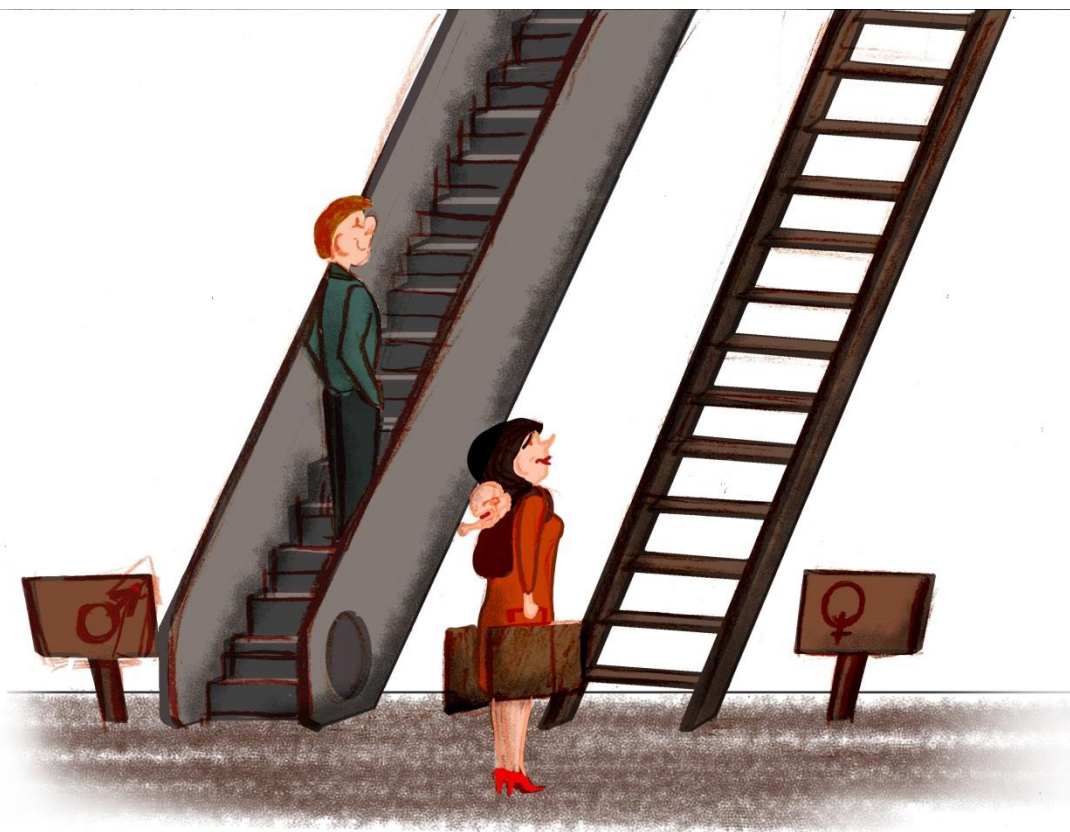


# PSID

A national study of socioeconomics and health  
over lifetimes and across generations



