

IARU AGEING LONGEVITY AND HEALTH CONFERENCE 2018

WORK EXPECTATIONS OF MATURE SINGAPOREANS

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TODAY'S PRESENTATION

1. Introduction to Work Expectations in the Singapore Life Panel
2. Work Expectations by Employment Status
3. by Health
4. by SES
5. Within couples
6. Discussion

WHAT IS THE SINGAPORE LIFE PANEL®?



Monthly survey of
Singaporeans & Permanent
residents aged 50 to 70



Contains 100 core
questions



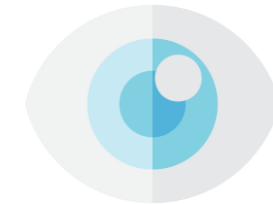
Combines to more than
1,000 unique variables



39 waves completed



Average 8,000 responses
each month



Combines to more than 300,000
person-wave observations

DATA IN THE SLP

DEMOGRAPHY



HOUSING



WORK



CONSUMPTION



INCOME



WEALTH



DATA IN THE SLP

HEALTH



SHOCKS



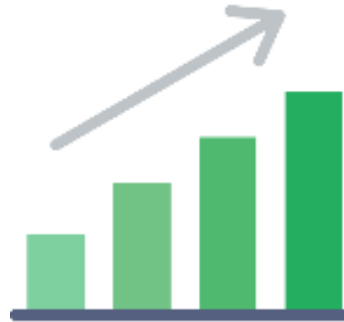
GOVERNMENT



WELL-BEING



EXPECTATIONS



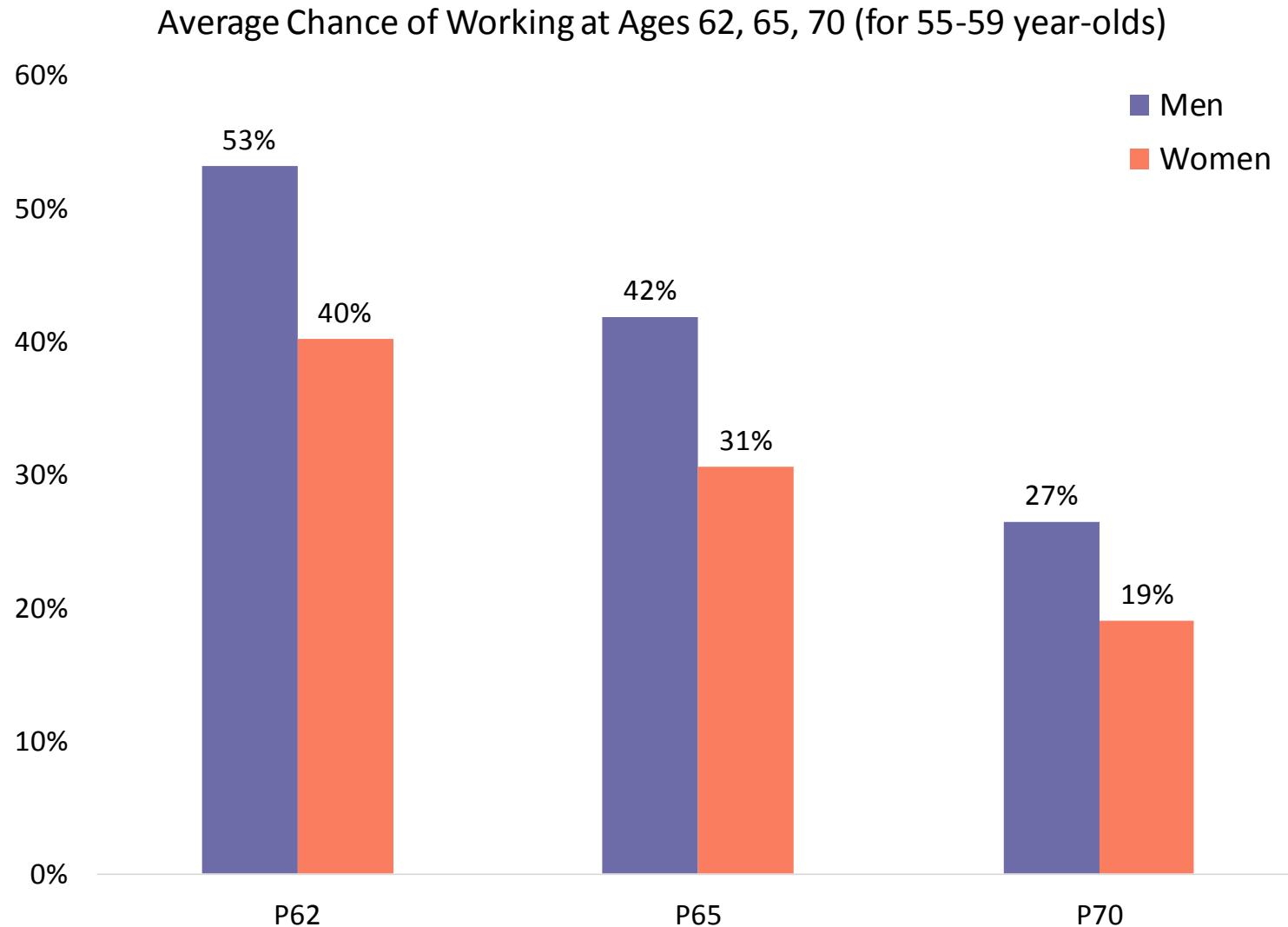
INSIGHTS



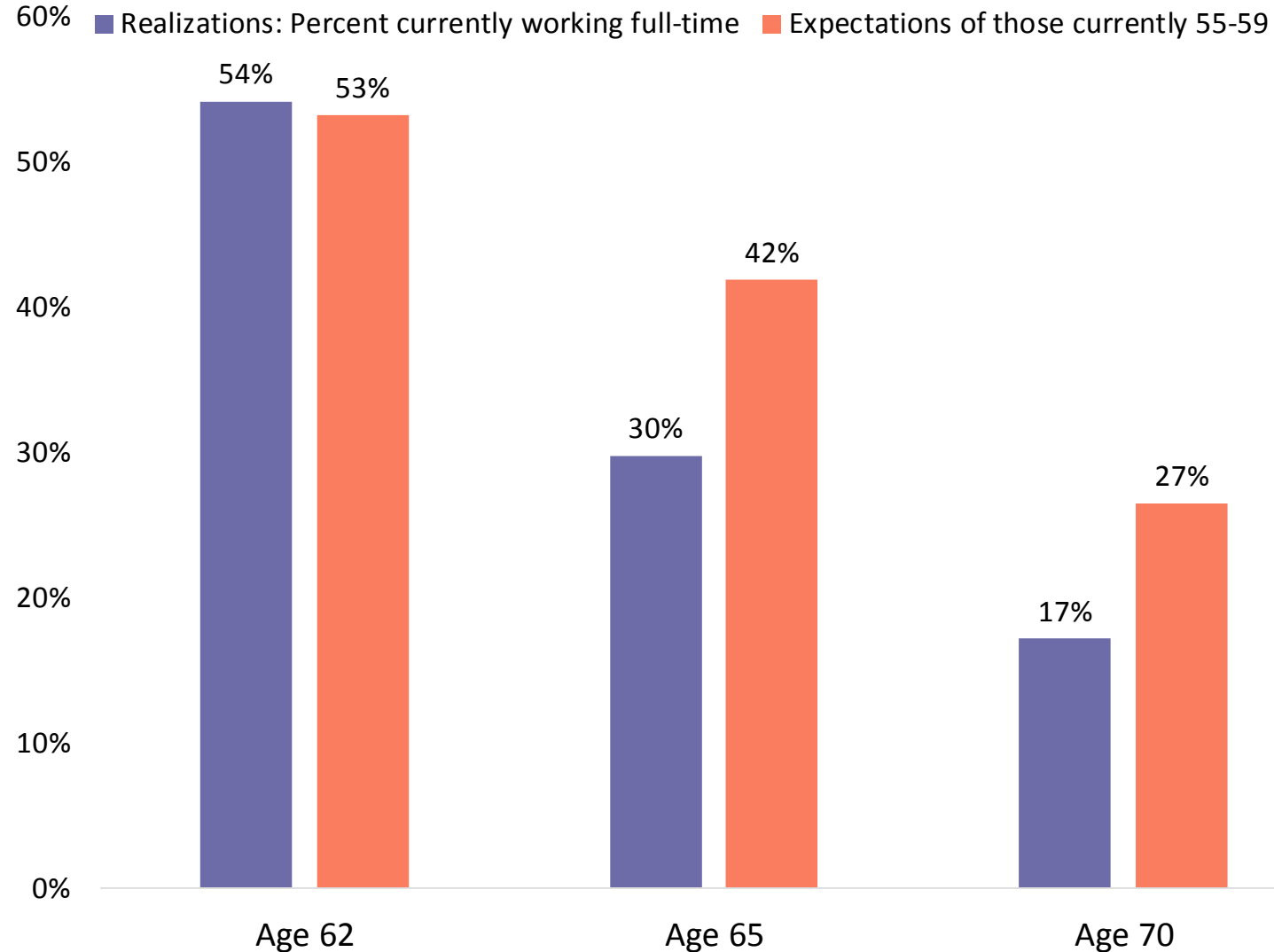
WORK EXPECTATIONS

- Work expectations collected every quarter, ages 62, 65 and 70:
On a scale from 0 percent to 100 percent where "0" means that you think there is absolutely no chance, and "100" means that you think the event is absolutely sure to happen, what do you think the chances are that you will be working full-time after you reach age 62?
- Many benefits
- Study looks at demographic variation in work expectations, both in the cross-section and over time with responses to changes in health and family situation.

