569)***	-1.326 (0.182)***	-0.148 -0.13	-0.103 -0.0813
Age					
18-29	-2.18 (0.0517)***	-2.646 (0.0888)***	-2.141 (0.639)***	-1.603 (0.242)***	-1.213 (0.0877)***
30-44 (reference)					
45-65	3.129 (0.0475)***	2.909 (0.0620)***	2.211 (0.342)***	2.472 (0.128)***	2.855 (0.118)***
65+	5.062 (0.0824)***	4.663 (0.107)***	4.107 (0.367)***	4.475 (0.220)***	3.989 (0.295)***
Education					
Less than a high school diploma (reference)					

High School diploma or equivalent	0.314 (0.0634)***	-0.0424 -0.092	1.089 (0.145)***	0.382 (0.191)*	0.286 (0.119)*
Some college	0.22 (0.0717)**	0.0501 -0.106	1.8 (0.193)***	0.353 (0.214)+	-0.0894 -0.129
Associate or trade certificate	0.327 (0.0690)***	0.267 (0.0978)**	1.714 (0.170)***	0.529 (0.196)**	-0.366 (0.140)**
Bachelor degree	1.507 (0.0721)***	1.638 (0.100)***	2.525 (0.206)***	1.903 (0.221)***	0.0143 -0.145
Graduate degree	2.036 (0.0823)***	2.064 (0.109)***	3.616 (0.243)***	1.881 (0.251)***	0.617 (0.190)**
Employment status					
Full time (reference)					
Part time	0.0485 -0.0581	0.17 (0.0806)*	-0.461 (0.259)+	-0.223 -0.181	-0.272 (0.105)**
Employment varies	-0.662 (0.0588)***	-0.809 (0.0828)***	-0.698 (0.275)*	-1.325 (0.178)***	-0.484 (0.104)***
Unemployed	-1.102 (0.112)***	-1.141 (0.164)***	-1.646 (0.594)**	-1.316 (0.332)***	-1.096 (0.183)***
Inverse Hyperbolic Sine of earnings	0.0658 (0.00824)***	0.0364 (0.0111)**	0.0395 -0.0296	0.109 (0.0240)***	0.127 (0.0166)***
Ever retired	1.909 (0.0701)***	1.521 (0.0871)***	1.105 (0.198)***	2.299 (0.182)***	2.418 (0.245)***
Received welfare in past year	-1.377 (0.168)***	-1.635 (0.340)***	-0.119 -0.707	-0.946 (0.369)*	-0.598 (0.250)*
Employer provided insurance	1.291 (0.0395)***	1.061 (0.0549)***	1.145 (0.128)***	1.007 (0.125)***	0.776 (0.0757)***
Living in community property state	0.194 (0.0466)***	0.187 (0.0622)**	0.0181 -0.142	0.357 (0.134)**	0.0145 -0.094
Not born in U.S.	-0.17 (0.0559)**	-0.479 (0.0753)***	-1.425 (0.183)***	-0.0628 -0.171	0.252 (0.111)*

Note: Results are presented as coefficients and standard deviations are enclosed in parenthesis. ***p<.001 **p<.01 *p<.05 † p<.1

Table 1:5 Linear Regression of the Inverse Hyperbolic Sine of Black and Hispanic Individuals' Net Worth on Gender

	Black					Hispanic				
	Total (n=22,063)	Married (n=7,755)	Widowed (n=1,840)	Divorced/ Separated (n=3,617)	Never Married (n=8,851)	Total (n=21,685)	Married (n=11,535)	Widowed (n=850)	Divorced/ Separated (n=2,377)	Never Married (n=6,923)
Female	-0.876 (0.107)***	-0.392 (0.192)*	-0.965 (0.387)*	-1.007 (0.293)**	-0.91 (0.161)***	-0.064 (0.11)	-0.007 (0.17)	-0.04 (0.62)	-0.014 (0.35)	-0.317 (0.166)†

Note: Regressions include identical control variables as shown in Table 1:3, excluding race. Results are presented as coefficients and standard deviations are enclosed in parenthesis. ***p<.001 **p<.01 *p<.05 † p<.1

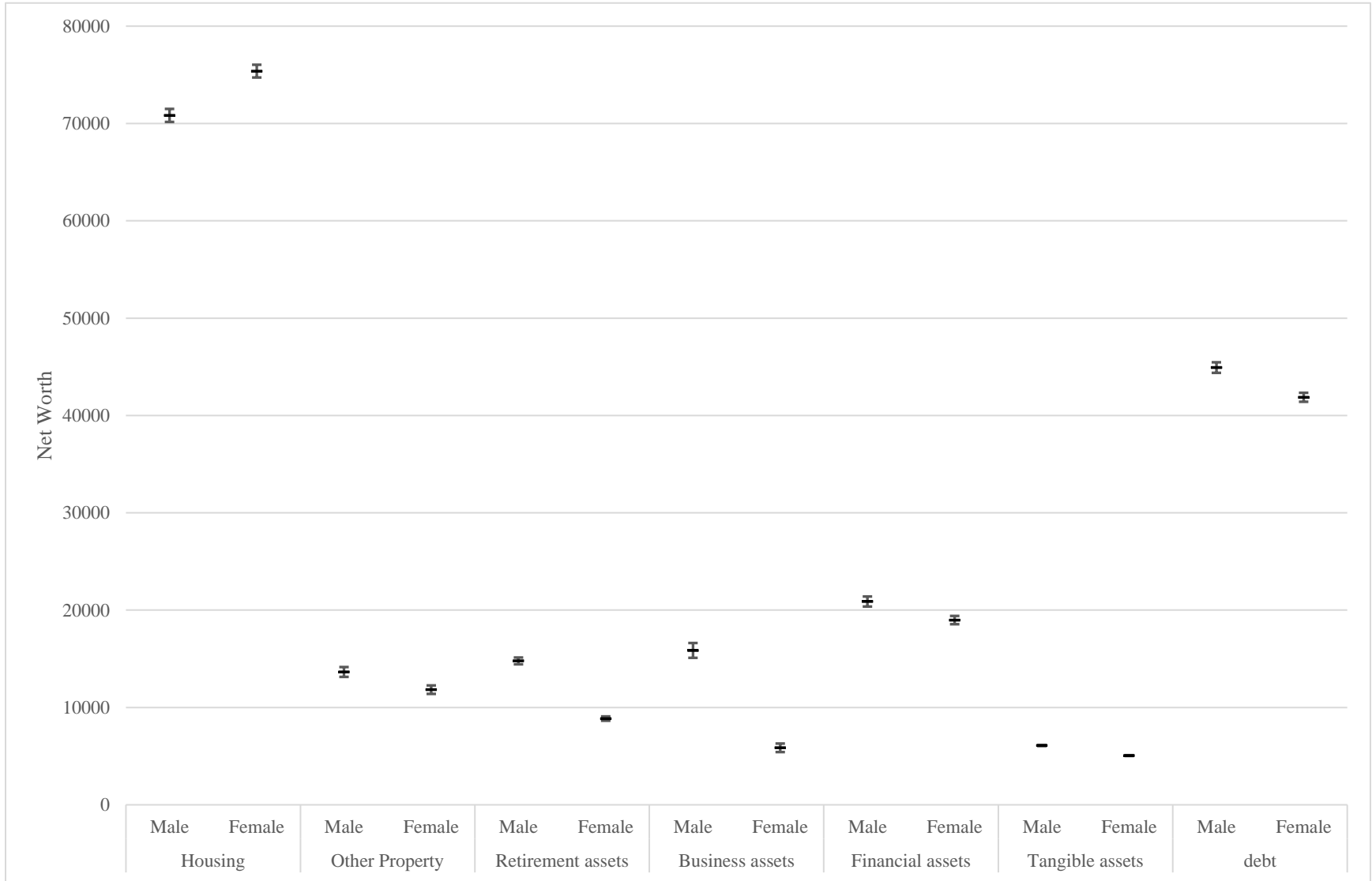


Figure 1:8 Portfolio Decomposition by Gender

It is surprising that once the control variables are included the gender wealth gap does not decrease among married individuals and actually increases for all non-marital groups. However, it is possible that men and women receive differing wealth “rewards” for similar attributes. For example, men and women with similar earnings may receive differing income packages, for example men may be more likely to receive stock options. This inequality would be hidden within descriptive results because men on average also have higher incomes than women.

Table 1:4 further indicates that race continues to play a significant role in wealth acquisitions. Among all marital groups, being black is associated with the largest decrease in net worth, followed by other races, and Hispanics. Once again, although Asians on average own statistically significant less wealth than their white counterpart, the gap is much smaller as compared to black and Hispanic populations.

To once again consider the intersectionality of race and gender, additional regressions are conducted separately among black and Hispanic individuals (Table 1:5). Similar regressions were not conducted among Asian samples due to lack of statistical power. The analyses include the same control variables as described above. Only the gender coefficient is presented in Table 1:5 (Full regression results are available from the author upon request). Results indicate that when analyzed separately by race, the gender wealth gap is much more severe among black adults. Widowed and divorced black women own 97% and 100% less wealth than black men, respectively. Interestingly, never-married black women experience the second smallest gender wealth gap by marital status at 91% less than men. The gender wealth gap is smallest among married black individuals (39% less), yet still larger than among seen in Table 1:4. Within the Hispanic population, the gender wealth gap loses significance among married individuals.

Never-married Hispanic women continue to see a moderately significant decrease in wealth as compared to men.

Wealth is a combined measurement of a variety of assets and liabilities. Thus, it is important to consider what assets and liabilities differ by gender. Figure 1:8 analyzes the portfolio decomposition of wealth among men and women. Housing, other property, business, and vehicle categories are measured as wealth (assets less liabilities, for example property value less housing debt). Results were compiled with both IHS net worth and un-transformed values. Results were quite similar. For ease of interpretation, un-transformed values are presented. Interestingly, women on average own more housing wealth than men. The largest differences in by gender are retirement assets and business wealth. Men own nearly twice as much in retirement assets than women and three times as much business wealth.

1.4 Discussion

A leading challenge in analyzing the gender wealth gap in the U.S. has been a lack of wealth data at an individual level (Sierminska et al., 2010). However, this challenge can be overcome using the SIPP data. In Germany, the use of individual level data revealed the gender gap to be larger among married individuals than unmarried individuals. Thus, Sierminska, Frick, and Grabka (2010) concluded that previous research utilizing household level wealth measures greatly underestimated Germany's gender wealth gap. This study finds that the same cannot be said of the gender wealth gap in the United States. German married women own 64% of the wealth of men (Sierminska et al., 2010), compared to 92% in the U.S. The gender wealth gap in the U.S. is much larger among unmarried households as compared to married. Using household level wealth data in the U.S. results in an overestimation of the gender wealth gap.

The gender wealth gap in the U.S. overall (regardless of marital status) is descriptively smaller as compared to Germany (94% and 69% respectively).⁵ One potential explanation of this difference is data. The measure of net worth used to analyze the German gender wealth gap differs as compared to the measure used in this study. Sierminska, Frick, and Grabka (2010) do not include vehicles and checking accounts in the net worth measure. Additionally, only assets valuing greater than 2,500 euros were included in the measure. In a supplementary analysis not shown (available from the author upon request), a comparable measure of net worth was created to compare to the Germany studies. However, results did not change significantly. Another potential explanation for the dissimilarity may be differences in women's employment. Employed women in the U.S. are far less likely to work part time (Blau & Kahn, 2013). In Germany, fulltime employment is lower among married women as compared to unmarried (Drobnič, 2000). Lower earnings in combination with a lower likelihood of receiving employer provided benefits such as retirement accounts would account for a large part of the differences in the gender gap.

This paper further finds that the gender wealth gap in the U.S. is smaller than estimated in previous research (Chang, 2010; Conley & Ryvicker, 2004; Schmidt & Sevak, 2006). There are a number of potential reasons for this decrease. First, prior to this paper the most recent data used to examine the gender wealth gap were collected in 2004, which found that never married female headed households owned only \$0.06 for every dollar owned by never married male headed households (Chang, 2010). It is possible that between 2004 and the period of time that this study's data were collected (2010-2012), the gender wealth gap decreased significantly. However, this seems unlikely to explain the entirety of the decrease, as previous research has

⁵ Although the gender wealth gap increases substantially in the multivariate results, for comparison purposes, descriptive results are used and the Germany studies do not conduct comparable regressions.

also indicated that women homeowners were more likely to receive subprime mortgages and experience foreclosure during and after the Great Recession (Cheng, Lin, & Liu, 2011; Van Rensselaer, Blackstone, Crabb, & Gordon, 2014). It is further possible that individual wealth measures yield very different results than household level measures. An individual level measure not only allows the gender wealth gap to be examined among married individuals but changes the gender wealth gap among singles as well. Supplementary analyses show that the average single-headed and divorcee-headed household contains more than one adult (available from the author upon request). Furthermore, less than half of the widows in this study indicated they were not a head of household. Thus, household level wealth measures may miss a substantial number of adults, adults that may differ in significant ways from adults who serve as the head of households. Supplementary analyses help to confirm this. Using SIPP's household level net worth measure, the gender wealth gap is substantially larger as compared to the individual level measures (available from author upon request). The gap does not increase to the level seen by Chang (2010), but it does help to explain a portion of the difference.

Although this paper finds that the gender wealth gap is both smaller than in Germany and smaller than found in previous research in the U.S., the gap remains significant. The gap is largest among individuals 18-29 years old. However, it is not clear whether this difference is a result of generational differences, or if, as individuals age and accumulate more wealth, the gender wealth gap decreases. The gender wealth gap also differs substantially by race. Black women, according to results, experience the largest gender wealth gap. According to multivariate results, once control variables are included, the wealth gap increases substantially among all marital groups excluding married individuals. Both divorced and never married women own less than half of the wealth owned by comparable men. Black widowed, divorced,

and never married women own over 90% less than black comparable men. However, among the Hispanic population, the gender wealth gap is far less prevalent. Only never-married Hispanic women experience a moderately significant difference in net worth. Further research is needed to understand why these differences exist by race.

This paper can be extended in a number of ways. First, a more robust analysis can be conducted to examine what factors drive the gender wealth gap, such as a decomposition analysis. Secondly, a cross-national comparison of the gender wealth gap should be conducted to examine differentials in other OECD countries in particular. As briefly mentioned, a large amount of research has examined the gender wage gap. Future research could seek to examine what the total gap in economic resources is by gender. Historical trends in the gender differences in wealth and cross-national comparisons should also be conducted.

This study is not without limitations. As is often the case in wealth related research, measurement error may bias results, particularly at the top of the wealth distribution. SIPP does not include assets held overseas; measurement error is particularly likely at the top of the distribution. Although SIPP provides the only nationally representative individual-level data in the United States, for a small number of assets only the household head reports the value of the asset and lists which household member or members own the asset. It is possible that this may result in bias, particularly because these assets include primary residences and vehicles that make up a large proportion of the net worth among those in the bottom half of the wealth distribution. SIPP also does not include Social Security and pensions in its asset measurement. This may impact results as is a large source of missing wealth data. Furthermore, SIPP does not oversample individuals at the very top of the wealth distribution, increasing the likelihood of an underestimation. Last, as discussed in the literature review, there is reason to believe that

measuring net worth at an individual level is justifiable and provides important insight into financial stability not captured by examining household measures of wealth. However, separately measuring the wealth of adults who share a household does ignore the role of any potential wealth sharing within households and the impact of this on economic wellbeing.