## Wealth gender differences: the changing role of explanatory factors over time

Eva Sierminka  
Daniela Piazzalunga  
Markus Grabka

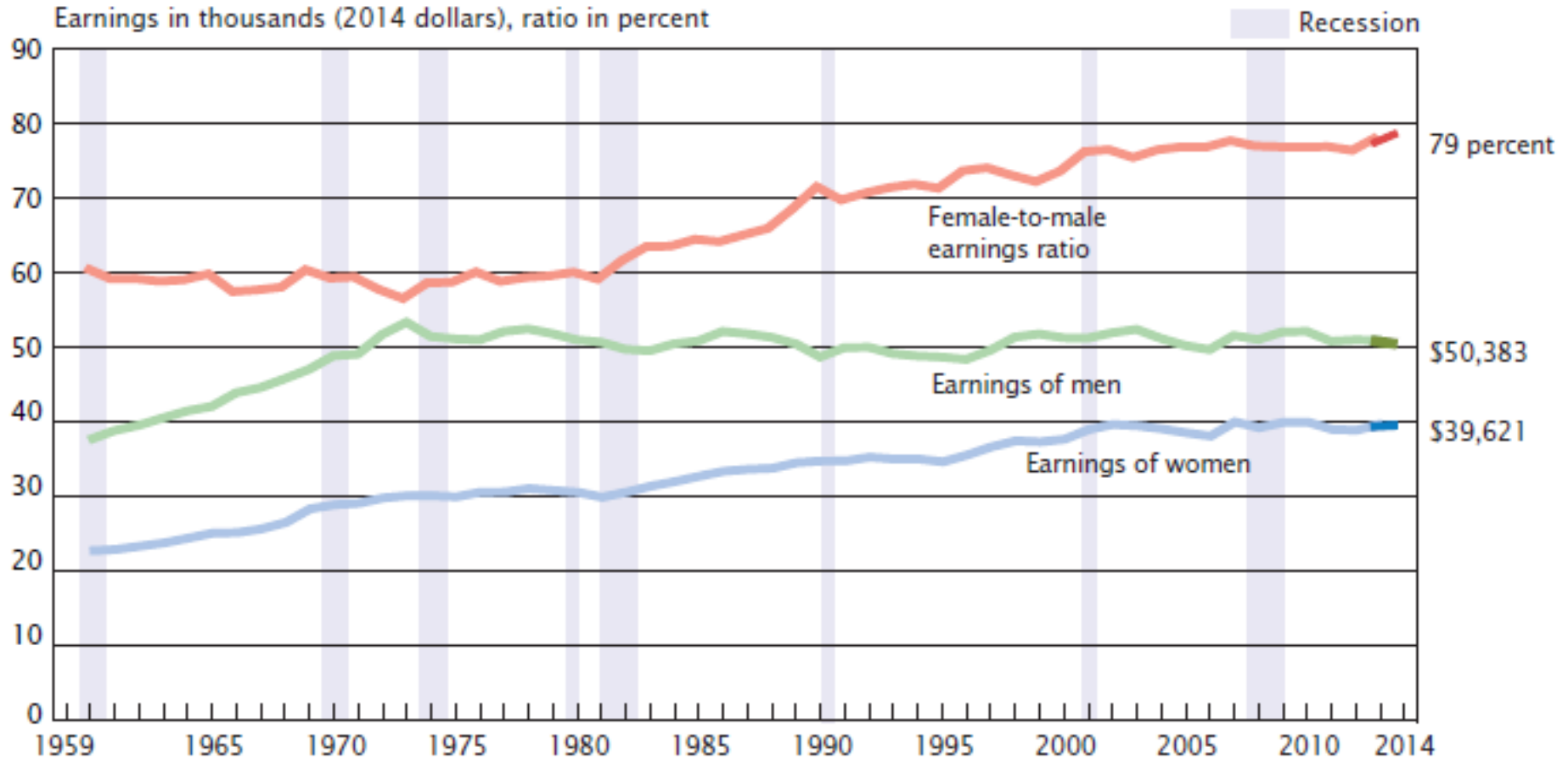
David Johnson  
University of Michigan

# US Gender Wage Gap

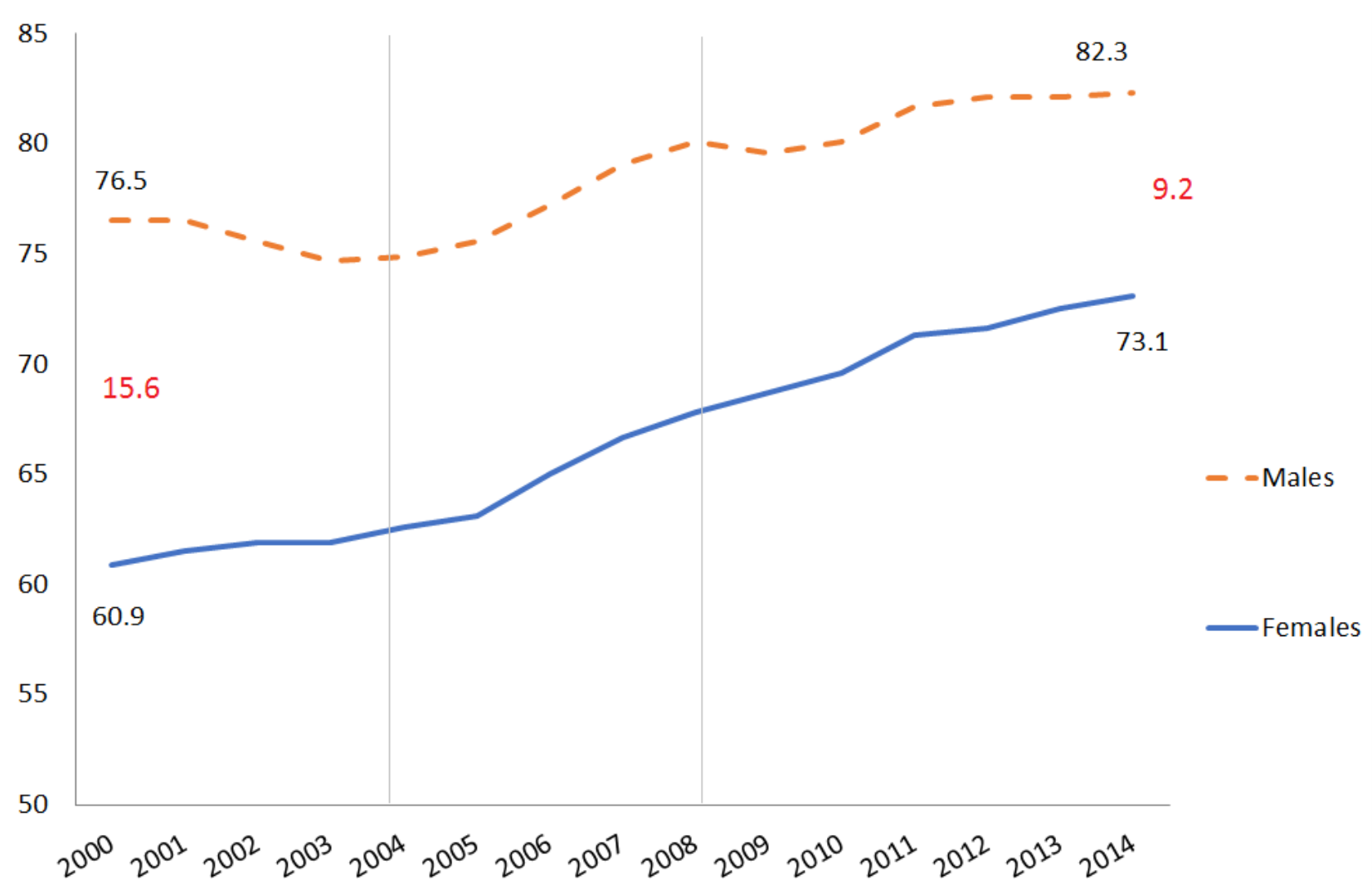
Figure 2.