EXPECT ONE IN FOUR MEN AND ONE IN FIVE WOMEN CURRENTLY AGED 55-59 TO STILL BE WORKING AT AGE 70

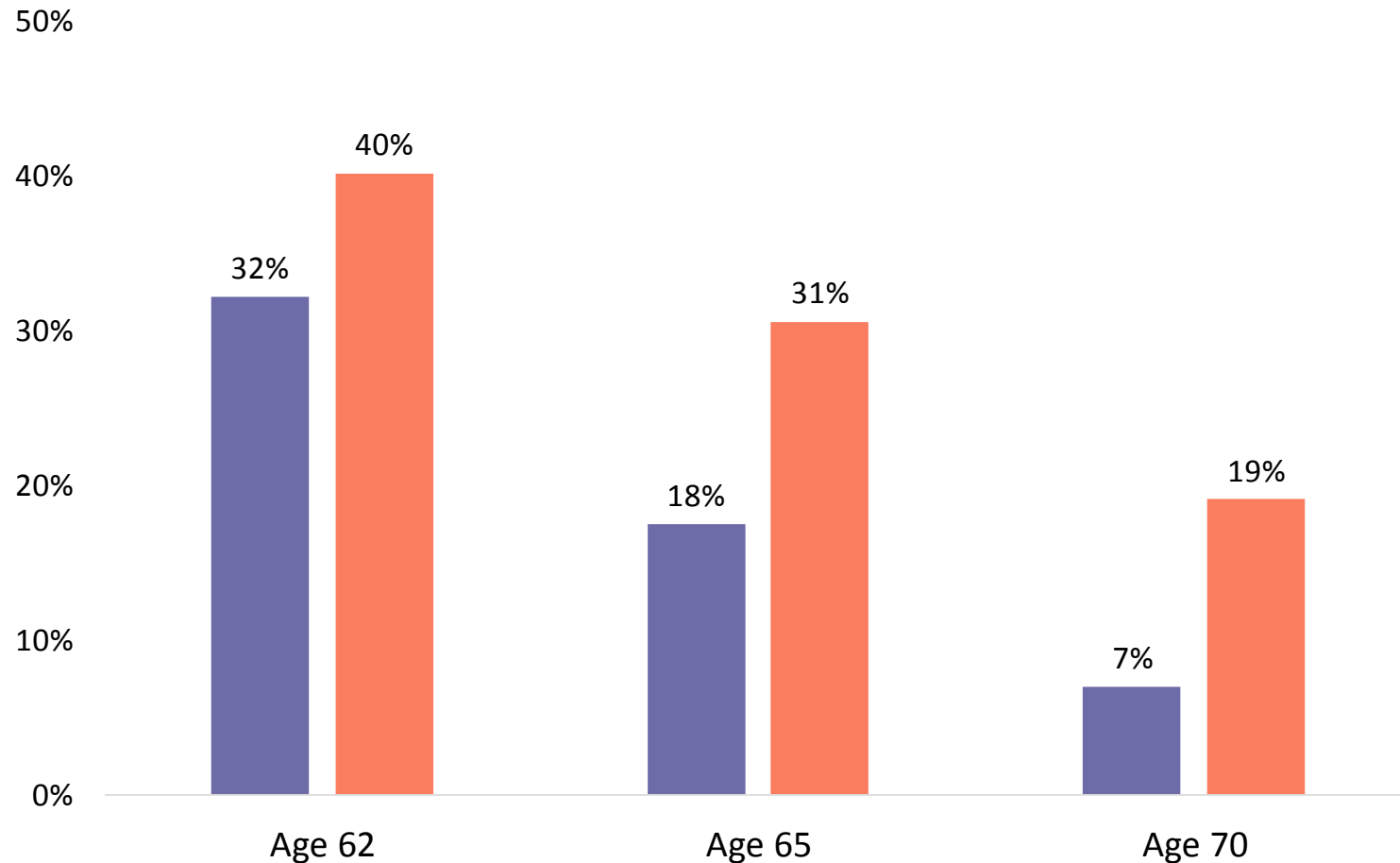


EXPECT INCREASES IN THE PROPORTION OF MEN WORKING AT AGES 65 AND 70

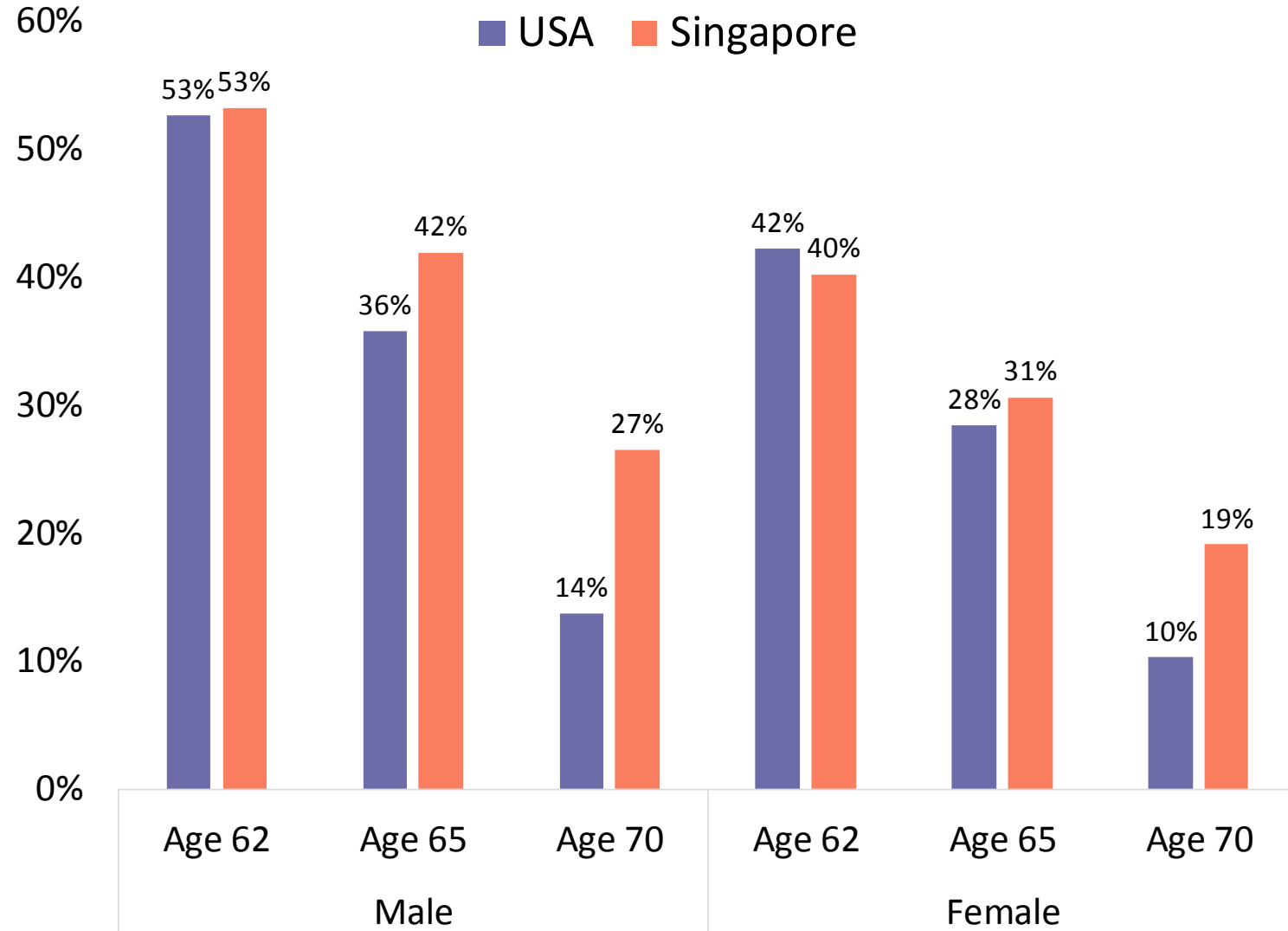


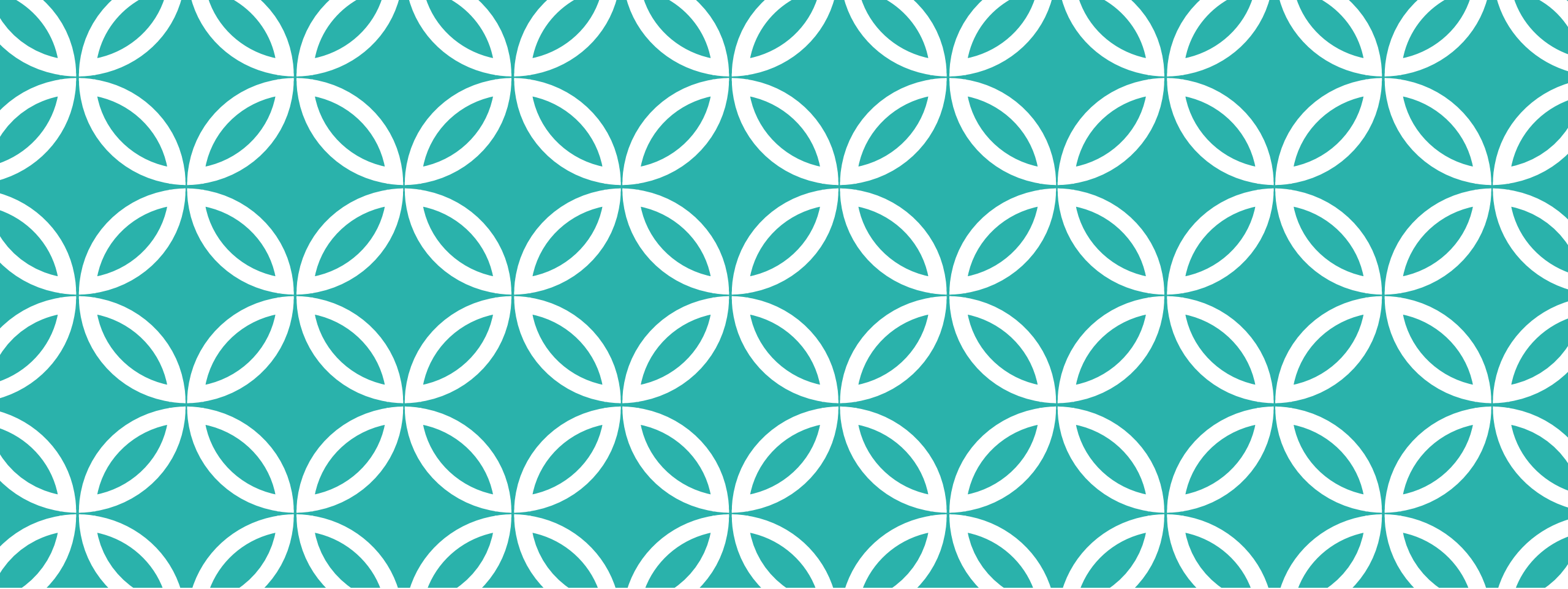
SUBSTANTIAL INCREASES IN THE PROPORTION OF WOMEN WORKING AT ALL THREE AGES

60% ■ Realizations: Percent currently working full-time ■ Expectations of those currently 55-59



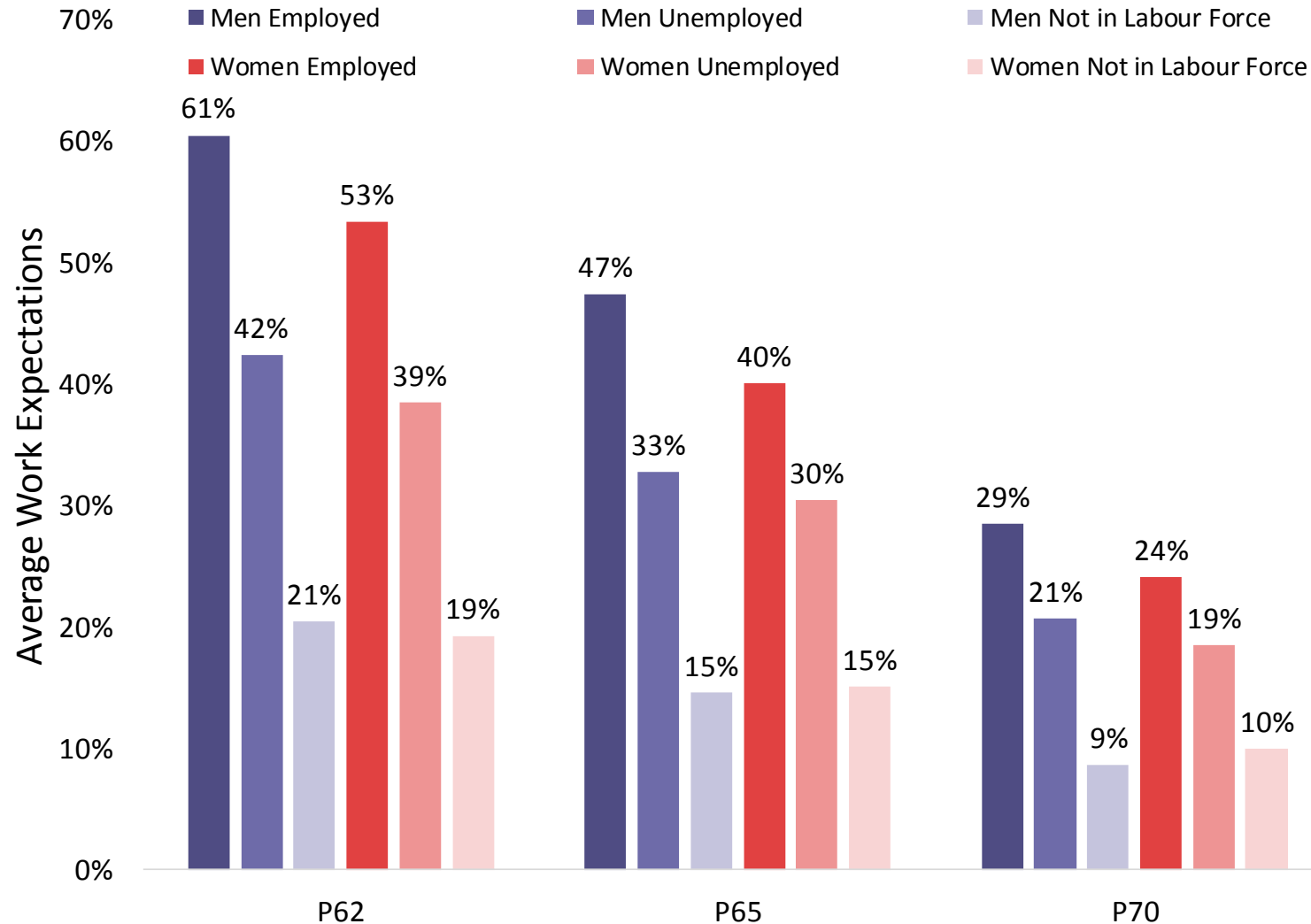
EXPECT SINGAPOREAN 55-59 YEAR-OLDS TO WORK LATER IN LIFE THAN THOSE IN THE USA





WORK EXPECTATIONS AND EMPLOYMENT

WORK EXPECTATIONS HIGHER FOR THOSE IN THE LABOUR FORCE



CROSS-SECTIONAL REGRESSION SPECIFICATION

- Sample: Singaporean PRs and citizens aged 50-69 in July 2015 and who answered at least at least seven quarterly waves
- Model: OLS predicting P62, P65 and P70, standard errors clustered at the individual level
- RHS: demography, SES, health, employment, respondent traits, spouse's work.