Despite limitations, results provide the first exploratory comprehensive examination of the gender wealth gap in the U.S. Many questions remain. However, it is clear that differentials in wealth by gender exist. Previous research has clearly shown that wealth plays an important role in individual well-being as well as the wellbeing of children in the household. Yet, research and policy have largely ignored this inequality. In order to effectively address economic inequality by gender, results suggest that wealth must be more thoroughly considered.

Paper 2 : The Drivers of the Gender Wealth Gap in the U.S.

Multiple studies have established that in the U.S., unmarried men, own more wealth than women, particularly if they have never been married (Chang, 2010; Conley & Ryvicker, 2004; Ruel & Hauser, 2013; Schmidt & Sevak, 2006). However, why the gender wealth gap exists is less understood and has received limited attention in research. This paper seeks to address this gap in literature. Specifically, this paper will examine the following questions:

1. To what extent can the gender wealth gap be explained by differences in labor market characteristics, educational attainment, demographic characteristics, and receipt of benefits?
2. Do women receive different penalties and rewards for these characteristics than men?
3. Do the drivers of the gender wealth gap differ by marital status?
4. Do the drivers of the gender wealth gap differ across the wealth distribution?

This paper expands on literature in a variety of ways. First, this is the first paper to examine gender differences in penalties and rewards for labor market characteristics, educational attainment, demographic characteristics, or receipt of benefits and how these differences impact the gender wealth gap in the U.S. Second, this is the first comprehensive examination of the drivers of the gender wealth gap in the U.S. Specifically, it is the first to use an individual-level measure of net worth to consider what drives the gender wealth gap. Lastly, in the U.S., this is the first paper to examine how the drivers of the gap differ by marital status.

2.1 Literature Review

2.1.1 THEORETICAL BACKGROUND

A variety of economic theories have been proposed to explain the drivers of wealth inequality. Piketty (2014) theorizes that the primary threat to wealth equality is an economy in which the rate of return on capital is higher than the rate of growth (denoted as $r > g$). Stiglitz (2012) states the principal threats to wealth equality are political processes, not market forces. Piketty (2014) and Stiglitz (2012)'s theories offer strong theoretical and empirical evidence regarding the drivers of wealth inequality among all wealth holders.

Both Piketty (2014) and Stiglitz (2012) focus on what Therborn (2013) refers to as resource inequality or inequality in income or wealth. Resource inequality is typically not measured until an individual enters adulthood or receives her first paycheck. This initial measurement, ignores the fact that many individuals have already had their life chances stunted due to existential inequality. Existential inequality is an unequal allocation of personhood (Therborn, 2013). Racism, sexism, and caste systems are examples. Resource and existential inequality interact, and Therborn (2013) states that it is important to distinguish between them. Each inequality has differing impacts and trajectories thereby has different causal mechanisms. If one considers Piketty's (2014) $r > g$ theory separately among the male and female population, it is quite possible that the relationship between r and g will differ by gender. For example, women may have a lower rate of return on capital than men due to risk-aversion. Political processes undoubtedly impact men and women differently. In seeking to explain gender differences in wealth, the wealth inequality theories proposed by Piketty (2014) and Stiglitz (2012) are important to consider, but additional factors may need to be considered when existential inequality is examined along with resource inequality.

Sierminska, Frick, and Grabka (2010) provide a model of how existential and resource inequality can interact. The authors state that the accumulation of assets can be described using the following model:

$$A_{t+1} = (1 + r)(A_t + Y_t - C_t)$$

In which r is the gross rate of return on investments, Y_t is income during duration t , and C_t is consumption in period t . The accumulation of assets differs based on the amount saved ($Y_t - C_t$) while the amount saved differs based on income, age, and risk-aversion (Sierminska et al., 2010). Income plays an important role in that although two individuals may save at the same rate, the amount saved will differ based on income level. Previous research has further found that wealth accumulation increases over the lifetime up until retirement (Ando & Modigliani, 1963; Friedman, 1937; Modigliani & Brumberg, 1954) as a result of the individual's position in the life cycle. Lastly, uncertainty about future income and constraints that limit individual's ability to borrow, lead risk averse individuals to accumulate more wealth as a precautionary measure (Kimball, 1990; Zeldes, 1989). Although alternatively, risk preference may further influence the rate of return on investments as risk averse individuals are less likely to have portfolios with risky investments. Consistent differences between groups in any of the factors mentioned will result in wealth inequality according to Sierminska, Frick, and Grabka (2010).

This study is further informed by Chang (2010)'s theory of the "wealth escalator". This theoretical approach will assist in defining the unique mechanisms which influence the gender gap in wealth. The wealth escalator refers to the legal, institutional, and societal mechanisms that allow men to convert income into wealth at a quicker rate than women (Chang, 2010). The wealth escalator omits gender differences in income, which may be due to existential inequality—i.e. gender bias. The specific mechanisms of the escalator include fringe benefits

(employer sponsored retirement plans, paid sick days and vacation days, health insurance, stock options, etc.), favorable tax codes (i.e. the home mortgage deduction), and ways in which government benefits are structured (Social Security, unemployment insurance, welfare, etc.).

Men are more likely to receive fringe benefits, primarily as a result of working full time at a higher rate and due to differences in fields men and women typically work (Chang, 2010). Taxes often work in concert with fringe benefits. This is a result of benefits not being taxed, or being taxed at a lower rate (Chang, 2010). Thus, men are not only more likely to receive fringe benefits but also the tax benefits that accompany them. Government benefits impact the wealth escalator by both disproportionately providing men with tools to build wealth and encouraging women to spend down wealth (Chang, 2010).

2.1.II EMPIRICAL LITERATURE ON DETERMINANTS OF THE GENDER WEALTH GAP

Only a small number of studies have sought to examine determinants of the gender wealth gap, particularly using individual-level data. Without individual-level measures of wealth, the gender wealth gap within married couples cannot be measured. The only individual-level examination of the drivers of the gender wealth gap was conducted in Germany. Sierminska, Frick, and Grabka (2010) use the 2002 German Socio-Economic Panel (SOEP), which included 24,000 individually interviewed individuals⁶. The study uses DiNardo, Fortin, and Lemieux's (1996) decomposition approach (DFL) to examine to what extent the gender wealth gap can be explained by labor market characteristics, education, inter-generational factors, and demographic characteristics. The authors find that labor market characteristics have a strong impact on the gender wealth gap at the median and top of the distribution. Alternatively, at the bottom of the

⁶ The SOEP over samples the top 3% of the income distribution.

distribution, education plays a stronger role compared to the remainder of the distribution. Despite the impact of education and labor market characteristics, a large portion of the gender gap, particularly at the median, remains ‘unexplained’, or a result of differences in the rewards or penalties for characteristics men and women receive. In the lower half of the distribution, the unexplained portion of the gap is negative, indicating that women are rewarded with more wealth than men for the same characteristics (Sierminska et al., 2010).

In the U.S., research has exclusively examined the difference in wealth among unmarried female- and male-headed households. Studies have differed in the way female- and male-headed households were identified, their results, and methodologies. Two studies used the Panel Study of Income Dynamics (PSID) to examine the determinants of the gender wealth gap. Conley & Ryvicker (2004) examined the drivers of the gender wealth gap between female- and male-headed households between the years of 1984 and 1989. OLS regressions revealed that the rate of saving was a substantial contributor to the gender wealth gap. However, Conley and Ryvicker (2004) only included households who report net worth above zero. Schmidt and Sevak (2006) also used the PSID to examine the gender wealth gap⁷. Using quantile regressions, the authors found that the largest contributors to the gender wealth gap were life-cycle factors, education, and family earnings. Authors further found that the gender wealth gap differed across the wealth distribution (Schmidt & Sevak, 2006).

Using the Wisconsin Longitudinal study, Ruel & Hauser (2013) examined the gap in net worth among households in which a woman is the considered the Best Financial Reporter (BFR) versus a man⁸. The authors found that the largest determinants of the gap were employment

⁷ Schmidt and Sevak (2006) use the 2001 panel of PSID.

⁸ The 2004 Panel of data was used, at which time respondents were between the ages of 64 and 65.

status, permanent income, and savings. Once again, only positive net worth observations were included (Ruel & Hauser, 2013).

Last, Chang (2010) used the 2004 Survey of Consumer Finance to examine the drivers of the gender wealth gap among single-headed households as well. Also using quantile regressions, results indicate that parenting and the number of children in the household has the largest impact on the gender wealth gap.

2.1.III EMPIRICAL RESEARCH ON GENDER DIFFERENCES IN DETERMINANTS OF WEALTH

Although previous research on the drivers of the gender wealth gap have been limited, a larger number of studies have identified gender differences in specific factors which have been theoretically identified as influencing wealth accumulation. A number of studies have indicated that income differs between men and women. Warren, Rowlingson, & Whyley (2001) state that a gap in net worth by gender is at least in part due to lower labor force participation among women. Women's labor force participation is more likely to be interrupted due to child bearing and child rearing (Berger & Denton, 2004). Women are also more likely to work part-time (Bardasi & Gornick, 2008). Men and women further experience differences in earnings; the ratio of female to male median earnings is 80.5% (Semega et al., 2017). Jianakoplos & Bernasek (1998), find that women are more risk averse and thus have more conservative investment patterns than men.

Previous literature further shows that a number of other factors may influence the gender wealth gap. Female single-headed households are more likely include children which results in less wealth (Chang, 2010). Women are more likely to have inherited their wealth as opposed to accumulating it independently (Edlund & Kopczuk, 2009). Therefore, inheritance may be an

important consideration in examining what drives (or reduces) the gender wealth gap. Conley & Ryvicker (2004), find that inheritances do in fact impact the gender wealth gap among single-headed households. Race, particularly among black individuals, has been found to have a substantial impact on wealth accumulation (Fox, 2016; Kocchar & Fry, 2014; Oliver & Shapiro, 1990; Shapiro, 2017). However, race may have a differing impact on wealth depending on gender. Chang (2010) found that black and Hispanic women experience a larger gender wealth gap as compared to white and Asian individuals. The number of marriages may also impact the gender wealth gap. Divorce is associated with economic loss, and men are more likely to remarry (Schoen & Standish, 1995). However, the economic impact of divorce in the U.S. greatly depends on whether the divorce takes place in a community property state, in which assets accrued during marriage are split evenly in divorce proceedings.

2.2 Data and Methods

This study utilizes the 2008 Panel of the Survey of Income and Program Participation (SIPP). SIPP is a longitudinal survey of repeated nationally representative samples. The 2008 Panel consists of 52,000 households. The sample is representative of the U.S. civilian non-institutionalized population. SIPP is particularly well-suited to analyze the gender wealth gap for three reasons. First and most importantly, the SIPP interviews all household members 15 years or older. This differs from other surveys that typically only interview the household head. As a result, assets and liabilities can be measured at an individual level⁹. Second, SIPP provides a more comprehensive list of assets and liabilities than is available in the majority of survey data. A list of assets and liabilities included in SIPP can be found in Table 1:1. Third, SIPP

⁹ Educational savings accounts, primary residence, and vehicles are only measured at a household level. However, ownership of joint assets can be inferred from the reported list of owners.

oversamples low-income households. Although low-income is not equivalent to low wealth, it does increase the probability of SIPP accurately capturing wealth at the bottom of the distribution. Although other surveys oversample the top of the distribution, this is not often done at the bottom. The gender wealth gap may arguably have a greater impact on the wellbeing of women at the bottom of the distribution in which a small difference in wealth may translate into a large difference in financial stability.

2.2.I MEASURES

Individual level assets and liabilities (As listed in Table 1:1) are the primary variables of interest. The 2008 Panel of SIPP measures assets and liabilities in three waves, wave 4 in 2009, wave 7 in 2010, and wave 10 in 2011. For the purposes of this paper, the waves are pooled for the analyses. Net worth is measured as the sum of individually owned assets minus liabilities. Although, as stated, SIPP measures wealth at an individual level; assets and/or liabilities in relation to the primary residence, other property, and vehicles are reported at a household level. However, SIPP includes a reported list of owners for these assets. This is used to determine which household member to attribute ownership to. The value of jointly owned assets is split evenly between the listed owners. Net worth estimates are highly skewed. In order to mitigate the influence of outliers, net worth is transformed using the Inverse Hyperbolic Sine (IHS). The IHS is similar to the logarithmic transformation. However, it can include zero and negative values. Thirty percent of the sample have wealth equal to or less than zero. The IHS is therefore a more suitable transformation for this analysis.

As informed by literature and theory, four categories of potential drivers of the gender wealth gap are considered: labor market experience, educational attainment, demographic characteristics, and receipt of benefits. Labor market experience includes: employment status

(working full time, working part time, not employed, or hours vary), number of months unemployed throughout panel, number of months not employed and not seeking employment throughout panel, ever retired from a job, and average monthly income (the sum of monthly income reported in all survey waves divided by the number of observations available).

Educational attainment is measured as whether the respondent has less than a high school diploma, a high school diploma or GED or equivalent, some college or post high school education, bachelor's degree, or more than undergraduate degree. Demographic variables include: race (white non-Hispanic, black non-Hispanic, Asian, Hispanic, and other), nativity, number of times married, age, children in the household under the age of 18, and living in a community property state. Receipt of benefits includes recipients of employer provided health insurance and/or receipt of TANF in reference year.

2.2.II ANALYTIC STRATEGY

Analyses begin by descriptively presenting the mean nominal net worth, net worth at the 10th, 25th, 50th, 75th, and 90th percentile, and relative wealth position¹⁰. The mean and median of IHS transformed wealth are also presented among individuals over the age of 18, stratified by gender and marital status. Next, the mean or proportion of each individual driver is presented, stratified by marital status and gender.

Blinder-Oaxaca decompositions are then conducted separately by marital status. The Blinder-Oaxaca decompositions are conducted using the Stata extension for Blinder-Oaxaca decompositions (Jann, 2008). Using this methodology, the mean gender wealth gap is broken down and described in components. The first is the “endowment effect” which is the amount of

¹⁰ The mean wealth of the relevant gender and marital status group divided by total wealth multiplied by one hundred.

the mean gender wealth gap attributable to differences in characteristics. In other words, the endowment effect describes, in the case of this paper, to what degree would the gender wealth gap change if women had the same labor market, educational, and demographic characteristics as men. The second component is the difference in wealth between men and women that occurs as a result of coefficients, including the intercept. In other words, do men receive different rewards or penalties, in the form of wealth, for certain characteristics as compared to women. The last component is an interaction term of endowments and coefficients. This component is included to capture how the other two components interact to impact the gender wealth gap. However, the interaction term typically plays a negligible role (Jann, 2008).

An additional semi-parametric decomposition approach as proposed by DiNardo, Fortin, & Lemieux (1996) is used to examine the drivers of the gender wealth gap. This technique uses reweighting and comparisons of probability density functions to determine numerous counterfactual distributions. The resulting distributions allow researchers to determine the impact of specific factors on the overall gap. The DiNardo et al. (1996) semi-parametric decomposition technique builds on the Blinder-Oaxaca decomposition results, as it allows researchers to examine the determinants of the gender wealth gap at differing points across the wealth distribution. This methodology has been used in a number of previous studies to measure the drivers of wealth inequalities experienced by sub-populations (Cobb-clark & Hildebrand, 2006; Sierminska et al., 2010). For example, the differences in wealth by gender:

$$(1) g^{(F,M)} = g^F(w) - g^M(w)$$

In which $g^j(\cdot)$ is the marginal distribution of wealth (w) for gender j ($j = M, F(\text{men, women})$).