## Female-to-Male Earnings Ratio and Median Earnings of Full-Time, Year-Round Workers 15 Years and Older by Sex: 1960 to 2014

Earnings in thousands (2014 dollars), ratio in percent

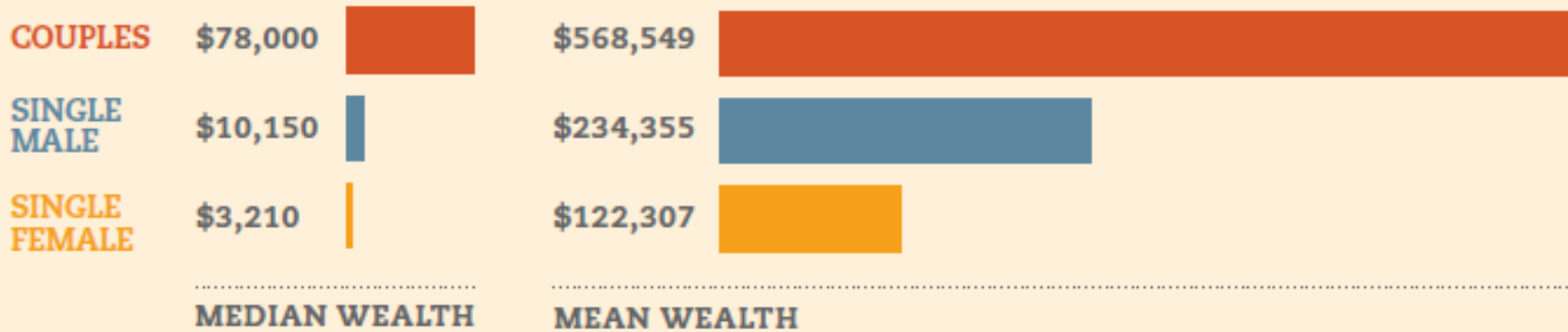


# Labor force participation in Germany



# US Gender Wealth Gap for Single Men and Women

MEAN AND MEDIAN WEALTH FOR COUPLES, SINGLE MEN AND SINGLE WOMEN, AGES 18-64



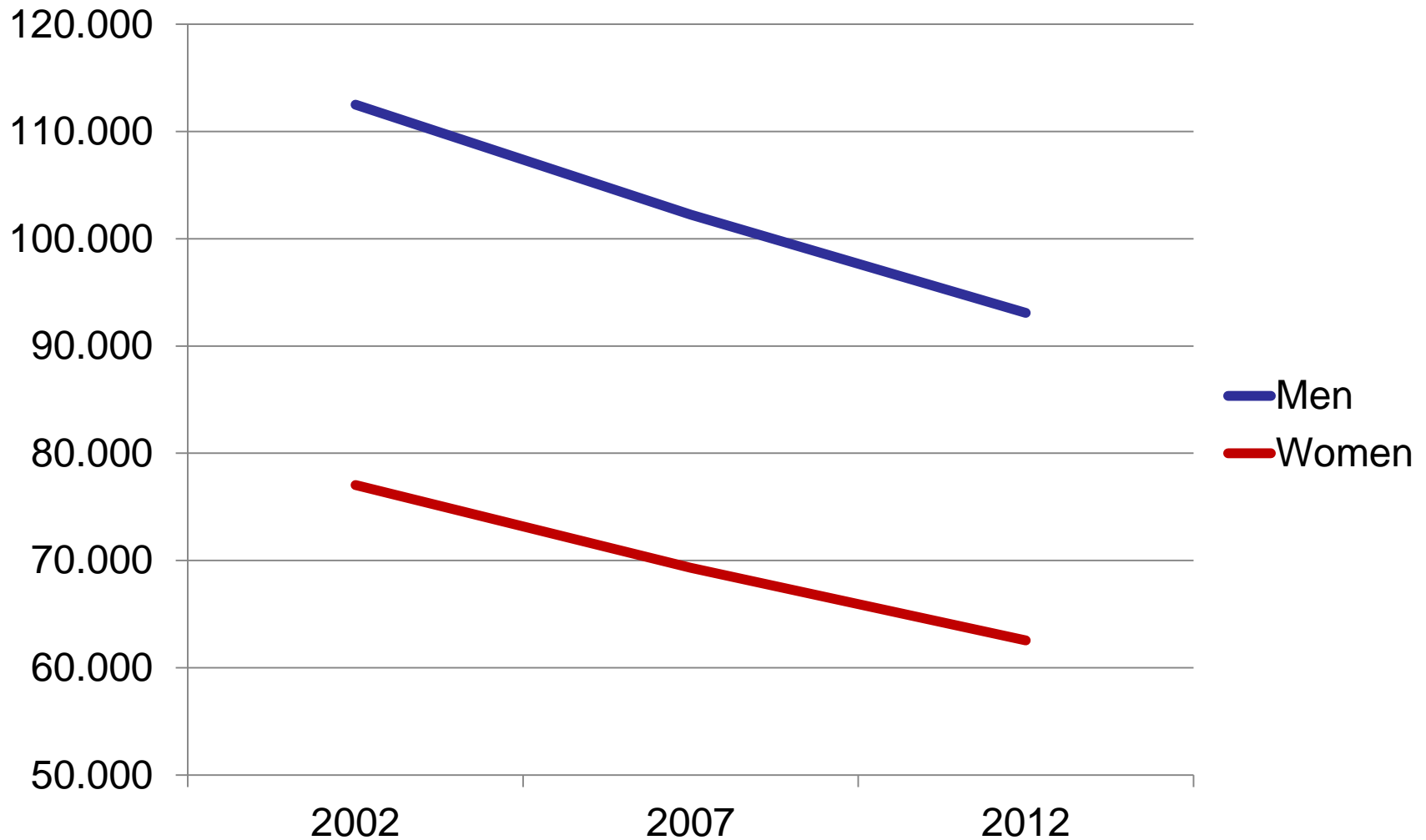
# The German Experience

- Growing importance and reliance on wealth for economic and social functions
- Usually assume intrahousehold sharing of resources. Wealth is surveyed at the household level
- This provides a deceptive picture of inequality - Intra-household inequalities are important
- Hence, there are differences in wealth levels among women and men, even in married couples

# The German wealth gap

- A significant gender gap exists
- Gap is driven by characteristics
- Labor market variables explain a substantial amount of the gap (own income and labor market experience) particularly at the bottom and top of the wealth distribution

# The trend in mean wealth and gap falls



# The Research Question

How does the role of these factors in explaining wealth gender differences change over time in Germany?