CROSS-SECTIONAL REGRESSION: EMPLOYMENT STATUS

		P62		P65		P70	
		Coef.	P	Coef.	P	Coef.	P
Employment Status	Full-Time	Omit		Omit		Omit	
	Part-Time	-0.12	0.00	-0.09	0.00	-0.04	0.00
	Variable Hours	-0.04	0.00	-0.01	0.24	0.01	0.10
	Self-Employed	0.01	0.03	0.04	0.00	0.03	0.00
	Unemployed	-0.11	0.00	-0.10	0.00	-0.06	0.00
	Retired	-0.31	0.00	-0.27	0.00	-0.19	0.00
	Homemaker	-0.25	0.00	-0.21	0.00	-0.15	0.00
	Laid off/Sick	-0.14	0.00	-0.12	0.00	-0.07	0.00
	Disabled	-0.32	0.00	-0.25	0.00	-0.21	0.00
	Student/Other	-0.10	0.00	-0.08	0.00	-0.07	0.00

Note: OLS predicting work expectations and controlling for age, gender, race, education, marital status, income, wealth, retirement preparedness, probability numeracy, financial literacy, cognitive ability, employment status, occupation, industry, sector, self-assessed health, occupation, chronic conditions, subjective survival to age 75, spouse's employment status and work expectations.

N's are person-wave observations P62=41,866, P65=51,241, P70=64,012. Standard errors clustered at the individual level.