Individual characteristics (x) can also be included as follows:

$$(2) g(w) = \int f(w|x)f_x(x) dx$$

Individual characteristics (x) include the four previous mentioned categories: labor market experience (l), educational attainment (e), demographic characteristics (d), . Thus, $x = (l, e, d, r)$. The densities can then be estimated separately by gender and include individual characteristics:

$$\begin{aligned}
 g^j(w) &= g(w|j) = \int_l \int_e \int_d \int_r f^j(w, l, e, d, r | j = i) dlde ddr = \\
 &= \int_l \int_e \int_d \int_r f^j(w|l, e, d, r, j = i) f_x(l, e, d, r | j = i) dlde ddr = \\
 (3) \quad &= \int_l \int_e \int_d \int_r f^j(w|l, e, d, r, j = i) \int_{l|e d r} (l|e, d, r, j = i) \int_{e|d r} (e|d, r, j = \\
 & \quad i) \int_{d|r} (d|r, j) \int_r (r|j) dlde ddr
 \end{aligned}$$

A series of counterfactual densities can then be estimated, including: what the wealth distribution of women would be if they had the same labor market experience (l) as men:

$$\begin{aligned}
 (4) \quad & g_{CF}^1 \int_l \int_e \int_d \int_r f^F(w|l, e, d, r, j = F) f_{l|e d r} (l|e, d, r, j = M) f_{e|d r} (e|d, r, j = F) f_{d|r} \\
 & \quad (d|r, j = F) f_r (r|j = F) dlde ddr
 \end{aligned}$$

This can then be compared to a second counterfactual (g_{CF}^2) describing the wealth distribution of males if they had the labor market experience and education of women. The third counterfactual (g_{CF}^3) is the wealth distribution of males if they had the same labor market experience, education, and demographic characteristics of women. The last counterfactual is the wealth distribution of males if they had the labor market experience, education, demographic characteristics of women, and receipt of benefits (g_{CF}^4).

The decomposition would then be as follows:

$$\begin{aligned}
 \Delta g^{(F,M)} &= \\
 (5) \quad &= g^F(w) - g^M(w) = [g^F(w) - g_{CF}^1(w)] + [g_{CF}^1(w) - g_{CF}^2(w)] + \\
 & \quad [g_{CF}^2(w) - g_{CF}^3(w)] + [g_{CF}^3(w) - g_{CF}^4(w)] + [g_{CF}^4(w) - g^M(w)]
 \end{aligned}$$

The ordering of these components may impact the results. Therefore, I estimate the results for all possible orderings and present results of the average across all results. In order to estimate the counterfactual distributions g_{CF}^1 through g_{CF}^4 , I use the following reweighting function as proposed by DiNardo et al. (1996):

$$(6) \quad g_{CF}^1(w) = \int_l \int_e \int_d \int_d \Psi_{l|edr} f^F(w|l, e, d, r, j = F) \times f_{l|edr}(l|e, d, r, j = F) \times f_{e|dr}(e|d, r, j = F) \times f_{d|r}(d|r, j = F) \times f_r(r|j = F) dl dedddr$$

In which:

$$(7) \quad \Psi_{l|edr} = \frac{P(j = M|l, e, d, r)P(j=F|e,d,r)}{P(j = F|l, e, d, r)P(j=M|e,d,r)}$$

g_{CF}^2 , g_{CF}^3 , and g_{CF}^4 are constructed similarly. Counterfactuals are also constructed to analyze the reverse of the above described equations, by analyzing what the wealth distribution of men would be if they had the same characteristics as women. This reverse decomposition will also be done in the case of the Blinder-Oaxaca decomposition.

2.3 Results

Table 2:1 describes the net worth of respondents stratified by gender and marital status. Results showed that mean net worth values were slightly higher among men than women among all marital statuses. The largest difference was \$50,000 among widowed men and women. The smallest difference was among never married men and women. However, the gender wealth gap varied at differing points across the distribution. Among all marital statuses, unsurprisingly the gender gap was largest at the 90th percentile. At the 25% percentile both men and women owned an average of \$0 in wealth. The relative size of the gap between marital statuses stayed consistent across the distribution. It is also important to note when looking at Table 2:1, the difference in mean and median (50% percentile) net worth, which confirms, as previously

mentioned, that net worth was highly skewed. Once net worth was transformed using the Inverse Hyperbolic Sine, the relative gap between marital statuses changed dramatically. Never married individuals experienced the largest IHS net worth gender gap. Married individuals had the smallest and widowed the second smallest gap when using the IHS net worth.

Table 2:1 confirms previous research, showing there is in fact a gender wealth gap in the U.S. However, the gender wealth gap was smaller than previously estimated, due at least in part to the inclusion of married individuals (Chang, 2010; Conley & Ryvicker, 2004; Schmidt & Sevak, 2006). However, it is still unclear why this gap exists. Table 2:2, presents descriptive statistics of the four characteristics of potential drivers identified in theory and previous literature: labor market characteristics, educational attainment, demographic characteristics, and receipt of benefits. Results are stratified by gender and marital status. Results indicate that men and women not only differed in wealth holdings but also in a number of characteristics that played a role in determining wealth accumulation. Within every marital group, men earned a statistically significant greater average income than women. In fact, men and women differed significantly, regardless of marital status, among nearly all labor market variables. Men were, on average, more likely to work fulltime while women were more likely to report not being employed. When not working, men and women had different experiences as well. Men spent a greater number of months unemployed and seeking work. Alternatively, women spent more months not working and not seeking employment. Retirement rates also differed among all marital groups excluding widowed individuals. This was likely due to the typical age of widows, who regardless of gender, were likely to have retired. However, which gender experienced more retirement differed among the remaining groups. Among married individuals, men retired more yet among never married individuals, women were more likely to report having retired.

Table 2:1 Net Worth by Gender and Marital Status, 2011 Dollars

	Male					Female				
	Total	Married	Widowed	Divorced	Never married	Total	Married	Widowed	Divorced	Never married
Net wealth (nominal)										
Mean	101,631	136,557	212,474	89,933	32,077	88,071	109,116	162,865	76,472	21,963
10%	-5,533	-4,893	0	-6,340	-7,517	-7,458	-6,509	0	-9,674	-11,598
25%	0	3,432	5,254	0	0	0	1,368	2100	0	0
50%	12,875	49,770	99,113	7,455	31	12,600	42,420	82,400	5,246	0
75%	110,250	165,900	273,439	86,339	7,133	105,149	140,207	218,073	77,714	5,790
90%	301,933	386,000	557,643	258,015	72,100	263,912	299,434	430,404	231,735	54,206
Relative wealth position	107	144	226	96	34	93	115	173	81	23
IHS* transformed net worth										
Mean	6.42	8.13	9.72	6.05	3.15	6.05	7.51	9.13	5.19	2.28
Median	10.16	11.51	12.20	9.61	4.12	10.13	11.35	12.01	9.26	0
Gender specific population share in %	100	58	3	11	28	100	52	10	15	23
Overall pop. Share in %	47	27	2	5	13	53	27	6	8	12
N	90,864	52,834	2,899	10,069	25,062	102,494	53,076	10,741	15,259	23,418

* Abbreviation for Inverse Hyperbolic Sine

Table 2:2 Descriptive Statistics of Labor Market Characteristics, Education, and Demographics by Marital Status and Gender

	Married			Widowed			Divorced/separated			Never married		
	Men	Women	sig.	Men	Women	sig.	Men	Women	sig.	Men	Women	sig.
Labor market characteristics												
Average monthly income (\$)	3,076 (3,842)	1,619 (2,351)	***	679 (2,223)	388 (1,078)	***	2,122 (2,871)	1,636 (2,178)	***	1,420 (1,977)	1,231 (1,791)	***
Employment status			***			***			***			***
Fulltime	0.60	0.41		0.14	0.11		0.51	0.46		0.43	0.38	
Part time	0.07	0.14		0.06	0.06		0.09	0.12		0.15	0.17	
Not employed	0.31	0.43		0.79	0.82		0.38	0.40		0.38	0.41	
Varies	0.02	0.02		0.01	0.01		0.03	0.02		0.04	0.04	
Number of months unemployed	2.03 (5.96)	1.76 (5.40)	***	0.79 (3.72)	0.65 (3.33)	*	3.23 (7.53)	2.61 (6.55)	***	4.57 (8.19)	3.72 (7.32)	***
Number of months not seeking employment	13.96 (23.10)	22.15 (25.93)	***	41.87 (24.95)	45.32 (23.65)	***	15.46 (23.09)	18.52 (24.56)	***	14.45 (19.80)	16.92 (20.93)	***
% Ever retired	0.25	0.21	***	0.76	0.78		0.20	0.20	*	0.03	0.05	***
Education												
Educational Attainment			***			***			***			***
Less than a high school diploma	0.09	0.09		0.23	0.21		0.11	0.10		0.13	0.11	
H.S. diploma or equivalent	0.27	0.27		0.32	0.37		0.30	0.27		0.35	0.30	
Some college	0.12	0.13		0.10	0.11		0.14	0.15		0.21	0.23	
Associates or trade certificate	0.20	0.20		0.17	0.17		0.25	0.26		0.14	0.15	
Bachelor's degree	0.19	0.20		0.12	0.08		0.12	0.14		0.13	0.15	

More than bachelor's	0.13	0.11		0.07	0.05		0.08	0.08		0.04	0.06	
Demographic characteristics												
Race			***			***			***			***
White non-Hispanic	0.75	0.74		0.77	0.74		0.73	0.69		0.62	0.56	
Black non-Hispanic	0.07	0.07		0.14	0.13		0.13	0.15		0.15	0.22	
Asian	0.04	0.05		0.02	0.03		0.02	0.02		0.05	0.04	
Hispanic	0.11	0.11		0.05	0.07		0.09	0.10		0.14	0.14	
Other	0.02	0.03		0.03	0.03		0.04	0.03		0.04	0.04	
% Born in the U.S.	0.84	0.83	**	0.91	0.88	***	0.89	0.88	**	0.86	0.88	***
% Receipt of employer provided health insurance	0.63	0.63	*	0.29	0.24	***	0.44	0.44		0.45	0.47	***
Age			***			***			***			***
18-29	0.06	0.09		0.01	0.01		0.04	0.05		0.61	0.58	
30-44	0.27	0.30		0.03	0.02		0.26	0.25		0.22	0.22	
45-64	0.44	0.44		0.19	0.19		0.53	0.52		0.15	0.16	
65+	0.22	0.17		0.77	0.78		0.17	0.18		0.03	0.04	
% Children in home	0.43	0.44		0.10	0.11	*	0.15	0.32	***	0.23	0.37	***
% Receipt of TANF	0.00	0.01	***	0.00	0.01	**	0.01	0.03	***	0.01	0.04	***
Number of times married	1.21 (0.56)	1.19 (0.54)	***	1.24 (0.54)	1.27 (0.59)	*	1.27 (0.62)	1.27 (0.64)				
% Lives in community property state	0.16	0.16		0.14	0.15		0.16	0.17	*	0.36	0.36	
N	52,834	53,076		2,899	10,741		10,069	15,259		25,062	23,418	

Note: Results are presented as means or proportions and standard deviations are enclosed in parenthesis. Chi-square tests for categorical variables and t-tests for dichotomous and continuous variables were used to calculate statistical significance. ***p<.001 **p<.01 *p<.05 † p<.1

Education, race, nativity, age, and receipt of TANF further differed within each marital group by gender. Women were more likely to report having children in the household in all non-marital groups. It is clear that men and women differ significantly in a number of different characteristics that are associated with wealth accumulation, according to previous research. However, it is unclear the extent to which these characteristics impact the gender wealth gap.

2.3.I BLINDER-OAXACA DECOMPOSITION RESULTS

The Blinder-Oaxaca decomposition results (Table 2.3) aim to examine how the average woman's wealth would change if she had the average characteristics of a man. This is examined separately by marital status. Results among married individuals showed that on average, women owned 7% less wealth than men (0.599 less using IHS transformed wealth measure). Interestingly, the endowments, or the differences in characteristics, explained over 127% of this gap, and coefficients, or the difference in returns, explained an additional 25%. The total decomposition was brought back to 100% due to the interaction term. The detailed decomposition (Panel B) illustrates that the largest contributor to the endowments were labor market characteristics, followed by demographic characteristics. Each significant result was negative as expected, meaning differences in demographics, education, and labor market characteristics by gender increased the gender wealth gap. Receipt of benefits was not a statistically significant endowment. Among the coefficient results, only a difference in labor market characteristics and receipt of benefits were found to be statistically significant. The coefficient results indicated that women received less of an award for labor market characteristics than men. This is consistent with previous literature examining the gender wage gap, as previously discussed. On the other hand, results indicated that women received greater rewards for the receipt of benefits than men on average. As a reminder, benefits include

employer provided health insurance and TANF. In further analyses not shown (available from author upon request), receipt of TANF and receipt of employer provided health insurance were included separately in the decomposition. Results indicated that the significant difference in the coefficient of receipt of benefits was primarily a result of differences in rewards for employer provided insurance. This is contrary to the wealth escalator theory, which identified employer provided health insurance as a mechanism which assists men in converting income into wealth at a greater rate than women (Chang, 2010). However, Chang (2010) focused the application of the theory on unmarried households. Results indicated that this component of Chang (2010)'s theory may not be applicable to married individuals.

Table 2:3 Blinder-Oaxaca Decomposition Analysis of Wealth by Marital Status

	Married	Widowed	Divorced/ separated	Never married
Panel A. Overall decomposition results				
Women	7.784*** (223.53)	8.947*** (143.55)	5.249*** (76.13)	2.366*** (46.35)
Men	8.382*** (249.41)	9.624*** (84.45)	6.199*** (77.79)	3.156*** (66.53)
Difference	-0.599*** (-12.37)	-0.677*** (-5.21)	-0.950*** (-9.02)	-0.790*** (-11.33)
Endowments	-0.759*** (-22.72)	-0.289*** (-4.20)	-0.453*** (-6.95)	-0.108** (-2.76)
Coefficients	-0.150** (-2.99)	-0.432*** (-3.50)	-0.706*** (-6.60)	-0.771*** (-10.74)
Interactions	0.311*** (8.53)	0.0437 (0.78)	0.209** (3.08)	0.0886* (2.09)
Panel B. Detailed decomposition results				
Endowments				-
Labor market characteristics	-0.431*** (-16.07)	-0.0495 (-1.38)	-0.261*** (-6.98)	0.0559*** (-3.32)
Education	-0.0274*** (-5.22)	-0.0542* (-2.08)	0.0352*** (3.61)	0.00803 (0.89)
Demographic characteristics	-0.295*** (-18.24)	-0.0807 (-1.78)	-0.159*** (-3.57)	-0.018 (-0.71)
Receipt of benefit	-0.00522 (-1.05)	-0.105*** (-4.32)	-0.0693** (-2.66)	-0.0417 (-1.92)
Coefficients				
Labor market characteristics	-1.185*** (-4.71)	1.096 (1.44)	0.000846 (0.00)	-0.105 (-0.30)
Education	0.0187 (1.16)	-0.0618 (-0.90)	-0.00394 (-0.08)	0.0728 (1.49)
Demographic characteristics	0.0994 (0.40)	0.238 (0.29)	-0.212 (-0.39)	-0.417 (-1.30)
Receipt of benefit	0.199** (2.93)	-0.232** (-2.73)	-0.0917 (-0.81)	0.0346 (0.50)
Interaction				
Labor market characteristics	0.301***	-0.0174	0.101*	0.0393

	(8.73)	(-0.41)	(2.38)	(1.90)
Education	0.0038	-0.00695	-0.00524	-0.0217
	(1.02)	(-0.32)	(-0.50)	(-1.69)
Demographic characteristics	0.000368	0.0152	0.0549	0.0265
	(0.04)	(0.56)	(1.14)	(0.94)
Receipt of benefit	0.00555	0.0529*	0.0584*	0.0445
	(1.28)	(2.57)	(2.25)	(1.92)

Note: Standard errors are presented in parentheses. Significant levels are indicated as: *p < 0.05, **p < 0.01, ***p < 0.001.