# Empirical Model for Wealth

Changes in wealth accumulation, by gender:

$$w_t = \alpha_t + \beta T_t + \gamma Z_{t5} + \delta L_{t-1} + \zeta \Delta C_t + \epsilon_t \quad (\text{OLS})$$

$w_t$  : net real wealth (inverse hyperbolic tr.)

$t = M$  (man),  $F$  (woman)

$t = 2007, 2012$

$t - 1 = 2002, 2007$

$T_t$  : control variables observed in  $t$

$Z_{t5}$  : control variables over the 5 previous y.

$L_{t-1}$  : lagged control variables

$\Delta C_t$  : change in control variables  
between  $t - 1$  and  $t$

**$T_t$  : migratory background, age, n. kids, marriages, length current marriage, share n. assets;**

**$Z_{t5}$ : months in fulltime/parttime work, long term unempl., IHS perm. income, IHS windfall income**

**$L_{t-1}$ : education, occupation, risk aversion;  $\Delta C_t$  : change in marital status**

# Measuring the changes in the wealth gap

1. Oaxaca-Blinder decomposition:

$$\Delta_t = w_t^M - w_t^F = (\bar{X}_t^M - \bar{X}_t^F)\hat{\vartheta}_t^M + \bar{X}_t^M(\hat{\vartheta}_t^M - \hat{\vartheta}_t^F) \quad (\text{OB})$$

2. Firpo, Fortin, Lemieux (2009) decomposition:

$$\Delta_{Q\tau} = (\bar{X}_t^M - \bar{X}_t^F)\hat{\vartheta}_{Q\tau}^M + \bar{X}_t^M(\hat{\vartheta}_{Q\tau}^M - \hat{\vartheta}_{Q\tau}^F) \quad (\text{Firpo})$$

$\Delta_{Q\tau}$  : difference in quantile  $\tau$  of the wealth distrib.

$\hat{\vartheta}_{Q\tau}^{M,F}$  : coefficients from the regression of the RIF variables of quantile  $\tau$  on the set of explanatory var.

# The German Socio-Economic Panel

- Ongoing panel (from 1984) on households in Germany (about 25,000 individuals/wave)
- Wealth topic module in 2002, 2007, 2012
  - Sample selection: 25-64 years old
  - Cross-sectional sample: 2002, 2007, 2012
  - Panel sample: 2002-2007 and 2007-2012  
(about 4; 000 - 5; 000 obs. per sex per period)
- Additional samples: only married (in  $t - 1$ ), only never married (in  $t - 1$ )

# Selected Descriptive Statistics

Variables	Men 2007	Men 2012	Women 2007	Women 2012
Lagged Low educated	0.13	0.11	0.14	0.11
Lagged Lower vocational	0.52	0.51	0.54	0.53
Lagged Upper vocational	0.15	0.15	0.14	0.15
Lagged University	0.18	0.20	0.15	0.17
Full-time (months)	47.40	47.88	20.98	24.98
Part-time (months)	2.16	1.80	16.37	14.18
Long-term unempl.	0.17	0.13	0.16	0.12
Lagged not empl.	0.02	0.01	0.20	0.14
Lagged trainee	0.06	0.05	0.05	0.06
Lagged self employed	0.09	0.10	0.04	0.04
Lagged white collar	0.34	0.33	0.43	0.49
Lagged blue collar	0.36	0.36	0.17	0.14
Lagged low civil serv.	0.03	0.03	0.01	0.02
Lagged high civil serv.	0.04	0.04	0.02	0.02
Permanent income	34,329.79	34,082.86	16,565.16	18,210.13

# Portfolio composition

Variables	Men		Women	
	2007	2012	2007	2012
Own property	0.42	0.40	0.39	0.36
Other real estate	0.12	0.13	0.10	0.09
Financial assets	0.49	0.48	0.44	0.43
Business assets	0.08	0.09	0.03	0.03
Tangible assets	0.06	0.08	0.06	0.07
Buil. Loan and Pr. Insurances	0.69	0.68	0.61	0.60
Consumer credits	0.24	0.26	0.19	0.22
<i>Property debt*</i>	0.65	0.63	0.65	0.62
<i>Other real estate debt*</i>	0.52	0.53	0.45	0.55

# Changing role of factors – by gender

	Men		Women	
	2007	2012	2007	2012
Full time empl.	0.03***	0.02*	0.01*	-0.00
Part time empl.	0.01	-0.01	0.01	0.01*
Long term unempl	-2.50***	-2.89***	-2.72***	-2.03***
Lagged Not empl	1.28	0.84	0.43	1.83***
Lagged Trainee	0.49	0.10	0.97*	2.34***
Lagged Self empl	1.29***	1.65***	1.12**	1.89***
Lagged White collar	0.91***	0.95***	1.09***	2.04***
Lagged civil serv low	0.75	2.57***	2.20**	2.97***
Lagged civil serv high	0.24	0.99*	1.40**	1.43**
Asint. perm. income	0.78***	0.31***	0.00	0.13*
Fin. assets share	0.50***	0.51***	0.44***	0.46***