INTRODUCTION TO FIRST-DIFFERENCES

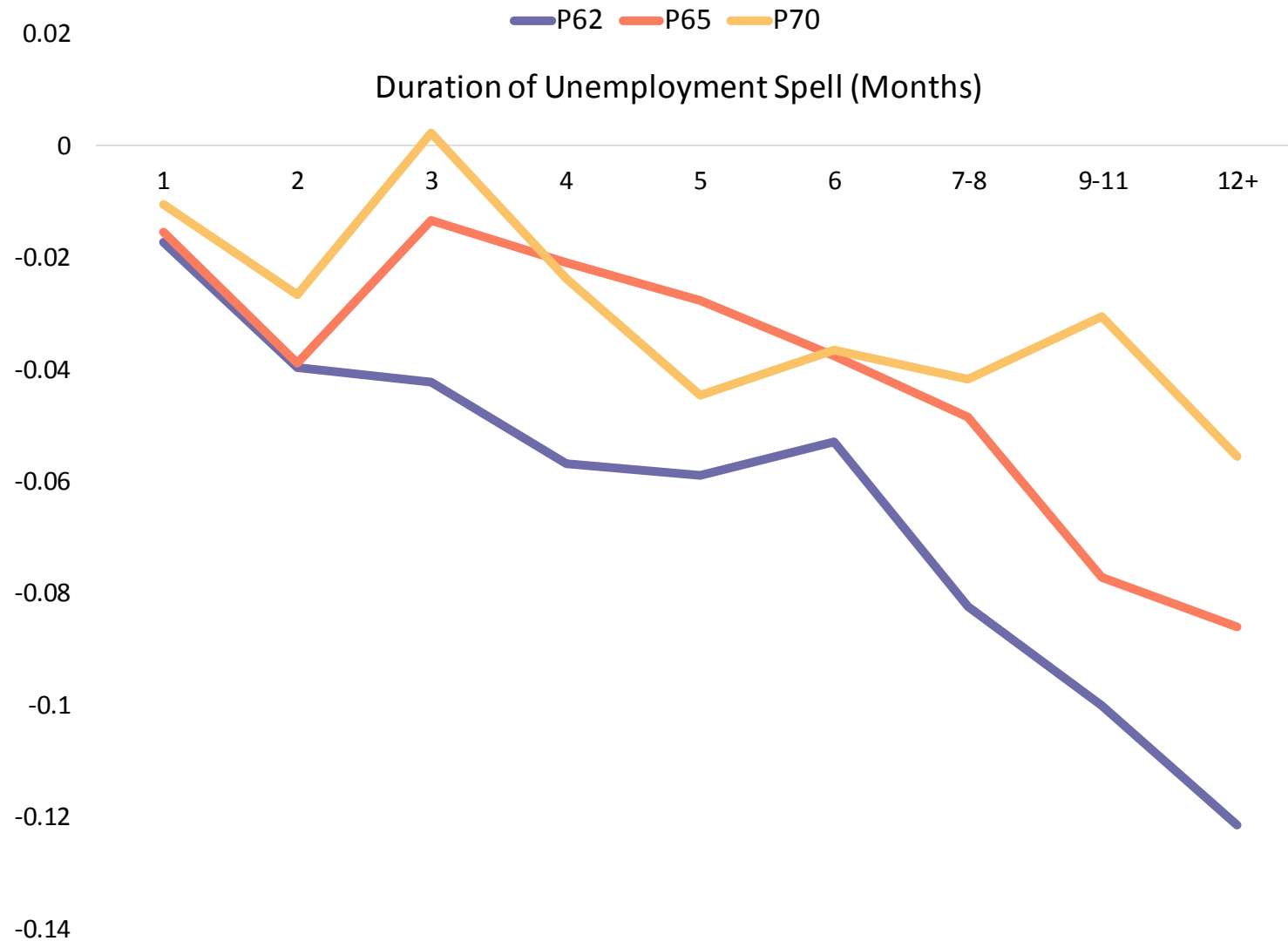
- Want to understand the dynamic impact of changes in employment status on work expectations
- Do this by looking at first-differences
- We analyze the average 3-month change in respondent's work expectations against various shifts in their employment status

WORK EXPECTATIONS DECLINE WITH AN EXIT FROM WORK, RISE WITH ENTRY

- Change in Respondent Work Expectations with Change in **Respondent Employment**

Respondent Employment Status		Baseline Mean (in t-3)			Mean Δ			for P65	
t-3	t	P62	P65	P70	P62	P65	P70	SE	N
Not in LF	Not in LF	20%	14%	9%	-0.1%	0.1%	0.1%	0.2%	11288
Not in LF	Employed	38%	30%	21%	7.0%	7.4%	6.1%	1.2%	772
Not in LF	Unemployed	34%	29%	18%	1.7%	-0.4%	2.1%	1.9%	217
Employed	Not in LF	42%	35%	25%	-7.1%	-6.5%	-4.8%	1.1%	868
Employed	Employed	55%	44%	28%	0.0%	0.0%	0.3%	0.2%	32850
Employed	Unemployed	47%	38%	25%	-2.3%	-2.0%	0.0%	1.4%	429
Unemployed	Not in LF	36%	27%	19%	-3.9%	-3.5%	-3.0%	1.9%	254
Unemployed	Employed	47%	38%	28%	3.0%	2.0%	0.7%	1.6%	362
Unemployed	Unemployed	38%	30%	19%	0.6%	0.0%	0.0%	0.7%	1506

WORK EXPECTATIONS DECLINE AS UNEMPLOYMENT SPELL EXTENDS

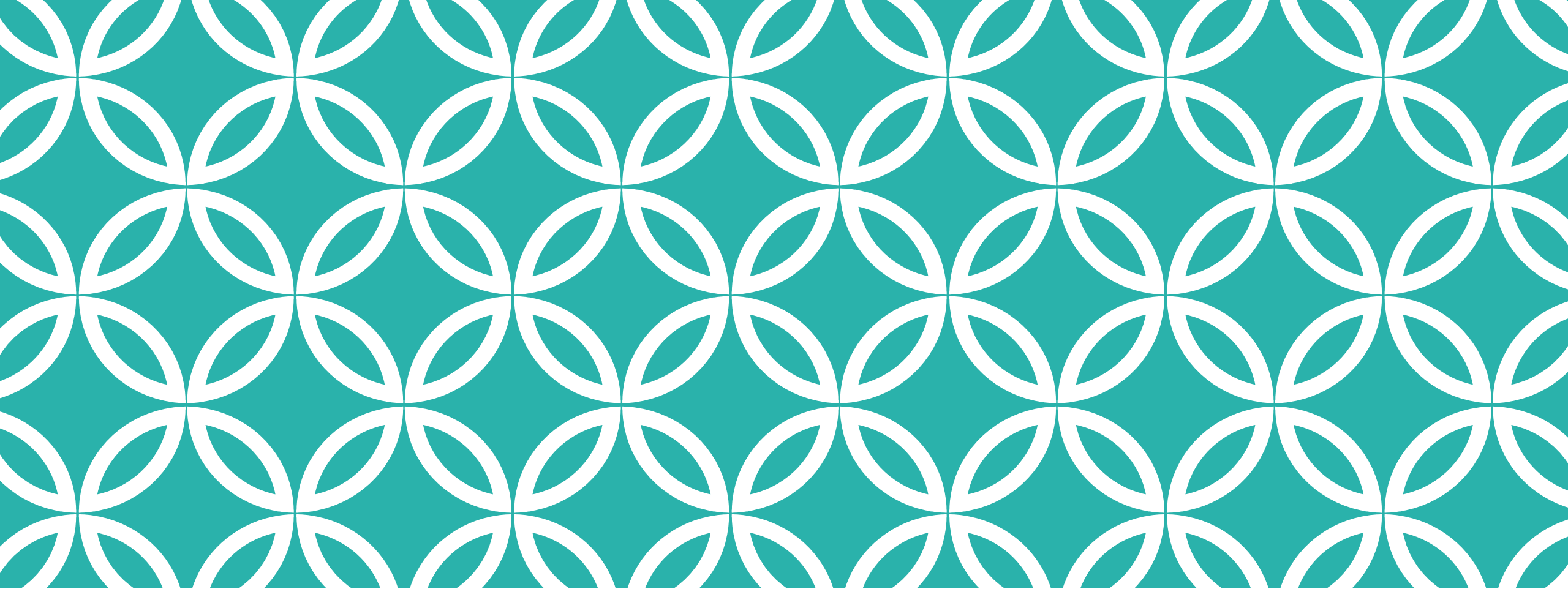


LOOKING FOR CAUSALITY: FIXED-EFFECTS MODEL

- Model: Panel fixed-effects linear regression predicting quarterly changes in P65 or P70.
- RHS, changes in:
 - respondent employment status
 - spouse employment status
 - presence of various chronic conditions

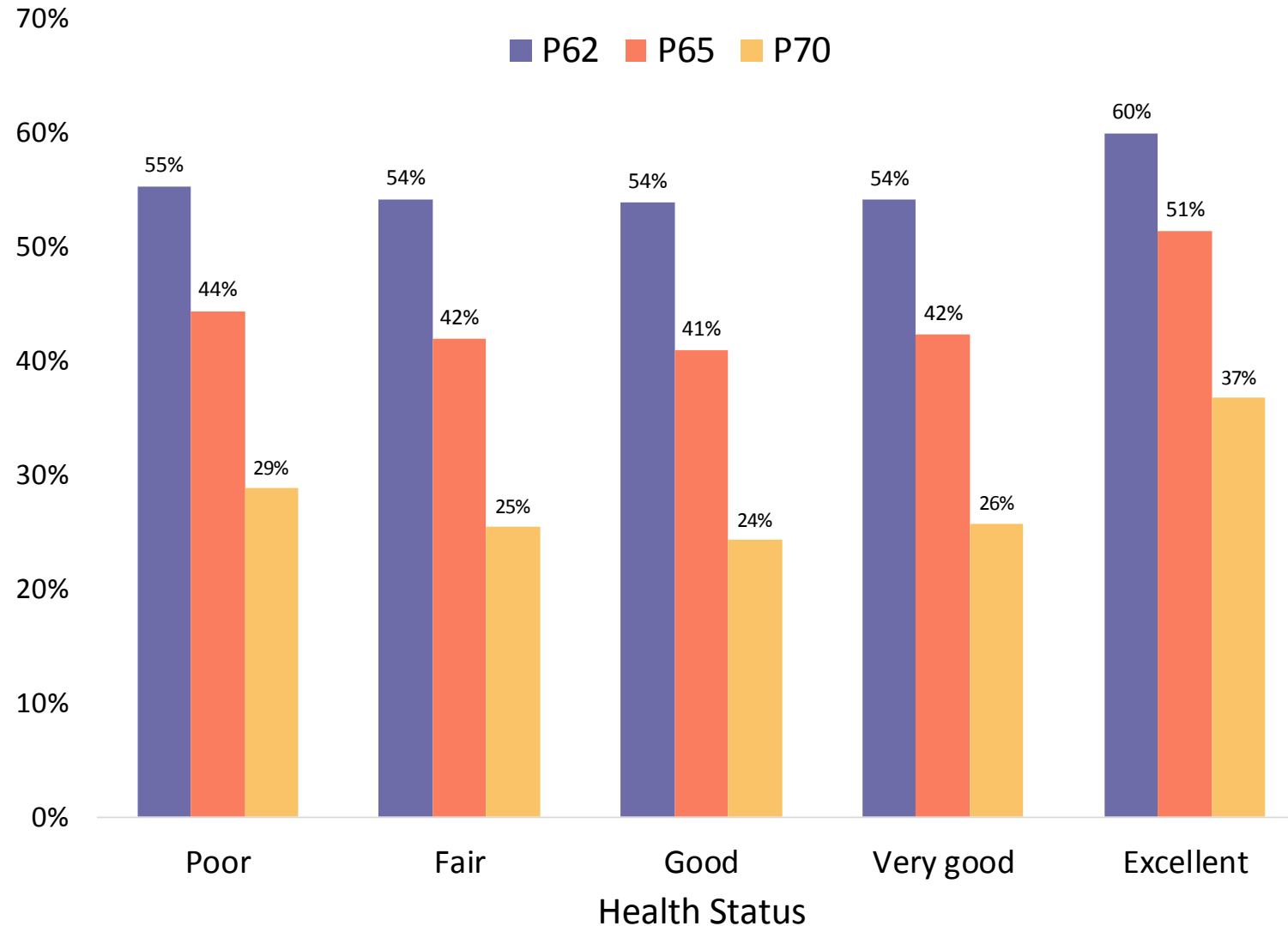
SHIFT FROM EMPLOYMENT OUT OF THE LABOUR FORCE CAUSES AN 11% DECLINE IN PROBABILITY OF WORKING AT AGE 62