The Blinder-Oaxaca decomposition results differed greatly among the non-marital groups. Among all groups, coefficients explained a larger portion of the difference than endowments. The opposite was true among married individuals. According to the detailed composition however, none of the coefficients was statistically significant among non-marital individuals, excluding the receipt of benefits among the widowed. Results indicated that widowed men received a greater reward for benefits than widowed women. The difference of rewards for the receipt of benefits among the widowed was once again a result of employer provided insurance as determined by analyses not presented (available upon request). Contrary to the married results, the coefficient results for the receipt of benefits confirmed the wealth escalator theory; widowers received a greater reward for benefits than widowed women.

The endowments among non-marital groups, although smaller than the coefficients, continued to have a statistically significant impact on the mean gender wealth gap. However, the detailed decomposition revealed that the specific characteristics impacting the gender wealth gap differed by marital status. Differences in labor market characteristics were found to contribute to the gap among divorced and never married individuals but not among widows. Differences in demographic characteristics had a relatively large impact on the gender wealth gap among divorced individuals. Differences in education further impacted the gap among widowed and divorced individuals although at a smaller magnitude. Lastly, receipt of benefits had a small but

statistically significant impact on widowed and divorced individuals. All results were negative, confirming that differences in each group characteristics by gender explained a portion of the gender wealth gap, excluding education among the divorced. Results indicated that if women had the same educational characteristics as divorced men, the gender wealth gap would increase. This is likely a result of divorced women being slightly more likely to have reported having a associate or bachelor degree (as shown in Table 2:2).

In summary, the Blinder-Oaxaca decomposition provided interesting results. First, the majority of the gender wealth gap among married women was a result of differences in characteristics from married men. Alternatively, among non-marital individuals, differences in rewards and penalties for specific characteristics explained the majority of the gap. However, it did not appear to be a result of differences in payoff from any specific category of drivers. Differences in labor market characteristics resulted in the largest endowment difference among all groups excluding widows. This was unsurprising, as widows are typically retired and no longer in the labor market.

It is important to keep in mind that the Blinder-Oaxaca results are based exclusively on the gap in mean IHS net worth among men and women. It is possible that the drivers of the gender wealth gap differ at various points across the wealth distribution. Thus, DiNardo-Fortin-Lemieux decompositions are additionally conducted.

2.3.II DINARDO-FORTIN-LEMIEUX DECOMPOSITION RESULTS

As previously described, the DFL decomposition allowed for a comparison of the gender wealth gap across the distribution of wealth. Similar to the Blinder-Oaxaca decomposition, potential drivers of the gap were grouped into four categories: labor market characteristics, educational attainment, demographic characteristics, and receipt of benefits. The DFL

decomposition was done sequentially according to the four groups of covariates and separately for each marital group.

The results of the DFL decomposition among the married group (Table 2:4) indicated that throughout most of the distribution, differences in labor market characteristics had the largest impact on the gender wealth gap. However, the drivers of the gender wealth gap differed across the distribution. At the bottom of the distribution, demographic characteristics played the largest role in impacting the gender wealth gap. This was consistent with analyses of the gender wealth gap in Germany (Sierminska et al., 2010). Similar to the Blinder-Oaxaca results, across the distribution, if women had men's receipt of benefits, the gap would increase slightly. In other words, women derive more wealth from their own characteristics than they would from men's. However, receipt of benefits had a relatively small impact on the gap. A small percentage of the gender gap remained unexplained at the 90% and 25% percentiles. However, at each other point in the distribution, results indicate that the differences in characteristics explain more than 100% of the gap. Thus, if women had the same characteristics as men and received the same reward for these characteristics that women typically do, women's wealth would actually be greater than men's wealth. However, men received less of a reward than women according to results.

Table 2:5 provides the DFL decomposition results for widowed individuals. Labor market characteristics explain less of the gender gap throughout the distribution excluding at the 10th percentile. This was unsurprising, due to the higher average age among widows and their higher likelihood of having retired. It's possible that individuals at the 10th percentile were alternatively less likely to have retired as a result of financial constraints. Other characteristics do not make up for the smaller effect of labor market characteristics. A larger portion of the gap remains unexplained among the widowed.

Table 2:4 DFL Wealth Decomposition Results Across the Wealth Distribution Among Married Individuals

	Wealth gap	Labor market characteristics	Education	Demographic characteristics	Receipt of benefit	Unexplained
Standard deviation of wealth	0.298	0.192	0.009	0.156	0.006	0.064
Percentile of wealth distribution						
10 th	-0.319	0.308	0.062	0.346	-0.012	-0.385
%	100	-97	-19	-108	4	121
25 th	-0.745	0.474	-0.006	0.243	-0.036	0.071
%	100	-64	1	-33	5	-10
50 th	-0.172	0.196	0.002	0.094	-0.010	-0.111
%	100	-114	-1	-55	6	65
75 th	-0.164	0.151	0.006	0.054	-0.003	-0.044
%	100	-92	-4	-33	2	27
90 th	-0.221	0.154	0.010	0.042	0.001	0.015
%	100	-70	-5	-19	0	-7

Table 2:5 DFL Wealth Decomposition Results Across the Wealth Distribution Among Widowed Individuals

	Wealth gap	Labor market characteristics	Education	Demographic characteristics	Receipt of benefit	Unexplained
Standard deviation of wealth	0.344	0.015	0.030	0.023	0.061	0.261
Percentile of wealth distribution						
10 th	-0.016	0.076	0.028	-0.006	0.049	-0.130
%	100	-475	-175	38	-306	813
25 th	-1.036	0.351	0.092	-0.011	0.168	0.436
%	100	-34	-9	1	-16	-42
50 th	-0.282	0.121	0.051	0.008	0.045	0.056
%	100	-43	-18	-3	-16	-20
75 th	-0.260	0.100	0.055	0.008	0.019	0.078
%	100	-38	-21	-3	-7	-30
90 th	-0.305	0.089	0.066	0.003	0.010	0.137
%	100	-29	-22	-1	-3	-45

The divorced group's DFL decomposition is presented in Table 2:6. Similar to the married group, labor market characteristics explained the largest portion of the gap throughout the majority of the distribution. Other characteristics among divorced individuals served to increase the gender wealth gap. The unexplained portion is as particularly large among the divorced.

Lastly, Table 2:7 provides the never married DFL decomposition results. At the bottom of the distribution, only educational attainment and to a small extent receipt of benefits were associated with a decrease in the gender wealth gap. At the median and above, labor market characteristics decreased the gender wealth gap by around 40%. At the median demographic, characteristics also decreased the gap significantly. The unexplained portion of the gender wealth gap among never married individuals was particularly overwhelming.

Table 2:6 DFL Wealth Decomposition Results Across the Wealth Distribution Among Divorced or Separated Individuals

	Wealth gap	Labor market characteristics	Education	Demographic characteristics	Receipt of benefit	Unexplained
Standard deviation of wealth	0.517	0.029	-0.025	0.020	-0.010	-0.532
Percentile of wealth distribution						
10 th	-0.651	0.023	0.032	-0.060	0.016	0.640
%	100	-4	-5	9	-2	-98
25 th	-0.962	0.401	-0.080	-0.099	-0.020	0.760
%	100	-42	8	10	2	-79
50 th	-0.478	0.354	-0.079	-0.103	-0.025	0.331
%	100	-74	17	22	5	-69
75 th	-0.177	0.227	-0.053	-0.066	-0.012	0.081
%	100	-128	30	37	7	-46
90 th	-0.173	0.186	-0.039	-0.043	-0.008	0.077
%	100	-108	23	25	5	-45

Table 2:7 DFL Wealth Decomposition Results Across the Wealth Distribution Among Never Married Individuals

	Wealth gap	Labor market characteristics	Education	Demographic characteristics	Receipt of benefit	Unexplained
Standard deviation of wealth	0.297	0.064	-0.173	0.059	-0.049	-0.198
Percentile of wealth distribution						
10 th	-0.540	-0.038	0.211	-0.069	0.030	0.406
%	100	7	-39	13	-6	-75
25 th	-0.495	-0.012	0.055	-0.017	0.006	0.463
%	100	2	-11	3	-1	-94
50 th	-2.248	0.872	-1.111	0.953	-0.566	2.099
%	100	-39	49	-42	25	-93
75 th	-0.248	0.116	-0.165	0.015	-0.049	0.331
%	100	-47	6	-6	20	-133
90 th	-0.254	0.096	-0.164	-0.058	-0.040	0.419
%	100	-38	65	23	16	-165

2.3.III REVERSE DECOMPOSITION

Blinder-Oaxaca and DFL decompositions were further done with the reverse group omitted. In other words, if men had the same characteristics as women, how would their wealth change? The reversed Blinder-Oaxaca results did not change drastically (Appendix Table A:1) from those discussed above. However, among the DFL decompositions, there were substantial differences. The most substantial were that labor market characteristics often had a much smaller impact on the gap and that the unexplained portion increased for all but the never married group, for whom the unexplained portion decreased dramatically. This may have been a result of differences in men's and women's wealth and their coefficients.

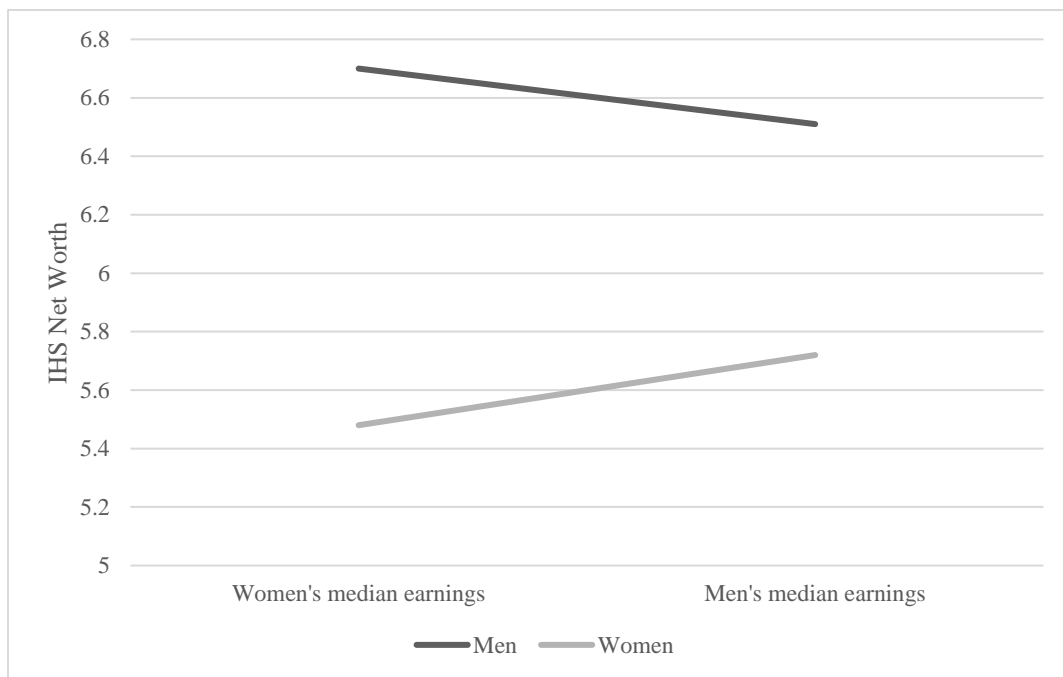


Figure 2:1 Wealth Returns as a Result of Income

It is possible that when women have characteristics similar to men at the same percentile, their wealth may be nearly identical to that of men. However, among men who have similar characteristics as women, wealth may be very different. This could occur as a result of difference in values and differences in returns. Figure 2:1, gives one such example seen in the results of this

study. Figure 2:1 illustrates the average wealth of men and women if they were to have the median income of men and the median income of women. Results show that when men and women both had men's median earnings, the gender wealth gap was small as compared to when men and women had women's median earnings.

There is no straight-forward answer to which set of results offers a more accurate description of the impact of labor market, educational, demographic characteristics, and receipt of benefits on the gender wealth gap (Jones & Kelley, 1984). However, in practice or in terms of potential interventions, it seems unlikely that policies and programs would seek to lower the characteristics of men in order to address the gender wealth gap. It is more likely that policies and programs would instead aim to improve the labor market characteristics and educational attainment of women in order to increase their wealth to the point at which it is equal to men. Thus, the first set of results is more practically relevant. However, the reverse composition results are available for the reader's consideration in the Appendix A.

2.4 Discussion

In summary, results reveal that only a small fraction of the gender wealth gap among divorced and never married individuals is attributable to differences in labor market characteristics, education, demographic characteristics, and receipt of benefits.¹¹ The majority of the gap is instead found to be a result of differences in rewards or penalties for characteristics. On the other hand, among married individuals, across the majority of the distribution, the gender gap can largely be explained by differences in characteristics. Widowed individuals fall somewhere in the middle. Throughout most of the distribution, differences in characteristics

¹¹ Small exceptions can be seen at the 75th and 90th percentile among divorced individuals where the unexplained portion explains around half, not the majority, of the gap.

explain more of the gap than among divorced and never married individuals yet less than married (around 20%-40%).

Determinants of the gap differ across the wealth distribution. The largest proportion of the gap attributable to differences in rewards or penalties for characteristics is found at the bottom 25% of the distribution.¹²¹³ Looking at the 25th percentile and above among the unmarried (I will return to the 10th percentile shortly), differences in characteristics explain the largest portion of the gap in the widowed (an average of 61%), followed by the divorced (54%). Differences in characteristics explain a negative portion of the gap among the never married on average (-14%). This average is a result of the 75th and 90th percentiles where the unexplained portion of the gap is greater than 100%. If never married women at the 75th and 90th percentiles had the same characteristics as men, the gender wealth gap would increase. One possible explanation is difference in risk-aversion by gender. Men are typically less risk-averse which is also found to be associated with greater wealth outcomes (Jianakoplos & Bernasek, 1998; Sierminska et al., 2010). It is possible that this would not apply to never married women below the 75th percentile due to a lack of assets available to reflect risk preferences. Another possible explanation is Chang's (2010) theory of the wealth escalator which states that men have access to mechanisms which allow them to convert income into wealth at a quicker rate than women.

According to the Blinder-Oaxaca results, which capture the gap at the mean, men receive a greater reward for characteristics among all marital groups. The DFL results indicate that this is not necessarily the case throughout the distribution. At the 10th percentile among the married and widowed, results indicate that women receive greater rewards for characteristics than men. There

¹² However, among never married individuals the largest unexplained portion is at the top of the distribution.