+ p < 0.10, \* p < 0.05, \*\* p < 0.01 \*\*\* 0.001

# More factors

	Men		Women	
	2007	2012	2007	2012
Lagged lower voc. edu	0.53+	1.38***	1.50***	1.08***
Lagged upper voc. edu	0.91*	2.04***	1.98***	1.68***
Lagged university	1.38***	2.54***	2.61***	2.63***
Married > widowed	1.41	3.09	0.64	-1.75+
Married > divorced/sep	-2.35***	-2.26***	-2.65***	-2.32***
NM > married	-0.47	-0.06	-0.86+	0.34
Always NM	-2.01***	-1.66**	-2.47***	-2.77***
Single > married	-0.00	-1.15+	-1.54**	-0.43
Single (other)	-1.93***	-1.36**	-2.22***	-2.49***
Num. of marriages	-1.34***	-1.61***	-0.94***	-1.49***
Value inheritances/gifts	0.13***	0.08**	0.17***	0.09***
Obs.	5,240	3,813	5,824	4,388
Adj. R2	0.21	0.20	0.19	0.18

+ p < 0.10 \* p < 0.05 \*\* p < 0.01 \*\*\* 0.001

# Oaxaca-Blinder decomposition

		2007		2012	
		Coef.	SE	Coef.	SE
Overall	Men	8.45***	0.10	8.49***	0.11
	Women	7.97***	0.09	7.97***	0.10
	Difference	0.48***	0.13	0.52***	0.15
	Explained	1.58***	0.25	1.04***	0.24
	Unexplained	-1.10***	0.27	-0.53*	0.27
Explained	Age	0.06**	0.02	0.02	0.02
	Education	0.05***	0.02	0.05**	0.02
	Lab. market	0.36	0.25	0.62**	0.23
	Occupation	-0.02	0.02	-0.00	0.03
	Income	1.14***	0.17	0.35***	0.10
Unexplained	Age	-1.34	2.64	-5.93+	3.08
	Education	-0.89**	0.31	0.18	0.41
	Lab. market	0.47	0.50	-0.10	0.52
	Occupation	-0.16	0.19	-0.68**	0.24
	Income	7.43***	1.17	1.77+	0.98

+ p < 0.10, \* p < 0.05, \*\* p < 0.01 \*\*\* 0.001



# Firpo, Fortin, Lemieux decomposition

		2007			2012		
		Q10	Q50	Q90	Q10	Q50	Q90
Ov.	Men	0.03*	11.37***	13.33***	0.03**	11.42***	13.26***
	Women	0.03***	10.95***	13.00***	0.04***	10.96***	12.95***
	Difference	-0.01	0.43***	0.33***	-0.00	0.47***	0.31***
Expl.		0.02	0.62***	0.50***	0.00	0.58***	0.38***
Unexpl.		-0.03	-0.19	-0.17*	-0.01	-0.11	-0.07
Ex.	Education	0.00	0.03***	0.02***	0.00*	0.02*	0.01*
	Lab. mkt.	-0.02	-0.11	-0.11	0.01	0.28*	0.13
	Occup.	-0.01*	0.01	0.07***	-0.00	-0.00	0.06***
	Income	0.04+	0.67***	0.46***	-0.01	0.26***	0.15***
	Risk	-0.01*	0.02	0.03**	-0.01	0.01	0.03+
Un.	Education	-0.03	-0.30*	-0.11	0.04	-0.24	0.05
	Lab. mkt.	-0.00	0.08	-0.40*	0.04	-0.39	-0.40*
	Occup.	0.00	-0.09	-0.05	-0.03	-0.22+	-0.05
	Income	0.34*	4.02***	3.04***	-0.12	1.75***	1.37***
	Risk	-0.01	-0.07	0.08	-0.00	0.05	0.13

+ p < 0.10, \* p < 0.05, \*\* p < 0.01 \*\*\* 0.001

# Conclusions

- The gender wealth gap for 25-64 old individuals declined
- For both sexes mean and median wealth has declined, but more for men;
- Labor market, occupational status, and income play an increasing role in wealth accumulation for women.
- More equal wealth accumulation in terms of characteristics and returns;
  - The explained wealth gap is positive, but decreasing
  - The unexplained wealth gap is negative, but decreasing
- Increasing effect of labor market in explaining the gap, compensated by a decreasing effect of permanent income;
- The return to occupations contributes in reducing the gap;
- At the top of the wealth distribution,
  - differences in the occupation still contributes to the explained gap;
  - preference for risk contributes to the explained gap

# Comments

- Investigate “sharing” responses by men and women – how do they respond; how do responses change over time

# The GSOEP sharing questions

**A** Are you personally the owner of the house or apartment in which you live?

Yes.....  →  
No.....  ↓

<b>Value:</b> If you were to sell it today, how much would you receive for your house/apartment including land?	euros .....	<input type="text"/>
<b>Loans:</b> If you are still paying off a loan on your house/apartment, how much is left to repay (excluding interest)?	euros .....	<input type="text"/>
<b>Personal share of property:</b> Are you the sole owner (100%) or co-owner (e.g., with your spouse)? If co-owner, what share do you own?	All loans are paid off in full ...	<input type="checkbox"/>
	Sole owner .....	<input type="checkbox"/>
	Share in %.....	<input type="text"/> <input type="text"/>

**D** Do you own financial assets in the form of a savings account, bonds (*Sparbrief / Pfandbrief*), shares, or investments?