		P62		P65		P70	
		Coef.	P	Coef.	P	Coef.	P
Age in Days		0.00	0.54	0.00	0.86	0.00	0.00
Respondent Employment Status	Not in Labour Force	-0.11	0.00	-0.09	0.00	-0.07	0.00
	Employed	Omit		Omit		Omit	
	Unemployed	-0.05	0.00	-0.06	0.00	-0.04	0.00
Spouse Employment Status	Not in Labour Force	0.01	0.07	0.02	0.02	0.00	0.80
	Employed	Omit		Omit		Omit	
	Unemployed	0.00	0.65	0.00	0.95	0.00	0.99
Chronic Shocks	Hypertension	0.00	0.74	-0.01	0.62	0.00	0.78
	Diabetes	0.03	0.15	0.04	0.01	0.02	0.15
	Cancer	0.04	0.33	0.02	0.61	-0.02	0.32
	Heart	-0.01	0.46	0.00	0.98	-0.01	0.59
	Stroke	-0.08	0.06	-0.05	0.16	-0.03	0.21
	Arthritis	0.01	0.44	0.00	0.74	-0.01	0.29
	Psychiatric	-0.01	0.68	-0.02	0.31	0.00	0.97
Constant		0.55	0.00	0.36	0.00	-0.37	0.00

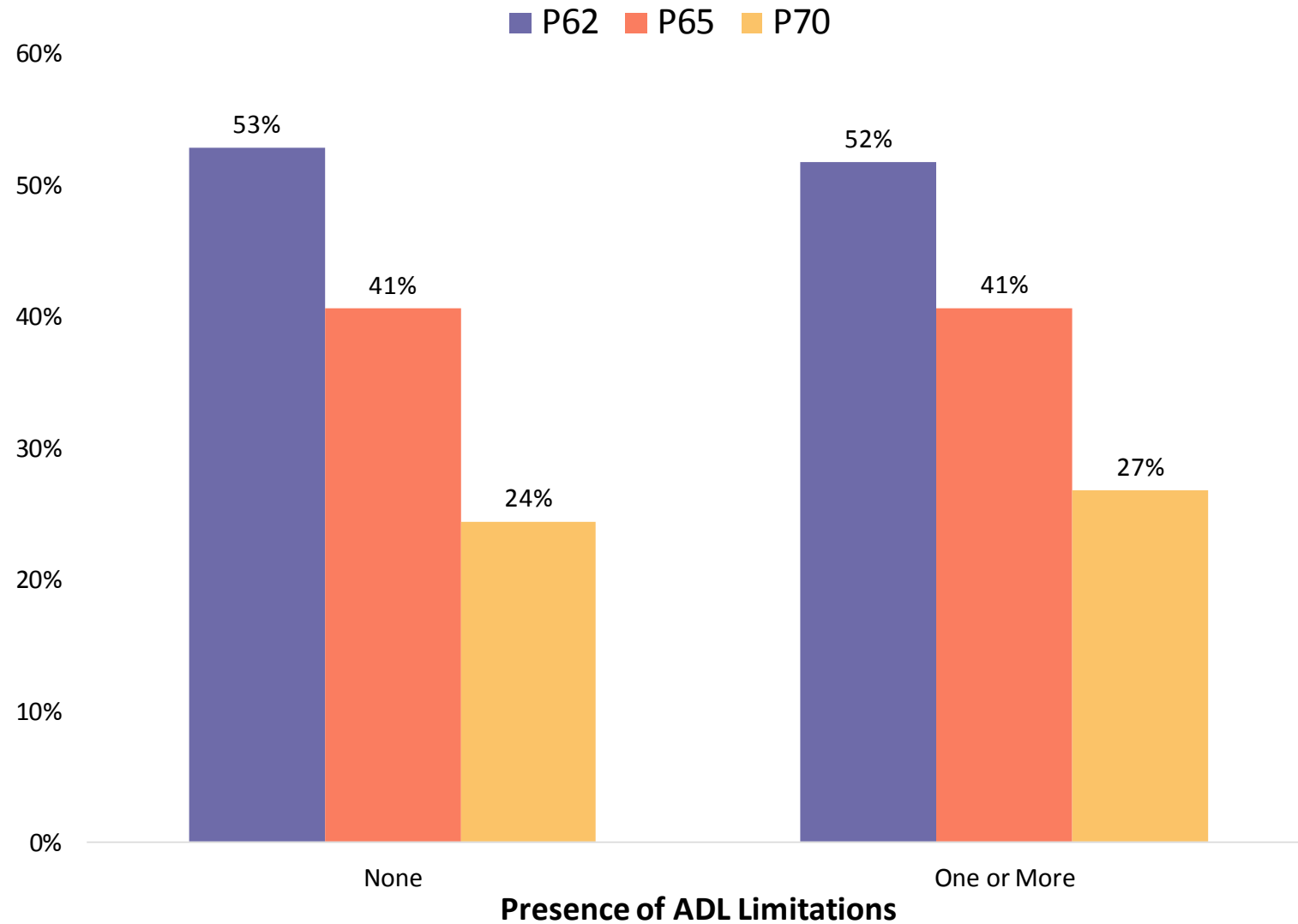


WORK EXPECTATIONS AND HEALTH

LITTLE DIFFERENCE IN WORK EXPECTATIONS FOR DIFFERENT LEVELS OF SELF-ASSESSED HEALTH



NO DIFFERENCE IN WORK EXPECTATIONS WITH PRESENCE OF ADL LIMITATIONS



CROSS-SECTIONAL REGRESSION: HEALTH

		P62		P65		P70	
		Coef.	P	Coef.	P	Coef.	P
Health Condition	Poor	-0.01	0.13	0.00	0.99	-0.01	0.17
	Fair	0.00	0.49	0.00	0.65	0.00	0.59
	Good	Omit		Omit		Omit	
	Very good	0.00	0.49	0.01	0.00	0.02	0.00
	Excellent	0.04	0.00	0.07	0.00	0.07	0.00
Presence of Chronic Conditions	Hypertension	0.01	0.00	0.01	0.00	0.00	0.83
	Diabetes	0.00	0.63	0.00	0.40	0.00	0.63
	Cancer	0.00	0.83	0.02	0.02	0.01	0.02
	Heart	0.01	0.21	0.01	0.24	0.01	0.08
	Stroke	-0.05	0.00	-0.03	0.00	-0.02	0.01
	Arthritis	0.00	0.26	0.00	0.49	0.00	0.60
	Psychiatric	0.00	0.96	-0.01	0.42	0.01	0.04

Note: OLS predicting work expectations and controlling for age, gender, race, education, marital status, income, wealth, retirement preparedness, probability numeracy, financial literacy, cognitive ability, employment status, occupation, industry, sector, self-assessed health, occupation, chronic conditions, subjective survival to age 75, spouse's employment status and work expectations.
N's are person-wave observations P62=41,866, P65=51,241, P70=64,012. Standard errors clustered at the individual level.