¹³ The DFL results do not provide the interaction term like the Blinder-Oaxaca decomposition. Thus, the DFL 'unexplained' portion is a combination of the Blinder-Oaxaca's coefficient and interaction terms. However, the discussion section will assume the DFL results do in fact reflect differences in rewards.

are two possible explanations. First, this could again reflect differences in risk-aversion. It is possible that because women are on average more risk averse, they accumulate more wealth as a precautionary measure (Kimball, 1990; Zeldes, 1989). Second, previous literature has indicated that lenders may discriminate based on gender (Baker, 2014; Ladd, 1998; Robinson, 2002). At the 10th percentile both women and men have zero or negative net worth. Thus, it is possible that women with the same characteristics have less debt due to a greater inability to borrow as compared to men.

This study has a number of limitations. There are a number of characteristics identified in previous research as being important potential determinants of the gender wealth gap that were not available in SIPP data including: savings rates, inter-generational characteristics, risk-aversion, and a measure of permanent income. SIPP also does not include Social Security and pensions in its asset measurement. This may impact results as is a large source of missing wealth data. As is often the case in wealth related research, measurement error may bias results, particularly at the top of the wealth distribution. SIPP does not oversample individuals at the very top of the wealth distribution, as was done in the previous research examining the gender wealth gap in Germany (Frick et al., 2007; Sierminska et al., 2010). This may be of particular concern when examining the gender wealth gap at the very top of the wealth distribution as a random sample is unlikely to include enough of these individuals to gain a reliable point estimate, particularly among women who are far less likely to be found at the very top of the distribution (Edlund & Kopczuk, 2009). Furthermore, within married households, there may be further bias within wealth reported by women. In married households, the best financial reporter, or the person in charge of finances, is often the male (Ruel & Hauser, 2013). Thus, married women may be less able to provide a reliable estimate of assets and liabilities.

Despite limitations, the results expand literature in a number of ways. First, this study provides the first comprehensive examination in the United States of the determinants of the gender wealth gap, how rewards for characteristics differ by gender, whether drivers differ by marital status (including married individuals), and how the drivers differ across the distribution. Future research should seek to further build our understanding of what causes the gender wealth gap in the United States. This is particularly true at the bottom of the distribution, where the majority of people have negative net worth. Future research should expand the potential determinants of the gap, particularly in relation to debt, which has been largely ignored in previous research.

Paper 3 : Exploring Comprehensive Gender Economic Inequality in the U.S.

The gender gap in earnings has been examined extensively for several decades. Studies have found that women working fulltime year-round earned roughly 60 percent the amount earned by men working fulltime year-round from at least 1955 until the 1980's (Blau & Kahn, 2017). Throughout the 1980's, women's wages sharply increased as compared to men's wages. The increase has since continued but at a slower rate (Blau & Kahn, 2017; England, 2010; Jarrell & Stanley, 2004; Stanley & Jarrell, 1998; Weichselbaumer & Winter-Ebmer, 2005). Innovative research continues to emerge, particularly studies focused on why the increase in women's earnings, relative to men's, has slowed (England, 2010; Weeden et al., 2016). Despite the slower growth in women's wages, at least one study has suggested the U.S. is still on track to reach earnings parity by 2059 (Semega, Fontenot, & Kollar, 2017).

There is no doubt that gender earnings parity would be an enormous step towards gender economic inequality. However, gender earnings parity may not equate gender economic equality in the way it is commonly perceived. Another economic resource, net worth, has been found to capture financial stability in addition to and in some ways differently from earnings. Net worth is made up of assets and debts. Assets can be used to help smooth consumption when earnings fluctuate and provide economic security for the future (Fox, 2016; Oliver & Shapiro, 1990; Shapiro, 2017). Debt additionally has an impact on wellbeing as it consumes a portion of earnings (Wolff & Zacharias, 2007). Additionally, preliminary research indicates there is a gender disparity in net worth (Chang, 2010; Conley & Ryvicker, 2004; Ruel & Hauser, 2013; Sariscsany, 2019; Schmidt & Sevak, 2006; Yamokoski & Keister, 2006). This paper aims to provide the first attempt to examine gender disparities using a more comprehensive measure of

economic resources which combines earnings and net worth. Results will provide insight into whether inequality is greater, lesser, or the same when using the combined measure as compared to exclusively earnings.

3.1 Literature Review

According to the U.S. Census Bureau (2016), in 2015 the median female-to-male earnings ratio was 0.796. The Census Bureau, similar to the majority of researchers on this topic, measures the gap among full-time year-round workers exclusively in order to exclude individuals who change their work status within the year as the result of life course events (U.S. Census Bureau, 2016). However, there are other approaches to measurement. The Economic Policy Institute examines the median female-to-male hourly wage ratio among all workers. Despite differences in methodology, results are relatively consistent. The Economic Policy Institute finds that the female-to-male wage ratio is 0.827 (Gould, Schieder, & Geier, 2016).

While earnings and wages do provide insight into differences in economic resources by gender, they do not provide a comprehensive picture. To gain a complete picture of the economic position of an individual, it is important to also consider assets and liabilities. Paper 1 of this dissertation found that as a whole the female-to-male wealth ratio in the U.S. is 0.94. This indicated that for the overall population, wealth is distributed more equally by gender than wages. However, further analyses found that results differed substantially by marital status. Never married men and women experienced greater disparity, with a female-to-male-wealth ratio of 0.73. These results indicate that the gender wealth gap may differ in the degree of gender economic inequality it captures as compared to wages. Although, it is important to keep in mind that the sample used to examine the gender wealth gap is not restricted to full-time year-round workers; thus, the ratios for wealth and wages are not directly comparable.

In sum, literature has illustrated that women in the U.S. experience economic disparities in wages and net worth. To my knowledge, there has been no research examining the gender gap in a combined measure of earnings and net worth. Prior to discussing literature on combining net worth and earnings, there are additional factors that must be considered: marital status, race, and parental status. Literature has found that parenthood may decrease wealth due to increased expenses, particularly among women who have a higher likelihood of spending money on children (Blumberg, 1988). Parenthood has been found to play a particularly important role in the gender wage gap. In fact, much of the earnings disparity that prior literature has attributed to being a result of gender may in fact be due to parenthood. Women's wages are penalized for having children while men's wages actually increase with parenthood (Budig & England, 2001; Gangl & Ziefle, 2009; Pal & Waldfogel, 2016; Staff & Mortimer, 2012; Waldfogel, 1998a). Marital status and race have further been identified in literature as impacting both the gender earnings and net worth gap (Grabka et al., 2015; Oliver & Shapiro, 1990; Pal & Waldfogel, 2016; Shapiro, 2017; Sierminska et al., 2010).

3.1.I AUGMENTED EARNINGS MEASURE

This paper will utilize the only measure available which combines net worth and earnings. Weisbrod & Hansen (1968) propose the use of the following augmented earnings measure:

$$Y^*_t = Y_t + NW_t \times A_n$$

Augmented earnings is the sum of annual income (Y_t) and the annual lifetime annuity value of net worth ($NW_t \times A_n$). The annuitized value of net worth is determined based on life expectancy and the rate of interest. The measurement implies no net worth will remain after the death of the individual.

Weisbrod and Hansen (1968) explain that this measure is not meant to suggest that all or any of an individual's net worth is purchased in the form of annuities or that all net worth is necessarily spent within an individual's lifetime. Instead they argue that the practicality of this measurement is independent of its use to combine net worth and income. The authors contend that despite potential critiques of their measurement, "It is hardly satisfactory to disregard net worth, and any measure of economic position which considers both necessarily implies some tradeoff between them" (1968 pg. 1317).

Weisbrod & Hansen's (1968) annuitized net worth measure has not been widely implemented. Studies utilizing the measure have exclusively done so at a household level (Burkhauser, Butler, & Wilkinson, 1985; Burkhauser & Wilkinson, 1982; Moon, 1976; Muchombia, Wimer, Garfinkel, & Sariscsany, 2019; Rendall & Speare, 1993, 1995; Short & Ruggles, 2005; E. N. Wolff & Zacharias, 2007). Wolff & Zacharias (2007) modified the augmented earnings measure by incorporating consumption and subtracting taxes from the annual figure. Nevertheless, I include their study in the literature review because they examine the gap in median financial resources between female-headed households and married households. Authors concluded that the gap is much higher using the augmented earnings measure than the income only measure (Wolff & Zacharias, 2007).

Muchombia et al. (2019) further build on literature by comparing the prevalence of hardship among households classified as poor under income, augmented earnings, and consumption-based measures. The authors find that augmented earnings measure better captures households with lower life satisfaction, higher depression symptoms, anxiety, food insecurity, inadequate housing, and utility cutoffs.

This study will utilize the augmented earnings measure to combine earnings and net worth among fulltime year-round workers. As previously stated, results will examine whether gender economic inequality is greater, lesser, or the same when measured based on only earnings or Weisbrod & Hansen (1968) combined earnings and net worth measure. I hypothesize, based on the gender wealth gap estimates from Paper 1, the combined measure will not differ substantially from the gender earnings gap. Overall, gender wealth inequality, is smaller than earnings in relative terms. Once this small relative gap is annuitized the impact will have even less of an annual impact. Additionally, the group that experiences the largest gender wealth gap is the never married who are also the youngest on average. This will result in their wealth being distributed across the greater number of years on average, significantly diluting the gender wealth gap among this group in particular. Nevertheless, the direction of the change will add to our understanding of the gender gap in economic resources. The analysis will further consider the role of parenthood, race, and marital status on the combined measures and its relation in size to the gender earnings gap.

3.2 Data and Methods

This study utilizes the 2008 Panel of the Survey of Income and Program Participation (SIPP). SIPP is a continuous series of nationally representative panels. The 2008 Panel consists of 52,000 households. The sample is representative of the U.S. civilian non-institutionalized population. SIPP is particularly well-suited to analyze the gender economic inequality for multiple reasons. First and most importantly, the SIPP offers a unique opportunity to measure individual-level net worth. This provides researcher with the opportunity to examine net worth among women from all marital statuses, including married women. This differs from other surveys that typically only interview the household head. Second, SIPP further interviews

respondents quarterly as opposed to annually, as is often the case in surveys. More frequent interviews improve respondents' recall and increases the likelihood of capturing even short periods of unemployment or fluctuations in wages. Third, SIPP oversamples low-income households. Although other surveys oversample the top of the distribution, this is not often done at the bottom. The gender gap in economic resources may arguably have a greater impact on the wellbeing of women at the bottom of the distribution in which a small difference in resources may translate into a large difference in financial stability.

3.2.I MEASURES

The primary variables of interest in this study are earnings and augmented earnings. The 2008 Panel of SIPP measures assets and liabilities in waves, wave 4 in 2009, wave 7 in 2010, and wave 10 in 2011. For consistency these will be the only waves included in all analyses. The waves are pooled. Earnings are measured as the sum of monthly earned income for the calendar year. Consistent with prior research, only individuals who report working fulltime (35 hours or more a week) and year-round (no reported spells of unemployment in the corresponding year). A small number of respondents reported negative earnings which are recoded as 0 to again remain consistent with previous literature (Blau & Kahn, 1992; Gottschalk & Danziger, 2005; Joshi, Paci, & Waldfogel, 1999). Lastly, the sample is further restricted to adults between the ages of 18 and 65.

Net worth is measured as the sum individually owned assets minus the sum of liabilities. A comprehensive list of assets and liabilities can be found in the Table 1:1. Although, as stated, SIPP measures wealth at an individual level, assets and/or liabilities in relation to primary residence, other property, and vehicles are reported at a household level. However, SIPP includes a reported list of owners for these assets. This is used to determine which household member to

attribute ownership to. The value of jointly owned assets is split evenly between the listed owners.

Next, augmented earnings is determined using Weisbrod & Hansen (1968) previously discussed measurement:

$$Y^*_t = Y_t + NW_t \times A_n$$

in which A_n indicates an annuity. As an annuity, the individual's net worth is spent down while simultaneously earning a return on the remaining balance. As proposed by Weisbrod and Hansen (1968), it is assumed that the individual's net worth is spent down within their lifetime. Life expectancies are calculated based on sex and year. Life expectancies at 65 are used due to the higher probability of death prior to the age of 15, which bias life expectancies at birth measurements. Respondents have passed this high probability of death period, therefore life expectancies at 65 are a more accurate measure. The interest rate used in this study is 5%, conservative for low-income households which often have a high amount of debt and face higher interest rates (Muchombia et al., 2019).

Several sensitivity tests are conducted. First, the sample size is adjusted to include both part-and full-time workers. Second, the sample is again adjusted to include all adults over the age of 18. Additionally, as advised by Weisbrod & Hansen (1968), I test the sensitivity of the findings based on the interest rate used for the augmented measure. Interest rates of 0 and 10% are used to for these tests. Lastly, I will adjust the interest rates of debt accrued through credit cards and store cards. Thus far, the same interest rate has been applied to all sources of assets and liabilities. Although a five percent interest rate may be a reasonable assumption for many assets it is likely not for many types of unsecured debt. Therefore, the robustness of results are

tested with the interest rates for credit cards and store cards adjusted to 14 percent, the average credit card interest rate in 2011 (Ellis, 2011).

3.2.II ANALYTIC STRATEGY

Analyses begin by examining the gender earnings gap. This is done by presenting descriptive characteristics for earnings of fulltime year-round workers including: mean, median, relative earnings position¹⁴, quantile share, and inequality characteristics (GE2, p90/p50, and p75/p50)¹⁵, stratified by gender and marital status. The GE (2) is a generalized entropy (GE) inequality measure which measures inequality at the top of wealth distribution. Next, the nominal and relative net worth and earnings gap will be compared, stratified by marital status. The gender gap in augmented earnings will then be descriptively presented and compared to the two original measures. Results will further analyze how the gender gaps differs by marital status, parental status, and race.

3.3 Results

Table 3:1 describes annual earnings of fulltime year-round workers stratified by gender and marital status¹⁶. Results indicate that, consistent with previous research, there is in fact a gender earnings gap; men earn on average \$51,800 compared to \$40,000 among women. Overall, women earn 77% of what men earn. This is slightly lower, although not significantly different from prior studies. The results further indicate that a disproportionate amount of men

¹⁴ The mean earnings of the relevant gender and marital status group divided by total earnings multiplied by one hundred.

¹⁵ P90/p50 provides the ratio of the 90th percentile to the 50th percentile, p75/p50 provides the ratio of the 75th percentile to the 50th percentile.

¹⁶ A small number of respondents (287 men and 930 women) reported being widows. However, they were excluded from the analyses. This decision was made as the majority of widows are over the age of 65, thus widows who remain in this sample are in relatively uncommon circumstances which would make results not be easily generalizable.

can be found in the top earnings quintile (25%). Only 14% of women are in the top quintile. Inversely, 46% of women are in the bottom two quintiles compared to 36% of men.