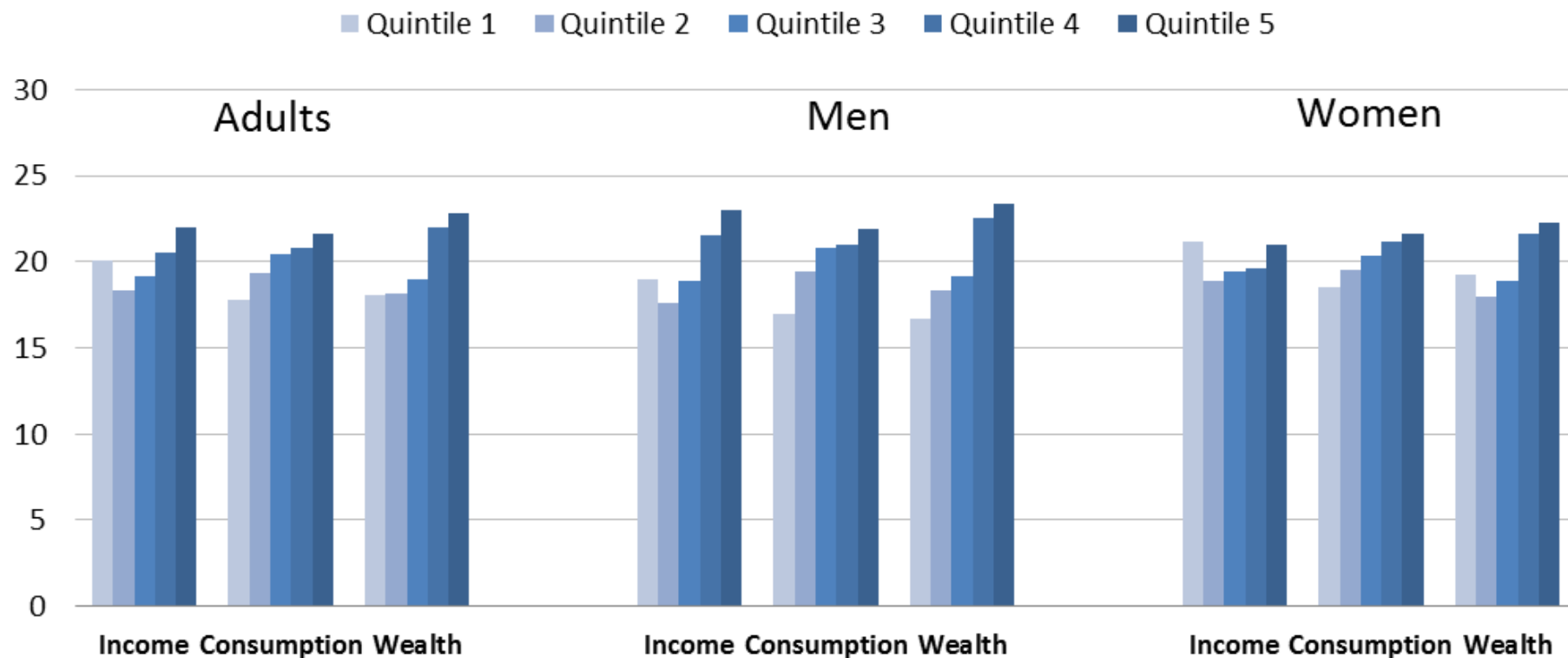
Yes.....  →  
No.....  ↓

<b>Value:</b> What do you estimate to be the value of your financial assets?	euros	<input type="text"/>
<b>Personal share of property:</b> Are these financial assets in your name or do you share them through joint accounts, i.e., with your spouse? If shared, what share do you own?	Sole owner .....	<input type="checkbox"/>
	Share in %.....	<input type="text"/> <input type="text"/>