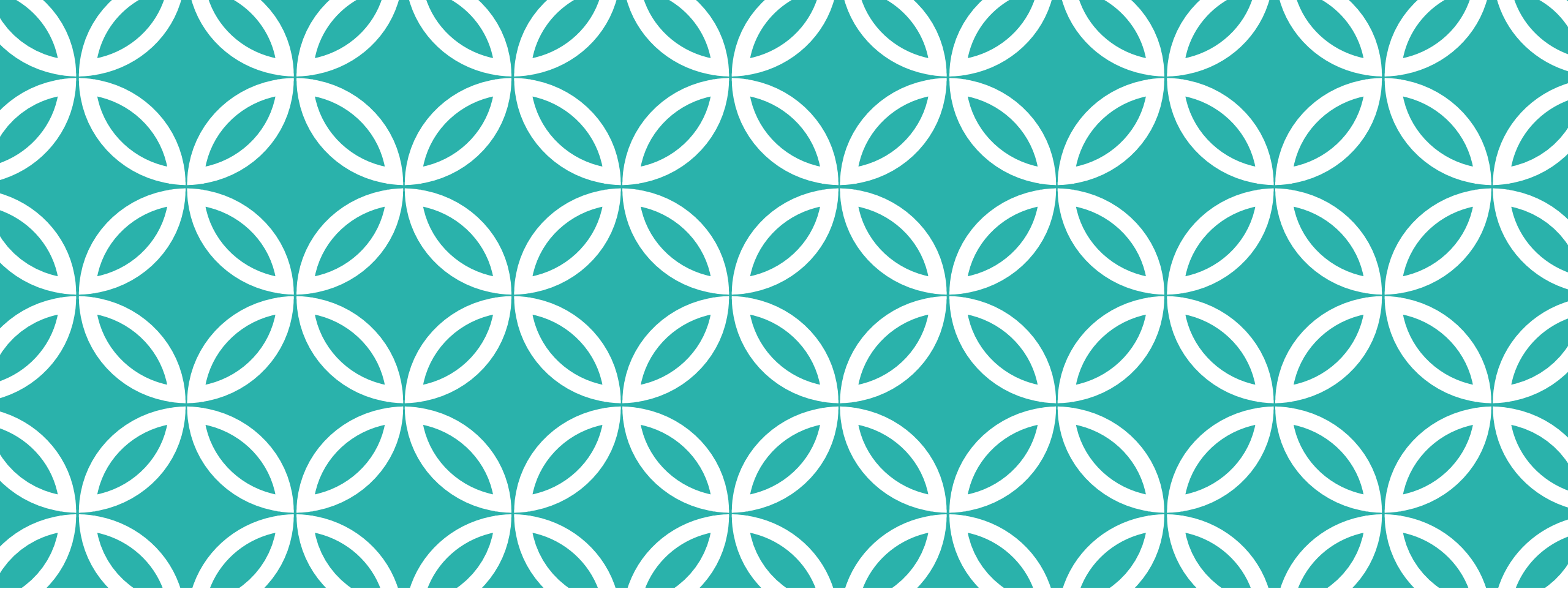
ONSET OF CANCER AND STROKE ASSOCIATED WITH A DECLINE IN WORK EXPECTATIONS AT ALL AGES

- Change in Respondent Work Expectations with onset of Chronic Condition

Shock	Mean P Before Shock			Change in Respondent P			Std Error (P65)	N (for P65)
	P62	P65	P70	P62	P65	P70		
Hypertension	52%	41%	24%	-5.2%	-2.5%	-1.2%	1.6%	367
Diabetes	44%	35%	22%	-0.8%	-0.2%	-2.0%	2.2%	213
Cancer	51%	40%	24%	-4.0%	-7.2%	-8.6%	4.3%	80
Heart	43%	35%	20%	0.2%	-1.3%	-1.5%	1.8%	247
Stroke	44%	43%	29%	-3.3%	-6.7%	-6.5%	5.3%	47
Arthritis	47%	36%	21%	0.7%	0.2%	1.1%	1.5%	400
Psychiatric	41%	32%	23%	-2.0%	-2.1%	-3.4%	2.8%	92

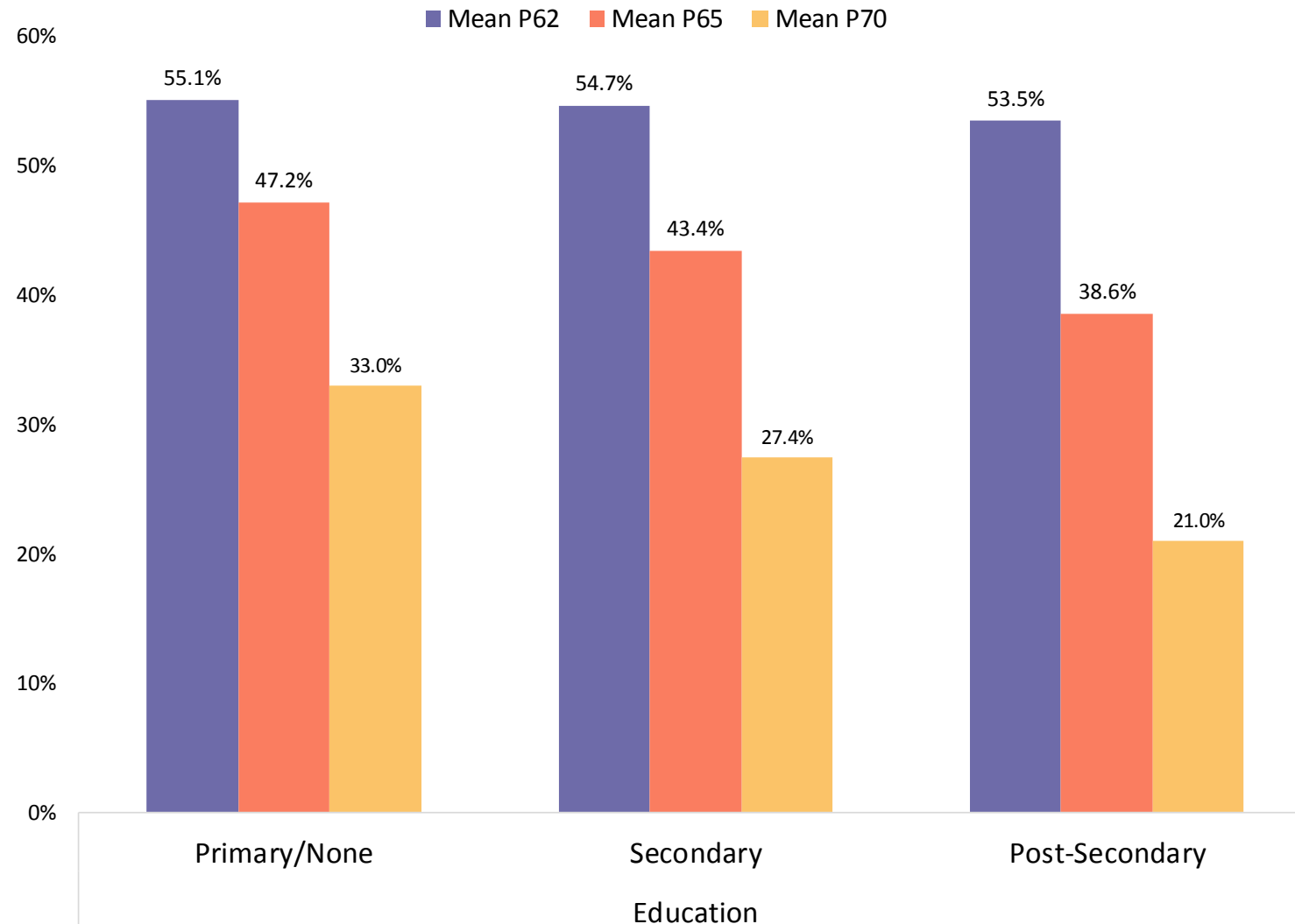
ONSET OF A STROKE CAUSES AN 8% DECLINE IN EXPECTATIONS OF WORKING AT AGE 62.

		P62		P65		P70	
		Coef.	P	Coef.	P	Coef.	P
Age in Days		0.00	0.54	0.00	0.86	0.00	0.00
Respondent Employment Status	Not in Labour Force	-0.11	0.00	-0.09	0.00	-0.07	0.00
	Employed	Omit		Omit		Omit	
	Unemployed	-0.05	0.00	-0.06	0.00	-0.04	0.00
Spouse Employment Status	Not in Labour Force	0.01	0.07	0.02	0.02	0.00	0.80
	Employed	Omit		Omit		Omit	
	Unemployed	0.00	0.65	0.00	0.95	0.00	0.99
Chronic Shocks	Hypertension	0.00	0.74	-0.01	0.62	0.00	0.78
	Diabetes	0.03	0.15	0.04	0.01	0.02	0.15
	Cancer	0.04	0.33	0.02	0.61	-0.02	0.32
	Heart	-0.01	0.46	0.00	0.98	-0.01	0.59
	Stroke	-0.08	0.06	-0.05	0.16	-0.03	0.21
	Arthritis	0.01	0.44	0.00	0.74	-0.01	0.29
	Psychiatric	-0.01	0.68	-0.02	0.31	0.00	0.97
Constant		0.55	0.00	0.36	0.00	-0.37	0.00