Table 3:1 Earnings by Gender and Marital Status, 2011 Dollars

	Male				Female			
	Total	Married	Divorced	Never married	Total	Married	Divorced	Never married
Annual earning								
Mean	51760	59740	46981	34310	39608	42732	39199	33199
Median	38846	45600	37064	25574	31592	34509	31926	25641
Relative earnings position	111	128	101	74	85	92	84	71
Quintile shares								
Bottom	18	13	20	32	23	19	22	32
2	18	15	18	25	23	21	23	25
3	19	19	21	17	22	23	22	19
4	21	23	22	14	19	20	19	15
Top	25	31	19	11	14	17	14	10
Inequality								
GE (2)	0.51	0.47	0.48	0.48	0.41	0.42	0.37	0.41
P90/p50	2.62	2.48	2.4	2.74	2.42	2.36	2.36	2.58
P75/p50	1.66	1.61	1.56	1.7	1.6	1.55	1.59	1.54
Gender specific population share in %	100	66	11	23	100	56	18	24
Overall pop. share in %	55	36	6	13	45	25	8	11
N	46,267	30,448	4919	10613	37493	21026	6695	8842

Table 3:2 Nominal and Relative Net Worth and Earnings Gender Gaps by Marital Status

	Total		Married		Divorced		Never married	
	Net worth	Earnings	Net worth	Earnings	Net worth	Earnings	Net worth	Earnings
Nominal gender gap	21063	12152	24261	17008	13885	7781	14228	1111
Relative gender gap	0.78	0.77	0.8	0.72	0.84	0.83	0.68	0.97

The inequality statistics reveal that earnings inequality within gender is higher among men than women. This is unsurprising due to the larger number of male top quintile earners. Married individuals have the highest average earnings among both men and women, followed by divorcees. Never married individuals have the lowest earnings. Never married women earn on average only \$33,000 annually, and over half are in the bottom two quintiles. Irrespective of marital status, the gender earnings gap remains present. However, it is important to note that the gender wage gap is much smaller among the never married individuals than other groups.¹⁷

Before combining earnings and net worth in one measure, it is important to compare the absolute and relative gender inequalities of each resource separately. Similar descriptive results were presented in Paper 1. However, Paper 1 did not restrict the sample to fulltime year-round workers. Therefore, Table 3:2 restricts the net worth measure to the appropriate specifications. The nominal and relative net worth and earnings gender gaps are presented, stratified by marital status. Overall the nominal earnings inequality is significantly lower than the comparable net worth inequality. This is expected as the majority of earnings are consumed annually while net worth is accrued throughout the life course or, in many cases, over multiple generations. Despite this, proportionately the gender net worth and earnings gaps are nearly identical among the total population. Fulltime year-round working women own slightly over -fourths of the net worth and yearly earnings of men working fulltime year-round.

Once stratified by marital status, differences between gender disparities in net worth and earnings begin to emerge more clearly. Married women, the largest portion of the female sample, experience the most similar nominal gender differences to the total sample. However, the relative earnings gender gap among the married sample increases, with married women

¹⁷Although small the gap remains statistically significant as shown in Figure 3:5 below

earning 72% of the annual earnings of married men on average. Never married women experience the largest relative gap in net worth among all marital groups, owning only 68% of the wealth of never married men. Yet, never married women alternatively experience the smallest relative earnings gap, earning an average of 97% of the annual earnings of never married men.

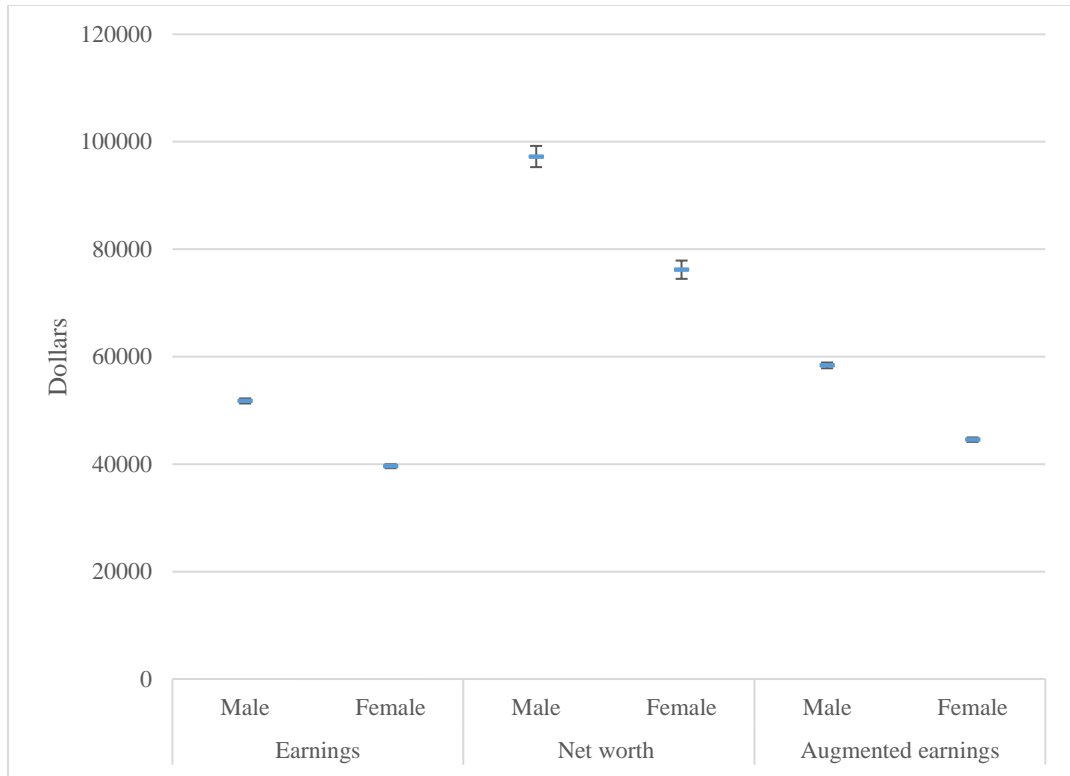


Figure 3:1 Economic Gender Gaps, Adults 18-64 Years of Age

Next, the combined measure and its resulting impact on the gender gap in economic resources must be considered. Figure 3:1 presents the average earnings, net worth, and augmented earnings for both men and women, with 95% confidence bands. Figure 3:1 illustrates that augmented earnings remain quite similar to earnings. This makes sense due to the annuitized nature of the augmented measure. Individuals in their working years, on average, have many

years remaining to consume net worth. Thus, the augmented measure will more closely resemble earnings. The nominal gender gap does increase slightly as compared to earnings (\$1,700) and the relative gap remains a close 76%. Although this is a small change, it is interesting to note that the relative net worth gap was originally more equitable than earnings. Yet, the augmented measure is slightly less equitable, in a relative sense, than either independent measure.

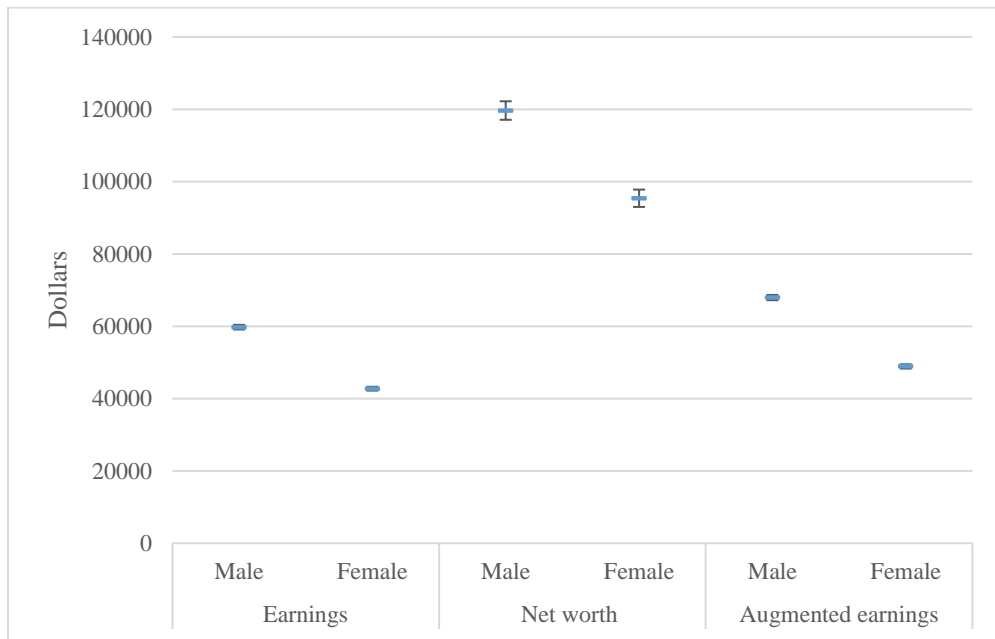


Figure 3:2 Economic Gender Gaps, Married Adults

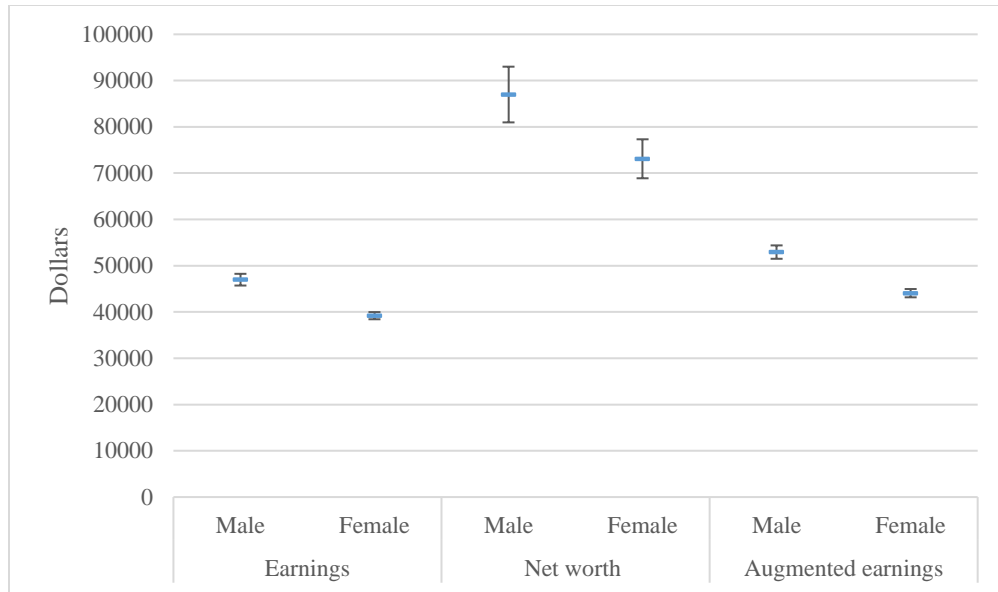


Figure 3:3 Economic Gender Gaps, Divorced Adults

As shown in Table 3:2, the gender net worth and earnings gaps differed by marital status. Thus, the gender gap for the measures is examined separately by marital status. Figure 3:2 examines married adults, for which results appear quite consistent with the total sample. In fact, among the married the relative gender gap for earnings and augmented earnings is identical. Figure 3:3 presents the economic gender gaps among the divorced sample. Once again, the nominal and relative gender gap for the augmented earnings measure remains nearly identical to that of the earnings measures. Lastly, Figure 3:4 presents the results for the never married sample which, as shown in Table 3:2, experienced drastically different gender gaps in earnings as compared to net worth. However, as results show, overall the augmented earnings measure very much resembles the earnings results. The nominal gap does increase slightly and the female-to-male ratio drops to 95% (as compared to 97%). This is likely a reflection of the measure and as previously mentioned, the way in which it is annuitized across the lifecycle. The never married group is the youngest on average. Thus, net worth is expected to be dispersed

across a greater number of years and the annual measure will inevitably more closely reflect earnings.

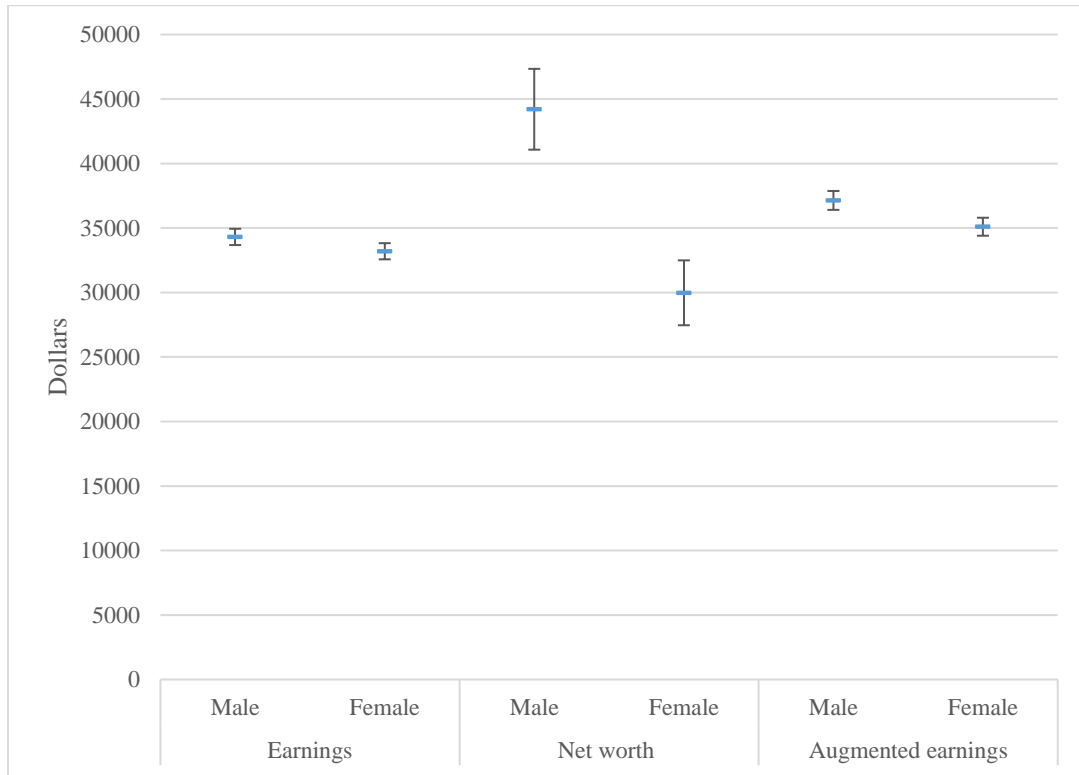


Figure 3:4 Economic Gender Gaps, Never Married Adults

Additional analyses were conducted examining how earnings, net worth, and augmented earnings gender inequality differed by age, race, and parental status. Table 3:3 presents descriptive statistics of earnings, net worth, and augmented earnings among parents and non-parents. Consistent with prior literature, results reveal that males experience a premium for parenthood. Fathers’ earn an average of \$7,000 more than men with no children on average. Mothers, on the other hand, earn less on average than women without children (\$3,000 less on average). Thus, the nominal and relative earnings gap is substantially greater for parents than non-parents. Male and female parents own less net worth on average than non-parents.

However, the severity of the penalty differs by gender. Males' net worth decreases an average of \$9,000 with parenthood compared to an average of \$26,000 among women. Similar to earnings, the relative net worth gender gap increases substantially among parents as compared to non-parents. The results for the augmented measure are similar to that of earnings. Men receive a parenthood premium while women receive a penalty. As mentioned analyses were further conducted examining the gender gap in economic resources by age group and race. However, results did not differ significantly between these groups and are not included but are available from the author upon request.

Table 3:3 Descriptive Statistics of Earnings, Net Worth, and Augmented Earnings by Parental Status

	Earnings		Net Worth		Augmented Earnings	
	Parent	Non-Parent	Parent	Non-Parent	Parent	Non-Parent
Mean (Males)	56,017 (55,636)	48,526 (48,526)	91,980 (201,744)	101,251 (226,964)	61,853 (61,453)	55,729 (56,666)
Mean (Females)	37,797 (35,103)	40,898 (36,434)	61,062 (149,317)	86,963 (179,569)	41,480 (38,891)	46,497 (41,497)
Nominal gender gap	18,220	7,620	30,918	14,288	20,373	9,232
Relative gender gap	0.67	0.84	0.66	0.86	0.67	0.83

Note: standard deviations are presented in parenthesis

3.3.I SENSITIVITY ANALYSES

As a robustness check, a number of additional analyses were conducted. First, descriptive results were compiled using two additional samples. The first subsample included both part-and full-time workers, and the second subsample included all adults over the age of 18 (Results shown in Appendix B). Additionally, I tested the sensitivity of the findings based on the interest rate used for the augmented measure. Interest rates were adjusted to both 0 and 10%.