# Comments

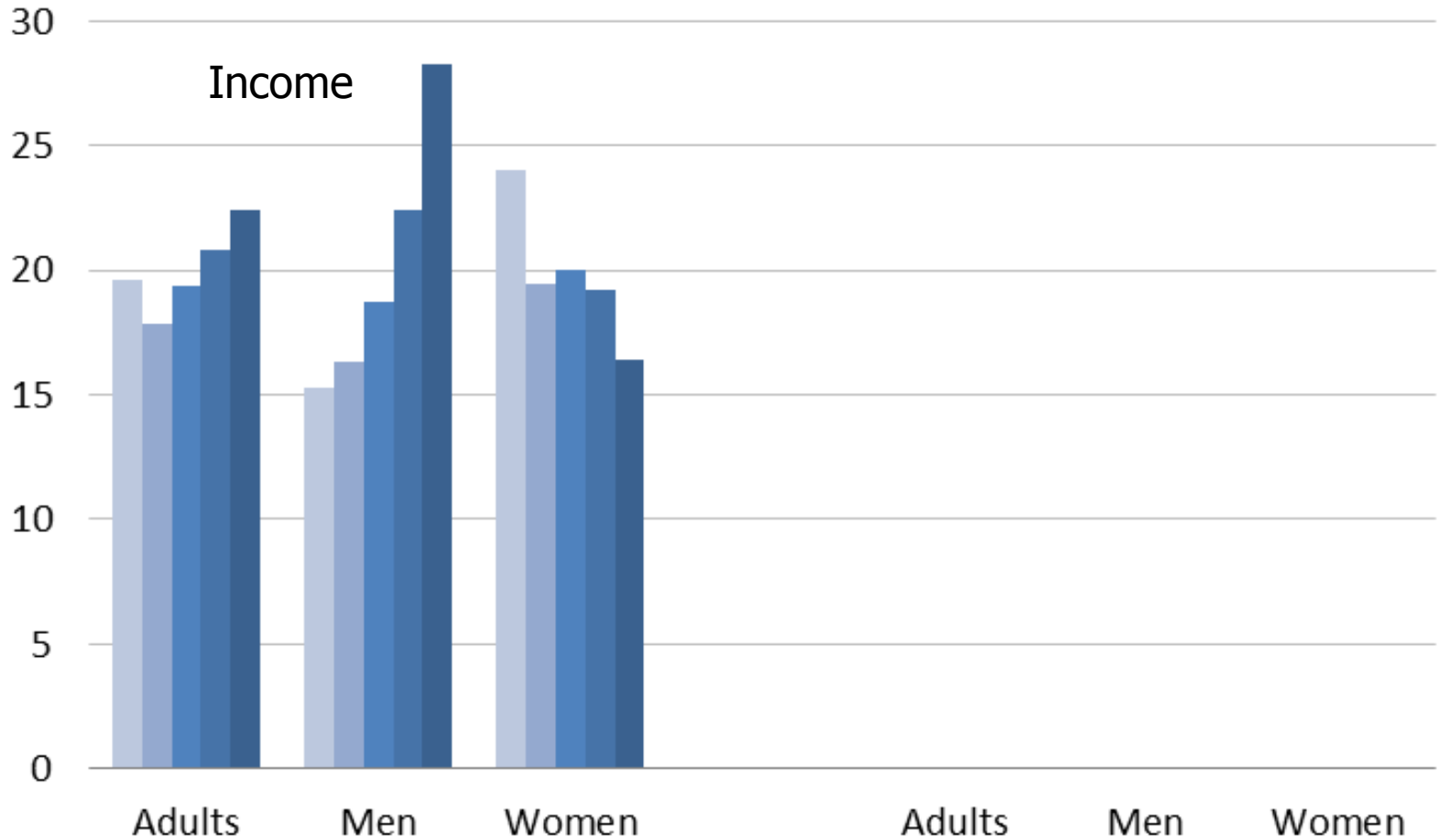
- Investigate “sharing” responses by men and women – how do they respond; how do responses change over time
- Intra-household distribution is important