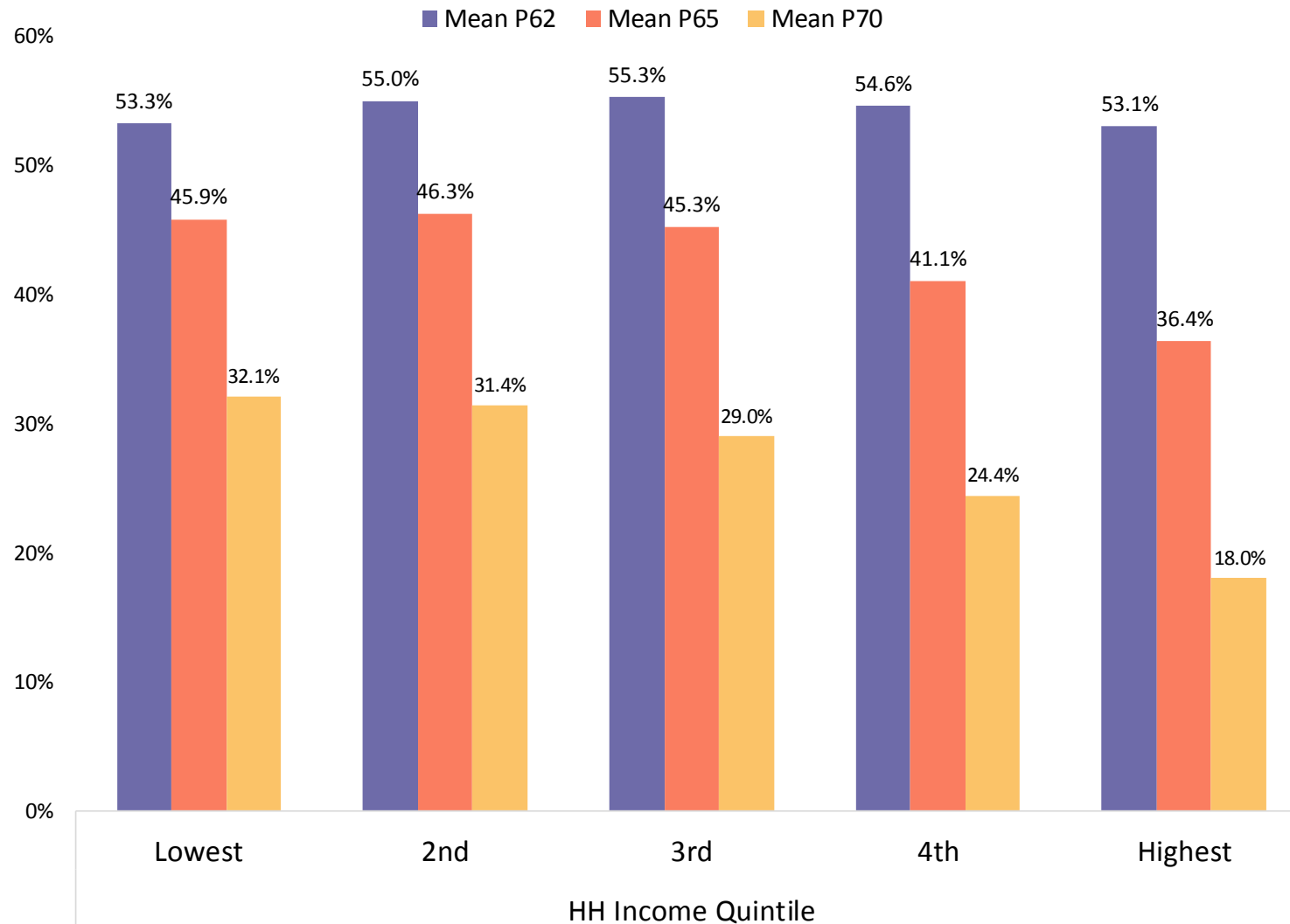


WORK EXPECTATIONS AND SOCIOECONOMIC STATUS

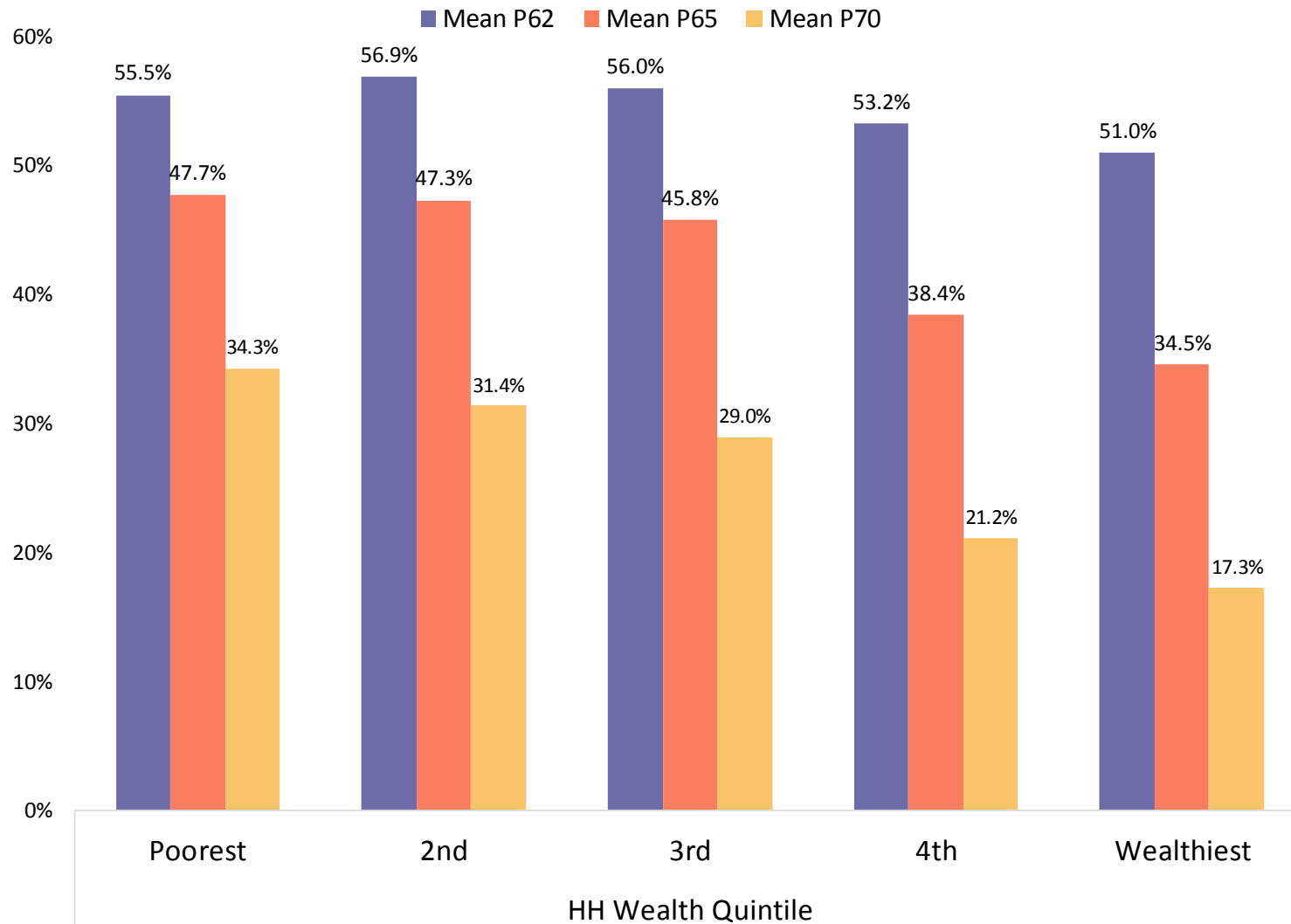
EDUCATION AND WORK EXPECTATIONS



INCOME AND WORK EXPECTATIONS



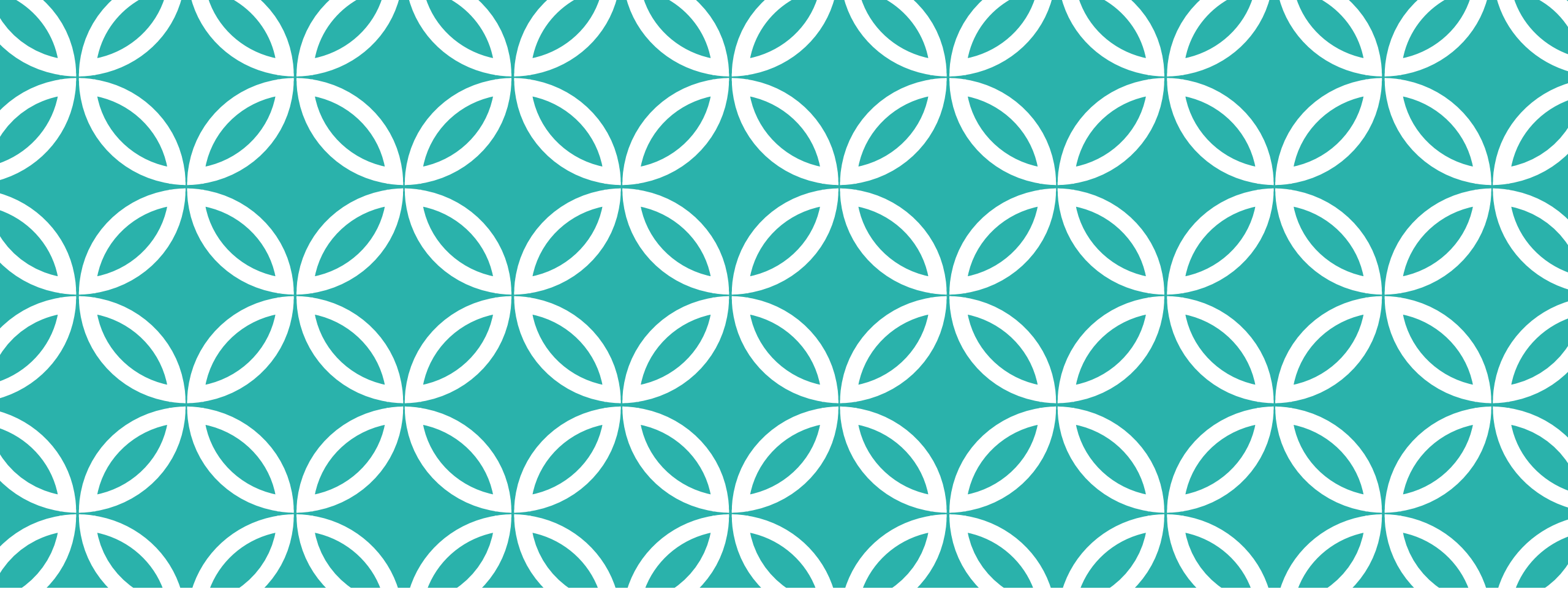
WEALTH AND WORK EXPECTATIONS



- Among wealthiest 20%, expect one in three to be working at age 65.
- Poorest quintile will still be working at this rate at age 70.