Lastly, the interest rate for credit cards and store cards is adjusted to 15% to account for their typical interest rate.¹⁸ Results were found to be stable and robust despite all sensitivity analyses.

3.4 Discussion

This paper sought to understand whether gender economic inequality would increase, decrease, or remain the same when using a combined net worth and earnings measure as opposed to exclusively earnings. Results revealed that for the total population, the relative and absolute gender gap in economic resources increased very slightly as compared to the earnings gap. As hypothesized, it was expected that the change in gender inequality would be small based on the small relative gender wealth gap for the total population and the annuitization of the combined measure. Nevertheless, the increase, although small, does reveal that women in the U.S. may be experiencing greater economic inequality than is being captured by earnings.

Results looked fairly consistent when examined separately by marital status. This may be initially surprising, particularly among the never married who had a 97% earnings gap and a 68% gap in net worth. Despite a somewhat large difference between relative earnings and net worth gaps, the augmented measure once again very closely resembled earnings. As previously discussed, this is a result of net worth being dispersed across the life expectancy of the individual. Annuitizing net worth can be easily rationalized for an individual with a substantial net worth. This individual's net worth has likely been accumulated as a means of savings to be used to smooth consumption, for retirement, and/or possibly to be left for the next generation. Therefore, only a small fraction of the total value should be included in any annual measure. However, individuals with low or negative net worth must also be considered. Thirty percent of the sample in this paper have a negative net worth. Weisbrod & Hansen (1968)'s does not

¹⁸ Results with adjusted interest rates are not shown but available from author upon request.

consider, and actually excludes, households with negative net worth. For those with zero or negative net worth, it may not be as justifiable to annuitize net worth across the life expectancy. First, while many often aim to ensure assets last, individuals often seek to pay off liabilities relatively quickly, regardless of the interest rate. Furthermore, this measure may not be ideal for individuals with a small amount of positive net worth. For example, someone with \$1,000 of savings is much more likely to use the funds for one purchase in the next year rather than to use a few cents each year and earn interest. Shapiro (2004) confirms that families with few assets used them for “emergencies” or for a “rainy day” whereas individuals with more substantial levels of wealth were more likely use assets for long-term plans.

Interestingly, results additionally find the motherhood penalty and fatherhood premium identified in gender earnings gap literature holds true in the augmented earnings measure as well. Consistent with previous results, the augmented results look very similar to the earnings results. Although both men and women’s net worth decreased with parenthood, women’s net worth decreased nearly times more. Again, depending on the financial position of the woman, one could argue that this change in net worth would have a far greater impact on annual financial wellbeing than captured by the combined measure. Despite the possible weaknesses of this measure, it is the most appropriate tool available to combine earnings and net worth. As stated by Weisbrod & Hansen (1968), it is far better to use this measure than to ignore then impact that net worth has on economic wellbeing.

Despite limitations, this study’s findings make an important contribution to the field by providing the first attempt to merge the gender earnings and net worth disparity literatures. The paper was further strengthened by the use of individual level wealth data, allowing the gender wealth gap to be examined among all adults. Results differ substantially from Wolff and

Zacharias (2007) who found the gap between female headed households and married households was larger using the augmented measure as opposed to only earnings. However, as mentioned the augmented measure Wolff and Zacharias (2007) used included consumption and subtracted taxes. Future research should additionally seek to account for these factors. Moving forward research should focus on the use of Weisbrod & Hansen (1968)'s measure among debts. A limitation of this paper is that interest rates could only be adjusted for a limited number of unsecured debts. Ideally, this would not be the case, yet all unsecured loans other than credit cards and store cards are lumped together, including student loans and payday loans for example. While many unsecured debts have high interest rates, student debt does not so the interest rate was unadjusted. Future research should seek to appropriately adjust for the typical interest rates of unsecured debts more comprehensively. Lastly, future research should seek to determine the benefit of a combined earnings and net worth measure in terms of their ability to predict economic hardship. This would further add to our understanding of which measure best captures economic disparities by gender.

Epilogue

One of the primary hypotheses I had heading into this dissertation was that the overall structure of the gender wealth gap in the United States would be consistent with the gender wealth gap found in Germany. I anticipated Paper 1 would find the gender wealth gap among married individuals was significantly larger than among unmarried households. This assumption was central in determining the research questions for Papers 2 and 3.

Results found that, in fact, in the United States married women own 92% of the average wealth of married men. On the other hand, never married women own 17% of the wealth owned by the average never married man. Thus, previous research examining the gender wealth gap in the U.S. excluding married individuals overestimated the gap. This unexpected decrease in the gender wealth gap changed the anticipated implications of the second and third papers. Nevertheless, the dissertation does significantly increase our understanding of the gender wealth gap in the United States. The results for Paper 1 provide insight into which marital groups experience the most gender wealth inequality and also raise particular concerns regarding the gender wealth gap among black women who experience a significantly larger disparity. Paper 2 provides some insight into why the gender wealth gap is particularly small among married individuals. However, among unmarried individuals, the majority of the gap remains unexplained. This is an additional area that warrants further research. Since the gender wealth gap in Paper 1 was relatively small compared to the earnings gap, it was clear that Paper 3 would not yield results from the combined measure that were drastically different from the gender earnings gap. Despite this, findings do indicate that the combined measure increases gender inequality slightly, which does reveal that women in the U.S. may be experiencing greater economic inequality than is being captured by earnings alone.

The findings of this dissertation have a number of implications for social work practice and policy. In terms of practice, the findings provide evidence of the need for asset building programs directed towards women, with particular attention towards black women. Asset building programs may come in a number of forms, such as Individual Development Account programs (IDAs) (Sherraden, 1991). IDAs are savings accounts in which the savings is matched in order to be used towards the purchase of specific investments such as to build a business, purchase a home, or for post-secondary education. Other asset building programs have been designed to specifically connect women with potential investors for their small business ideas. Pipeline Angels is one such program, in which women who enroll in an investment training program are given an opportunity to pitch a business idea to women investors (“Pipeline Angels,” 2019). Similar programs could be created and expanded to increase investment in women-owned small businesses.

Paper 2 finds that the gender wealth gap among single-headed households is primarily a result of the rewards and penalties for characteristics not a difference in the characteristics themselves. Thus, policy interventions are needed to address these gender discrepancies. As found in Paper 1, retirement savings has the largest gender gap when wealth is broken down by individual assets. Therefore, retirement assets would be the ideal starting point for policies aimed at addressing the gender wealth gap. Automatic IRAs would drastically decrease the gender gap in retirement savings by automatically setting up retirement accounts for all employees. Automatically enrolling individuals in retirement plans has been found to increase participation over the current design of opting into retirement plans (Madrian & Shea, 2001). The Automatic IRAs program would also increase access to retirement savings for women who are more likely to work part-time or in fields which have not typically offered retirement plans (McCulloch,

2017). The gender discrepancy in retirement savings could also be partially addressed through pro-rata benefits as is done in European Union countries for part-time workers. Pro-rate benefits would decrease the number of hours workers need in the US to become eligible for retirement accounts (Chang, 2010).

Going forward, I plan to extend these findings in a number of ways. First, I will examine historical trends in the gender wealth gap from 1984-2014 using multiple SIPP Panels. These findings will greatly expand our understanding of the gender wealth gap. While my dissertation findings provide the first comprehensive snapshot of the gap in the U.S., a historical analysis using SIPP's individual-level wealth data will provide the first comprehensive insight into whether the gender disparity in wealth has followed the historical trends of the gender wage gap, or if, as theorized by Chang (2010), its trajectory differs substantially. It is unclear if gender differences found by age group and marital status are a result of generational differences or changes in the gap throughout the life course. A historical analysis will further help to answer this question.

Additionally, I will provide the first analysis of the impact of economic recessions on the gender wealth gap. This was particularly important during the Great Recession when subprime mortgages were disproportionately sold to women homeowners and women of color in particular. Lastly, I will take advantage of the longitudinal nature of SIPP's panels to examine the impact of changes in marital status on wealth by gender. This will provide the first examination of how the gender wealth gap changes in the case of divorce, and whether this change is affected by states' divorce laws.

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Appendix A

Table A:1 Blinder Oaxaca Decomposition Analysis (Reversed)

	Married	Widowed	Divorced/Separated	Never Married
Panel A. Overall decomposition results				
Men	8.382*** (249.41)	9.624*** (84.45)	6.199*** (77.79)	3.156** * (66.53)
Women	7.784*** (223.53)	8.947*** (143.55)	5.249*** (76.13)	2.366** * (46.35)
Difference	0.599*** (12.37)	0.677*** (5.21)	0.950*** (9.02)	0.790** * (11.33)
Endowments	0.448*** (14.77)	0.245*** (4.25)	0.245*** (4.60)	0.019 (0.57)
Coefficients	-0.161** (-3.05)	0.388** (3.05)	0.497*** (4.38)	0.682** * (9.18)
Interactions	0.311*** (8.53)	0.0437 (0.78)	0.209** (3.08)	0.0886* (2.09)
Panel B. Detailed decomposition results				
Endowments				
Labor market characteristics				
	0.130*** (5.63)	0.0668* (2.52)	0.160*** (5.27)	0.0166 (1.02)
Education	0.0236** * (4.44)	0.0611** (2.68)	-0.0299** (-2.85)	0.0137 (1.39)
Demographic characteristics				
	0.295*** (17.58)	0.0655 (1.71)	0.104** (2.77)	-0.0085 (-0.34)
Receipt of benefit	-0.000329 (-0.07)	0.0519** * (3.95)	0.0109 (0.85)	-0.00281 (-0.28)
Coefficients				
Labor market characteristics				
	0.883*** (3.69)	-1.078 (-1.45)	-0.102 (-0.19)	0.0652 (0.19)

Education	-0.0225 (-1.24)	0.0687 (0.83)	0.00918 (0.19)	-0.0511 (-1.32)
Demographic characteristics	-0.0997 (-0.40)	-0.253 (-0.30)	0.157 (0.28)	0.39 (1.24)
Receipt of benefit	-0.205** (-2.96)	0.179* (2.51)	0.0333 (0.28)	-0.0791 (-1.02)
Interaction				
Labor market characteristics	0.301*** (8.73)	-0.0174 (-0.41)	0.101* (2.38)	0.0393 (1.90)
Education	0.0038 (1.02)	-0.00695 (-0.32)	-0.00524 (-0.50)	-0.0217 (-1.69)
Demographic characteristics	0.000368 (0.04)	0.0152 (0.56)	0.0549 (1.14)	0.0265 (0.94)
Receipt of benefit	0.00555 (1.28)	0.0529* (2.57)	0.0584* (2.25)	0.0445 (1.92)

Table A:2 Reversed DFL Wealth Decomposition results across the wealth distribution among married individuals

	Wealth gap	Labor Market Characteristics	Education	Demographic Characteristics	Receipt of Benefit	Unexplained
Standard Deviation Wealth Distribution	-0.298	-0.068	0.066	-0.065	0.062	0.304
10 th	0.319	0.010	-0.043	0.123	-0.078	-0.331
%	100	3	-13	39	-24	-104
25 th	0.745	0.486	-0.196	0.139	-0.193	-0.981
%	100	65	-26	19	-26	-132
50 th	0.172	0.126	-0.045	0.050	-0.047	-0.256
%	100	73	-26	29	-27	-149
75 th	0.174	0.049	-0.042	0.005	-0.045	-0.140
%	100	28	-24	3	-26	-80
90 th	0.221	0.019	-0.051	-0.021	-0.055	-0.113
%	100	9	-23	-10	-25	-51

Table A:3 Reversed DFL Wealth Decomposition results across the wealth distribution among widowed individuals

	Wealth gap	Labor Market Characteristics	Education	Demographic Characteristics	Receipt of Benefit	Unexplained
Standard Deviation Wealth	-0.344	0.097	0.086	0.074	0.077	0.010
Percentile of Wealth Distribution						
10 th	0.246	-0.045	-0.054	-0.036	-0.046	-0.064
%	100	-18	-22	-15	-19	-26
25 th	1.036	-0.120	-0.242	-0.074	-0.132	-0.468
%	100	-12	-23	-7	-13	-45
50 th	0.282	-0.030	-0.047	-0.034	-0.035	-0.137
%	100	-11	-17	-12	-12	-49
75 th	0.260	-0.037	-0.036	-0.056	-0.050	-0.081
%	100	-14	-14	-22	-19	-31
90 th	0.305	-0.045	-0.038	-0.075	-0.074	-0.072
%	100	-15	-12	-25	-24	-24

Table A:4 Reversed DFL Wealth Decomposition results across the wealth distribution among divorced or separated individuals

	Wealth gap	Labor Market Characteristics	Education	Demographic Characteristics	Receipt of Benefit	Unexplained
Standard Deviation Wealth Percentile of Wealth Distribution	-0.517	0.157	0.081	0.133	0.121	0.025
10 th	0.651	-0.182	-0.110	-0.143	-0.157	-0.059
%	100	-28	-17	-22	-24	-9
25 th	0.962	-0.141	-0.253	-0.121	-0.216	-0.231
%	100	-15	-26	-13	-22	-24
50 th	0.478	0.069	-0.228	0.043	-0.095	-0.267
%	100	14	-48	9	-20	-56
75 th	0.177	0.056	-0.103	0.041	-0.036	-0.135
%	100	32	-58	23	-20	-76
90 th	0.173	0.037	-0.089	0.008	-0.038	-0.091
%	100	21	-51	5	-22	-53

Table A:5 Reversed DFL Wealth Decomposition results across the wealth distribution among never married individuals

	Wealth gap	Labor Market Characteristics	Education	Demographic Characteristics	Receipt of Benefit	Unexplained
Standard Deviation Wealth	-0.297	0.123	-0.132	0.146	0.053	0.107
Percentile of Wealth Distribution						
10 th	0.540	-0.182	0.048	-0.212	-0.103	-0.092
%	100	-34	9	-39	-19	-17
25 th	0.495	-0.200	0.070	-0.184	-0.108	-0.074
%	100	-40	14	-37	-22	-15
50 th	2.248	-0.547	-0.752	-0.328	-0.565	-0.055
%	100	-24	-33	-15	-25	-2
75 th	0.248	-0.016	-0.257	-0.024	-0.059	0.108
%	100	-6	-104	-10	-24	44
90 th	0.254	-0.037	-0.264	-0.118	-0.066	0.231
%	100	-15	-104	-46	-26	91

Appendix B

Table B:1 Nominal and Relative Net Worth and Earnings Gender Gaps by Marital Status, Part-time and Fulltime Workers

	Total		Married		Divorced		Never Married	
	Net Worth	Earnings	Net Worth	Earnings	Net Worth	Earnings	Net Worth	Earnings
Nominal gender gap	22330	13662	27270	19798	21804	8003	13820	2549
Relative gender gap	0.79	0.71	0.79	0.65	0.78	0.81	0.77	0.91