# By Gender – where intrahousehold distribution matters



# By Gender for Couples

sharing distribution gives women 80% of men's income

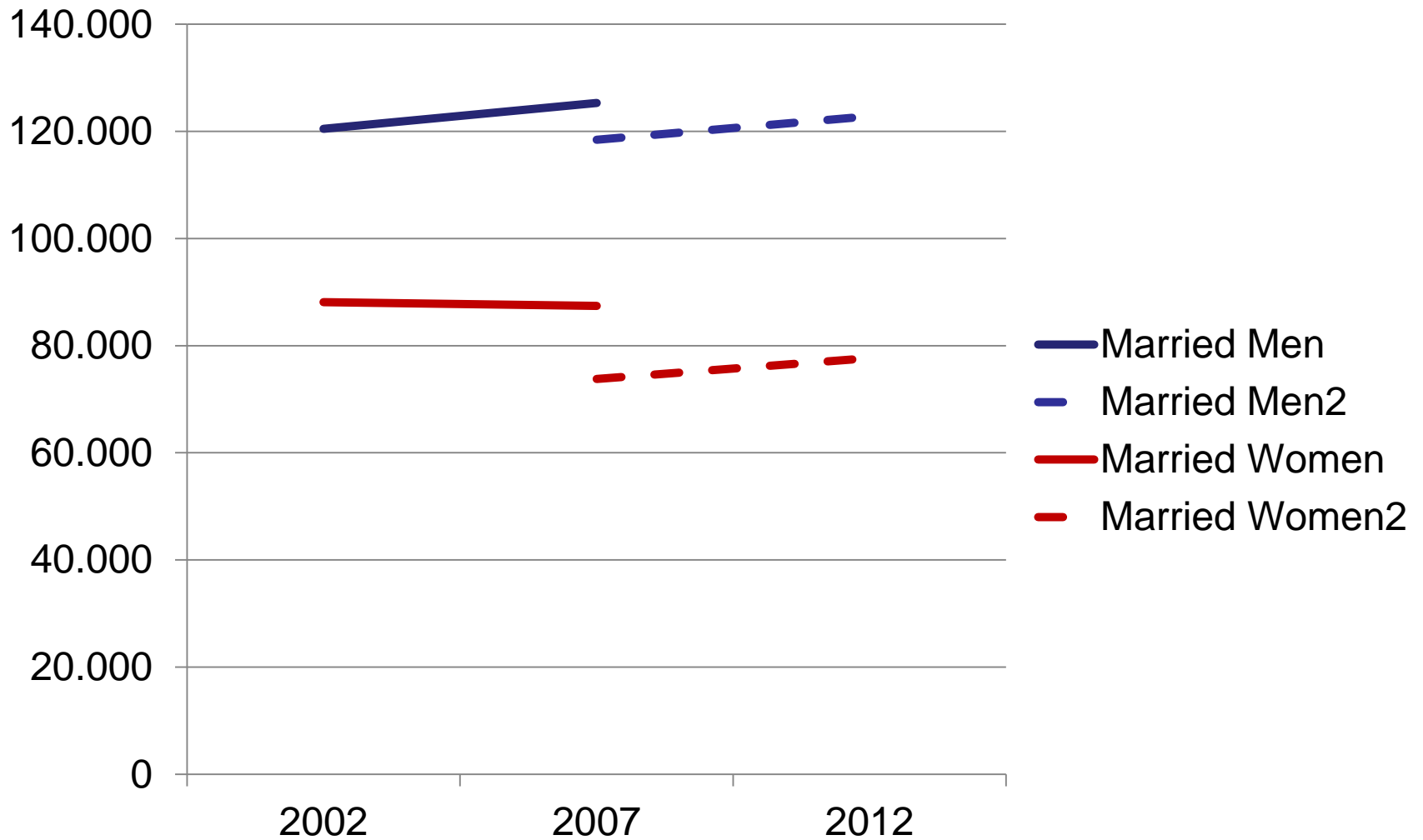


# Comments

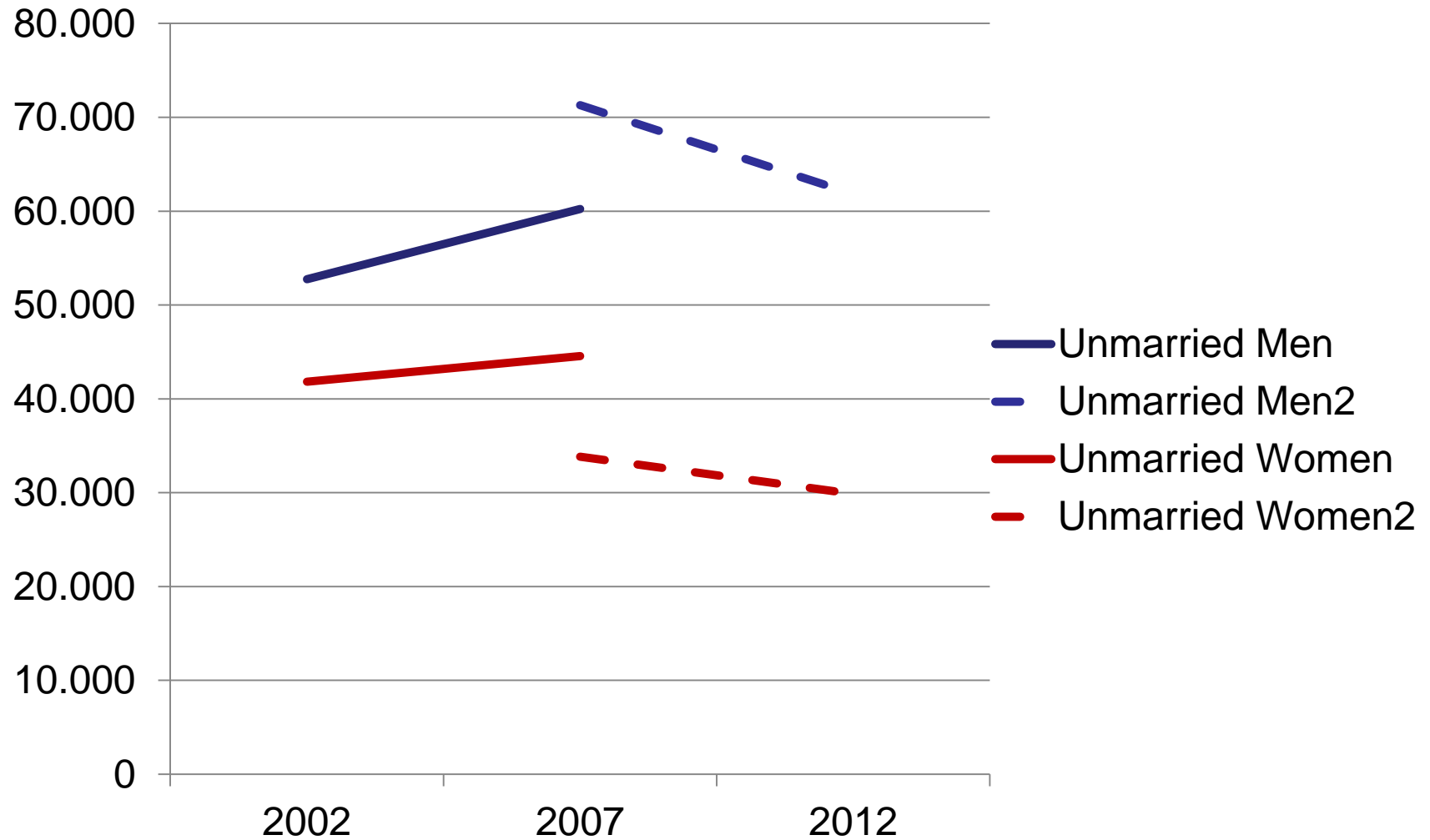
- Investigate “sharing” responses by men and women – how do they respond; how do responses change over time
- Intra-household distribution is important
- **Explaining the differences between married and never married women**



# Mean wealth for married men and women



# Mean wealth for never married



# Comments

- Investigate “sharing” responses by men and women – how do they respond; how do responses change over time
- Intra-household distribution is important
- How do explain the differences between married and never married women
- Exploit longitudinal nature of survey and use panel changes
- What about pension wealth – public and private
- Further investigate the negative unexplained variance

- **EXTRA SLIDES**

		<b>Overall</b>	<b>Married in perdioid 1</b>	<b>Never married in period 1</b>
<b>Men</b>	2002	101,677	120,459	52,746
<b>Men</b>	2007	100,867	125,298	60,237
<b>Women</b>	2002	73,001	88,116	41,817
<b>Women</b>	2007	71,677	87,405	44,563
<b>Gender Gap</b>	2002	28,676	32,343	10,929
<b>Gender Gap</b>	2007	29,190	37,894	15,674
<b>Men</b>	2007	98,869	118,433	71,300
<b>Men</b>	2012	96,406	122,839	61,816
<b>Women</b>	2007	58,599	73,775	33,816
<b>Women</b>	2012	57,603	77,688	29,871
<b>Gender Gap</b>	2007	40,270	44,658	37,484
<b>Gender Gap</b>	2012	38,803	45,152	31,945