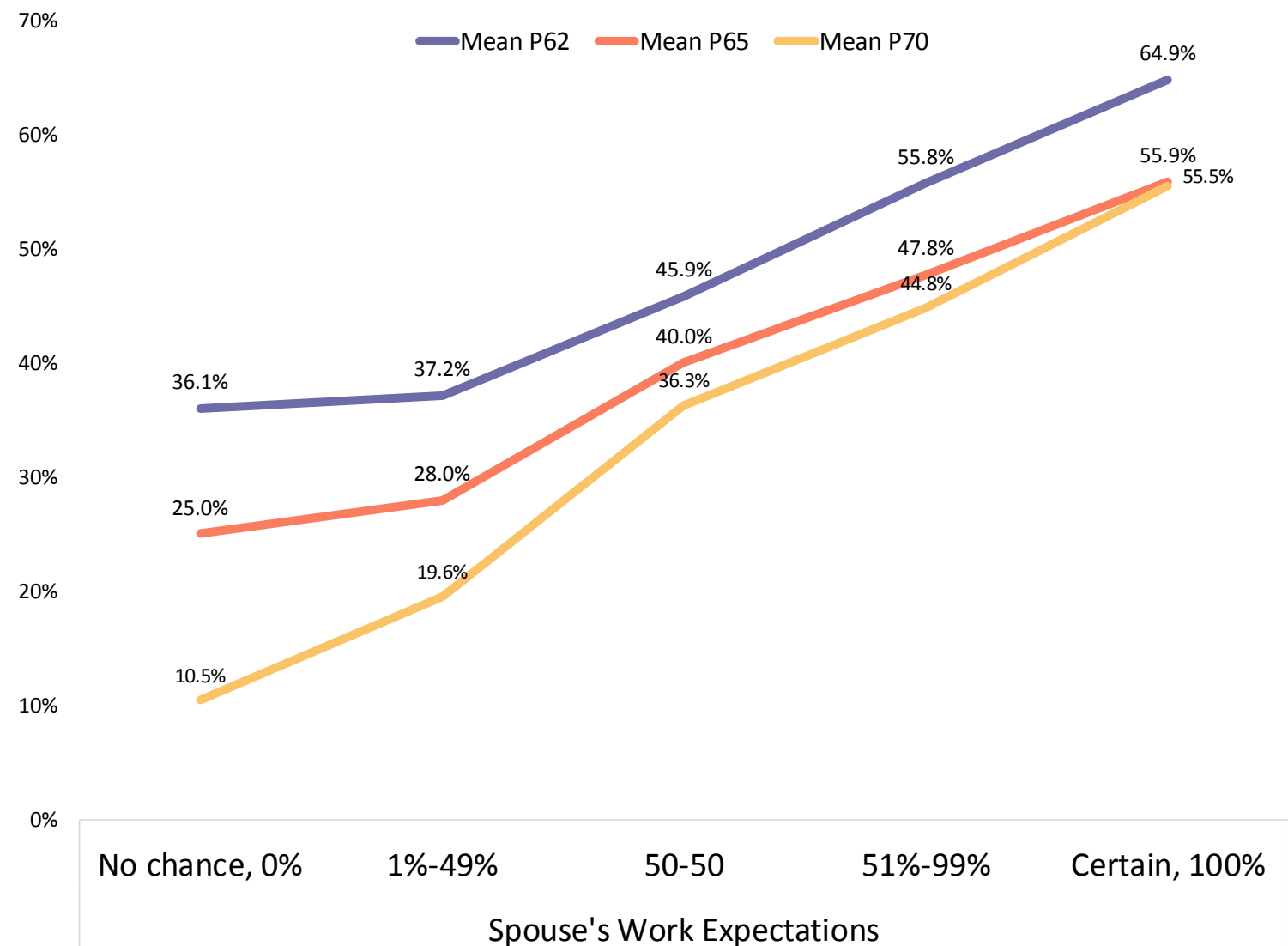
POLICY DISCUSSION

- Retirement adequacy a key determinant of decisions to retire.
- Low-SES individuals need to work longer to reach retirement adequacy, but some suggestion that they may not be able to: for example due to employability or health concerns.
- May be hard to boost work participation among high-SES beyond age 65, as they seem likely to retire as soon as they have sufficient means.



SPOUSAL VARIATION IN WORK EXPECTATIONS

SPOUSAL WORK EXPECTATIONS ARE CLOSELY TIED TOGETHER



- Higher spousal work expectations associated with higher respondent expectations.

SPOUSAL WORK EXPECTATIONS MOVE TOGETHER

		Spouse P62 in t				
		No Chance	1%-49%	50-50	51%-99%	Certain
Spouse P62 in t-3	No Chance	-1%	1%	3%	14%	13%
	Less than 50%	-1%	0%	4%	10%	13%
	50-50	-5%	-4%	0%	7%	14%
	More than 50%	-24%	-11%	-6%	0%	1%
	Certain	-7%	-22%	-12%	-3%	-1%

		Spouse P65 in t				
		No Chance	1%-49%	50-50	51%-99%	Certain
Spouse P65 in t-3	No Chance	0%	1%	4%	16%	8%
	Less than 50%	-2%	0%	4%	11%	17%
	50-50	-10%	-4%	0%	7%	17%
	More than 50%	-17%	-12%	-5%	-1%	5%
	Certain	-13%	-25%	-10%	-3%	-2%

		Spouse P70 in t				
		No Chance	1%-49%	50-50	51%-99%	Certain
Spouse P70 in t-3	No Chance	0%	3%	13%	27%	22%
	Less than 50%	-4%	0%	8%	14%	27%
	50-50	-13%	-7%	0%	9%	23%
	More than 50%	-30%	-13%	-4%	-1%	-6%
	Certain	-28%	-49%	-11%	-3%	0%

- Clear covariation in spousal work expectations
- If spouse increases work expectations, respondent does too
- Stronger effect for later ages

RESPONDENTS INCREASE THEIR WORK EXPECTATIONS IF THEIR SPOUSE LEAVES THE LABOUR FORCE

- Change in Respondent Work Expectations with Change in **Respondent Employment**

Spouse Employment Status		Baseline Mean (in t-3)			Mean Δ			for P65	
t-3	t	P62	P65	P70	P62	P65	P70	SE	N
Not in LF	Not in LF	47%	35%	19%	-0.1%	0.0%	0.2%	0.2%	11520
Not in LF	Employed	48%	40%	25%	-3.6%	-3.7%	-1.3%	1.2%	719
Not in LF	Unemployed	46%	37%	25%	-1.5%	2.0%	0.0%	1.9%	194
Employed	Not in LF	40%	33%	23%	4.9%	3.9%	0.2%	1.4%	601
Employed	Employed	46%	36%	23%	0.0%	0.0%	0.2%	0.2%	24398
Employed	Unemployed	49%	38%	25%	-0.8%	-0.9%	1.0%	1.7%	279
Unemployed	Not in LF	47%	38%	26%	-0.8%	-3.6%	-3.3%	2.1%	156
Unemployed	Employed	51%	41%	29%	-1.9%	-0.5%	-4.2%	1.3%	343
Unemployed	Unemployed	43%	33%	21%	0.1%	-0.1%	0.5%	0.8%	939

SPOUSAL EXIT FROM THE LABOUR FORCE CAUSES A 2% INCREASE IN RESPONDENT'S P65

		P62		P65		P70	
		Coef.	P	Coef.	P	Coef.	P
Age in Days		0.00	0.54	0.00	0.86	0.00	0.00
Respondent Employment Status	Not in Labour Force	-0.11	0.00	-0.09	0.00	-0.07	0.00
	Employed	Omit		Omit		Omit	
	Unemployed	-0.05	0.00	-0.06	0.00	-0.04	0.00
Spouse Employment Status	Not in Labour Force	0.01	0.07	0.02	0.02	0.00	0.80
	Employed	Omit		Omit		Omit	
	Unemployed	0.00	0.65	0.00	0.95	0.00	0.99
Chronic Shocks	Hypertension	0.00	0.74	-0.01	0.62	0.00	0.78
	Diabetes	0.03	0.15	0.04	0.01	0.02	0.15
	Cancer	0.04	0.33	0.02	0.61	-0.02	0.32
	Heart	-0.01	0.46	0.00	0.98	-0.01	0.59
	Stroke	-0.08	0.06	-0.05	0.16	-0.03	0.21
	Arthritis	0.01	0.44	0.00	0.74	-0.01	0.29
	Psychiatric	-0.01	0.68	-0.02	0.31	0.00	0.97
Constant		0.55	0.00	0.36	0.00	-0.37	0.00

DISCUSSION

- Expect an increase in mature workforce participation – to one in four men and one in five women at age 70.
- Compounding effects of unemployment: workers at risk of losing their job start with lower work expectations, which are revised downwards upon becoming unemployed, and continue to decline as the spell lengthens.
- Little effect of health on work expectations.
- Socioeconomic status more important: suggests that financial adequacy is key driver of retirement.
- Joint retirement planning among couples. If spouse loses their job, respondent increases their own work expectations.