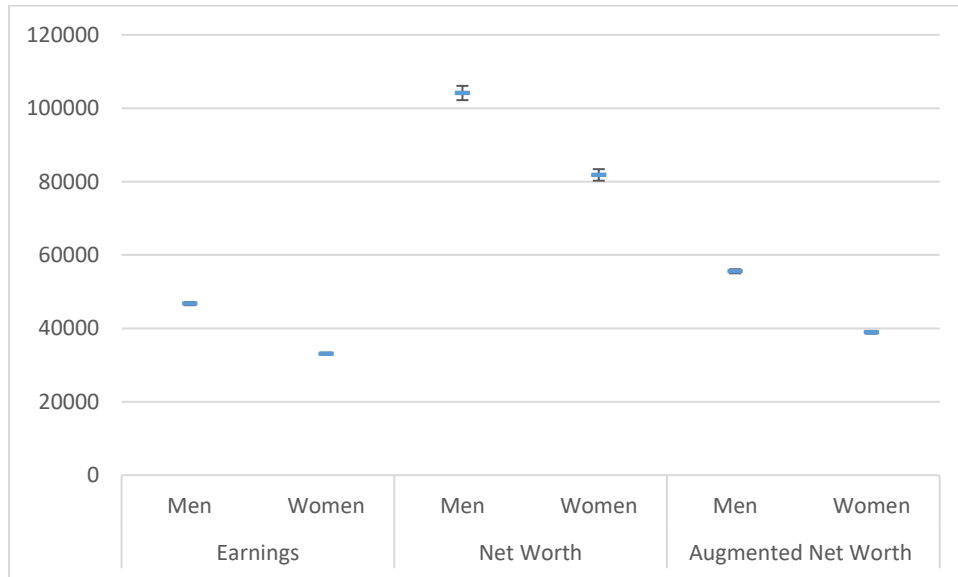


Figure B:1 Economic Gender Gaps, Part-time and Fulltime Workers

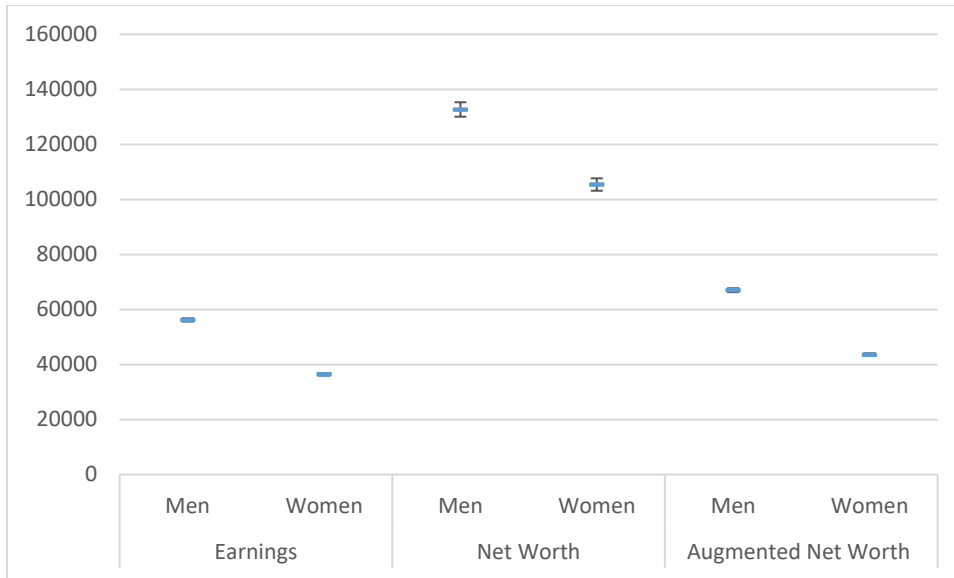


Figure B:2 Economic Gender Gaps, Married Adults, Part-time and Fulltime Workers

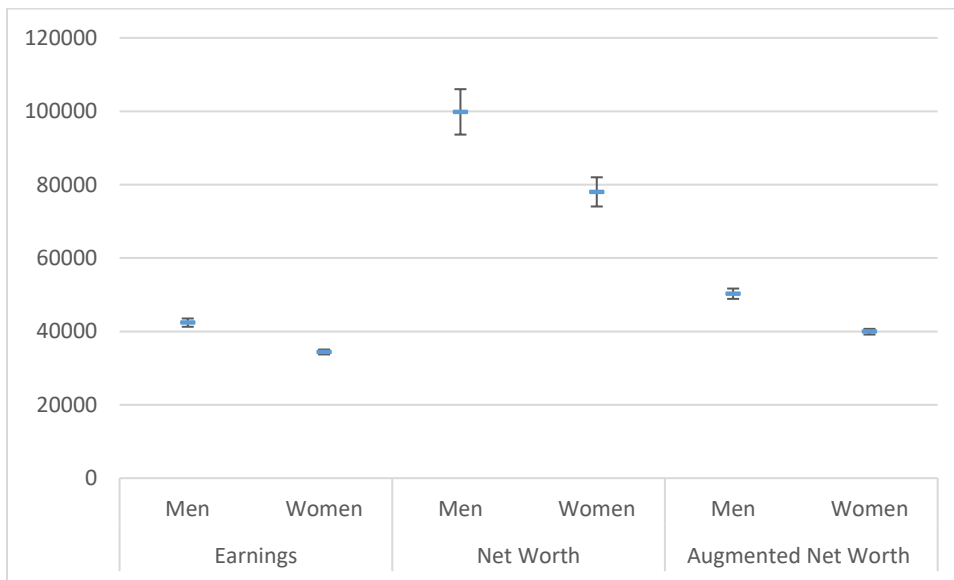


Figure B:3 Economic Gender Gaps, Divorced Adults, Part-time and Fulltime Workers

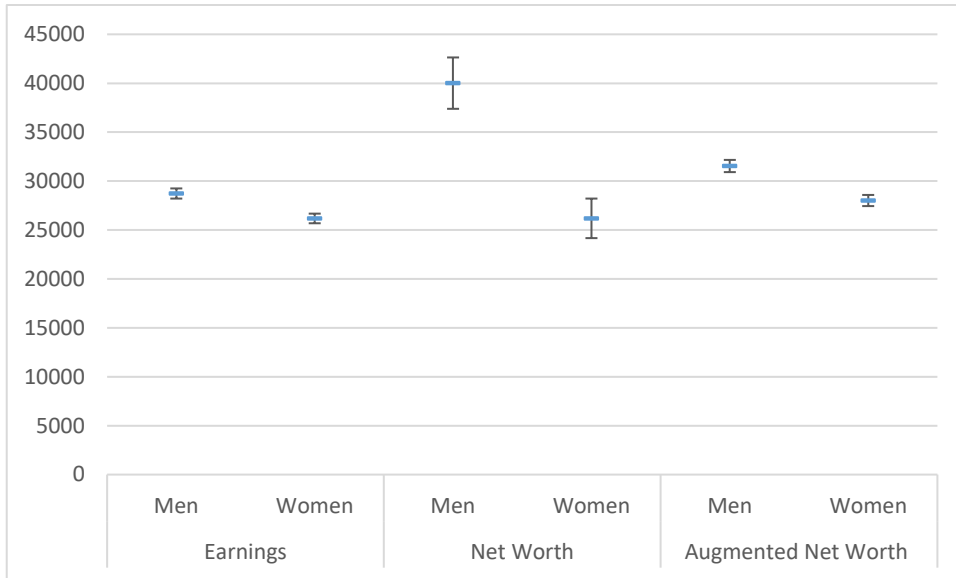


Figure B:4 Economic Gender Gaps, Never Married Adults, Part-time and Fulltime Workers

Table B:2 Nominal and Relative Net Worth and Earnings Gender Gaps by Marital Status, All Adults 18-65 Years of Age

	Total		Married		Divorced		Never Married	
	Net Worth	Earnings	Net Worth	Earnings	Net Worth	Earnings	Net Worth	Earnings
Nominal gender gap	13560	12998	27441	19246	13461	6232	10114	2580
Relative gender gap	0.87	0.59	0.8	0.53	0.85	0.78	0.68	0.86

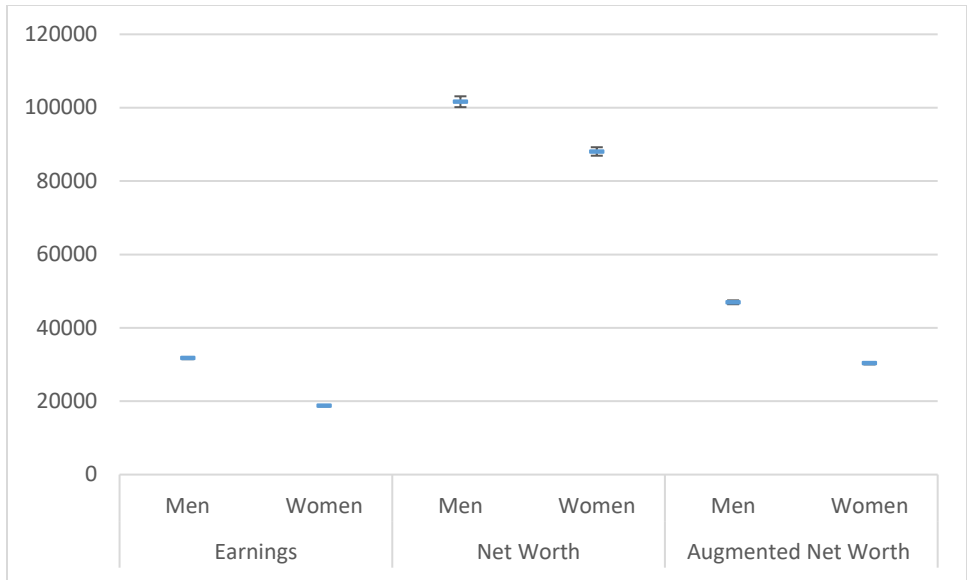


Figure B:5 Economic Gender Gaps, All Adults 18-65 Years of Age

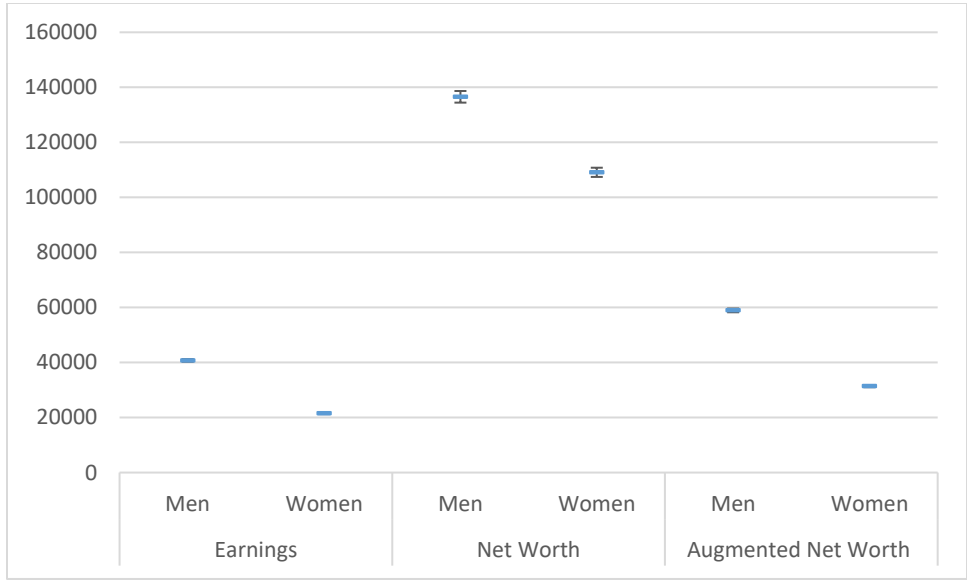


Figure B:6 Economic Gender Gaps, Married Adults, All Adults 18-65 Years of Age

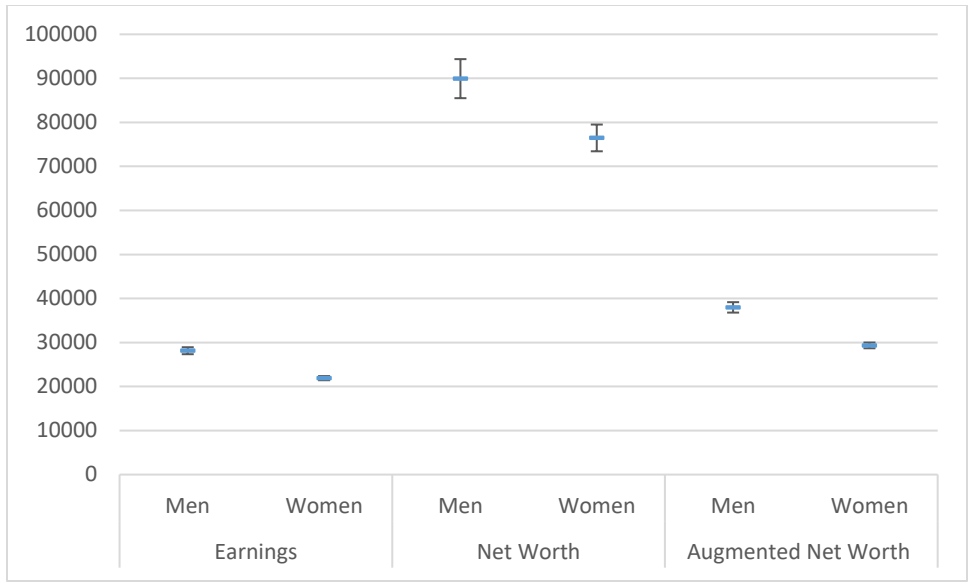


Figure B:7 Economic Gender Gaps, Divorced Adults, All Adults 18-65 Years of Age

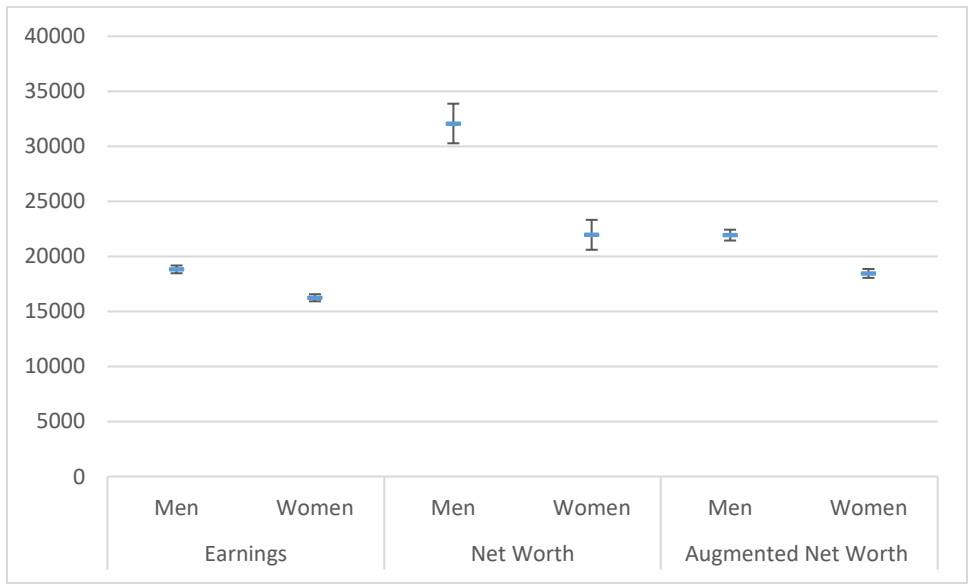


Figure B:8 Economic Gender Gaps, Never Married Adults, All Adults 18-65 Years of Age