Does Age-Based Public Health Insurance Eligibility Save Medicaid Divorce? Regression Discontinuity Evidence at Age 65

Jiacheng He

Department of Economics
University of Kansas

10/18/2017

Outline

Introduction

Fact:

- Couples have incentive to implement Medicaid divorce
  - Divorce and allocating most of the assets to the healthy spouse can make the sick spouse become eligible for Medicaid coverage
- Once people reach age 65, their eligibility for public health insurance program expand
  - automatically eligible for Medicare
  - less stringent financial requirement for Medicaid

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Hypothesis:

- The exogenous, systematic, age-based expansion of public health insurance eligibility at age 65 reduce the incentive for Medicaid divorce

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Empirical findings:

- Divorce rate discontinuously drop at age 65

Medicaid Eligibility

Categorical eligibility

- Children
- Pregnant women
- Disabled
- Receiving Supplemental Security Income
- Medically needy
- Long-term care needy
- Seniors aged over 65

Medicaid Eligibility

Financial eligibility

- Huge variation across state
- Income limit
  - Below a certain percentage of Federal Poverty Line (FPL)
- Asset limit
  - In most states, $2000 for individual and $3000 for married couples
- Married couple is counted as a unit in the income tests and asset tests

Medicaid Eligibility

These assets are exempted

- principal resident home
- one motor vehicle
- clothing
- furniture
- jewelry
- prepaid funeral plans
- life insurance
- etc...

Medicaid Divorce

When the sick spouse cannot qualify for Medicaid coverage because the couple have too many assets...

Asset transfer to children is not working

- Medicaid agency investigate the applicants
- If any suspicious asset transfer exceeding the limit was made in the recent five years , then the applicant is ineligible

Medicaid Divorce

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Asset transfer to children is not working

- Medicaid agency investigate the applicants
- If any suspicious asset transfer exceeding the limit was made in the recent five years , then the applicant is ineligible

But divorce works

- Get a divorce, separate the assets, and allocate most of the assets to the healthy spouse
- Income from the healthy spouse is not counted any more
- Not subject to "five-year look back period"

Medicaid Divorce

Medicaid is very generous.

- It covers most of the spending on doctor visits and hospital costs, long-term care services in nursing homes, and long-term care services provided at home such as visiting nurses and assistance with personal care.
- Huge incentive for Medicaid divorce

Medicaid divorce can be viewed as a welfare optimization strategy, rather than the end of love and commitment.

A successful Medicaid divorce usually requires the joint effort of specialized professionals, including an elder law attorney, an estate planner, and a divorce lawyer, etc.

Medicaid Divorce

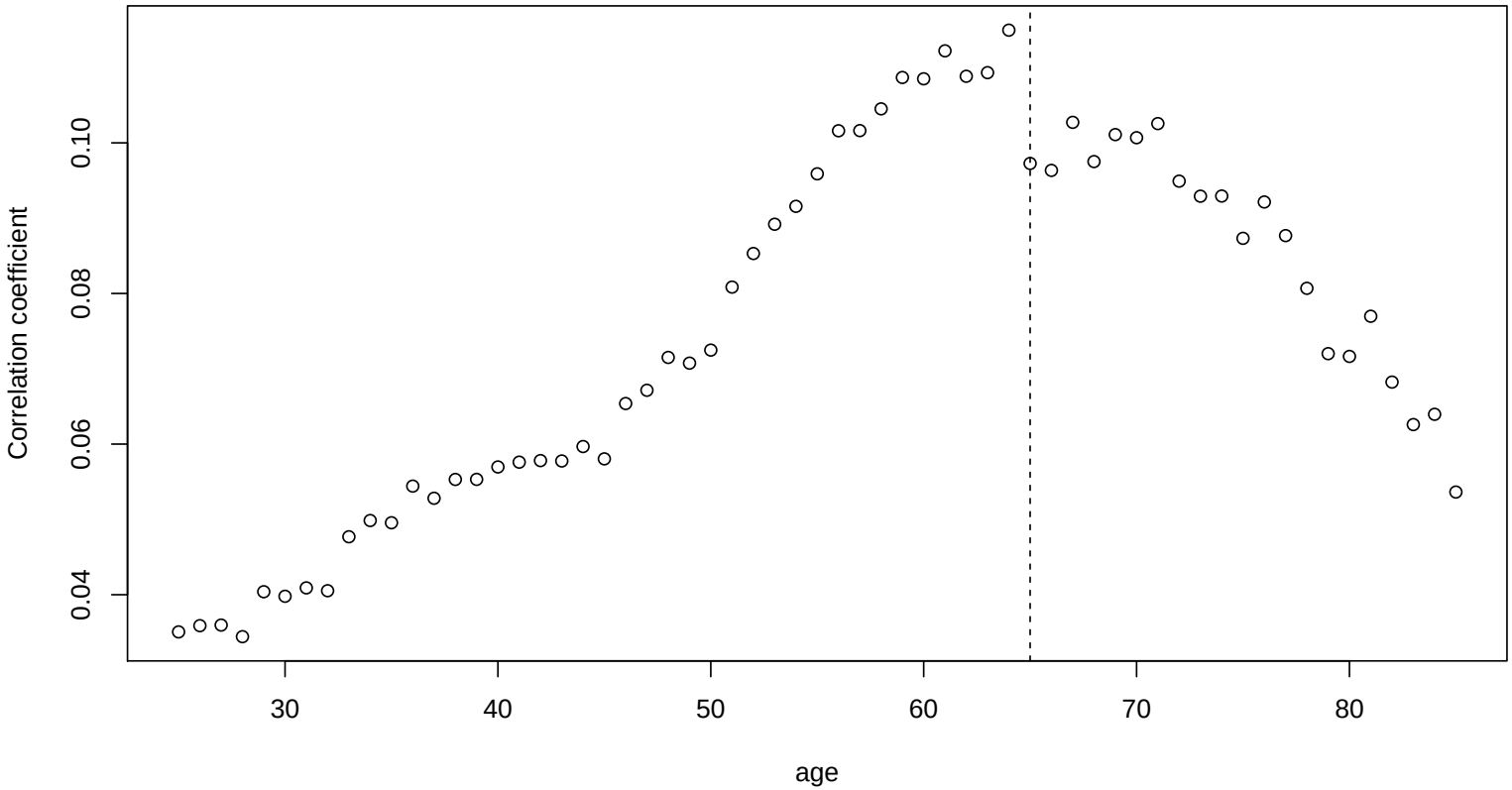


Figure: Correlation Coefficient between Being Divorced and Being Covered by Medicaid, by Age

Medicaid Divorce

Slusky and Ginther (2017) find that the ACA Medicaid expansion reduced divorce rate among population aged 50-64 in expanded states

I hypothesize that expanded eligibility for public health insurance programs at 65 might reduce Medicaid divorce at the 65-threshold

Preview of Results

My regression discontinuity design estimates indicate that at the 65-threshold:

- A 0.71 percentage point decrease (4.1 percent) in divorce rate
- Larger effect among women (0.97 percentage points) and African Americans (1.43 percentage points)
- Larger effect in states that did not impose asset test for Medicare Savings Programs (1.12 percentage points)
- No significant effect in states that expanded Medicaid after 2014
- No significant discontinuity in separate rate

Outline

Medicare

People automatically become eligible to enroll in Medicare once reaching 65

Depending on their needs, people can either optionally choose to enroll in a combination of:

- Original Medicare
  - Part A (inpatient hospital care insurance)
  - Part B (medical insurance)
- Part D (prescription drugs)
- Medicare supplement insurance

Or enroll in

- Medicare Advantage Plans

Medicare

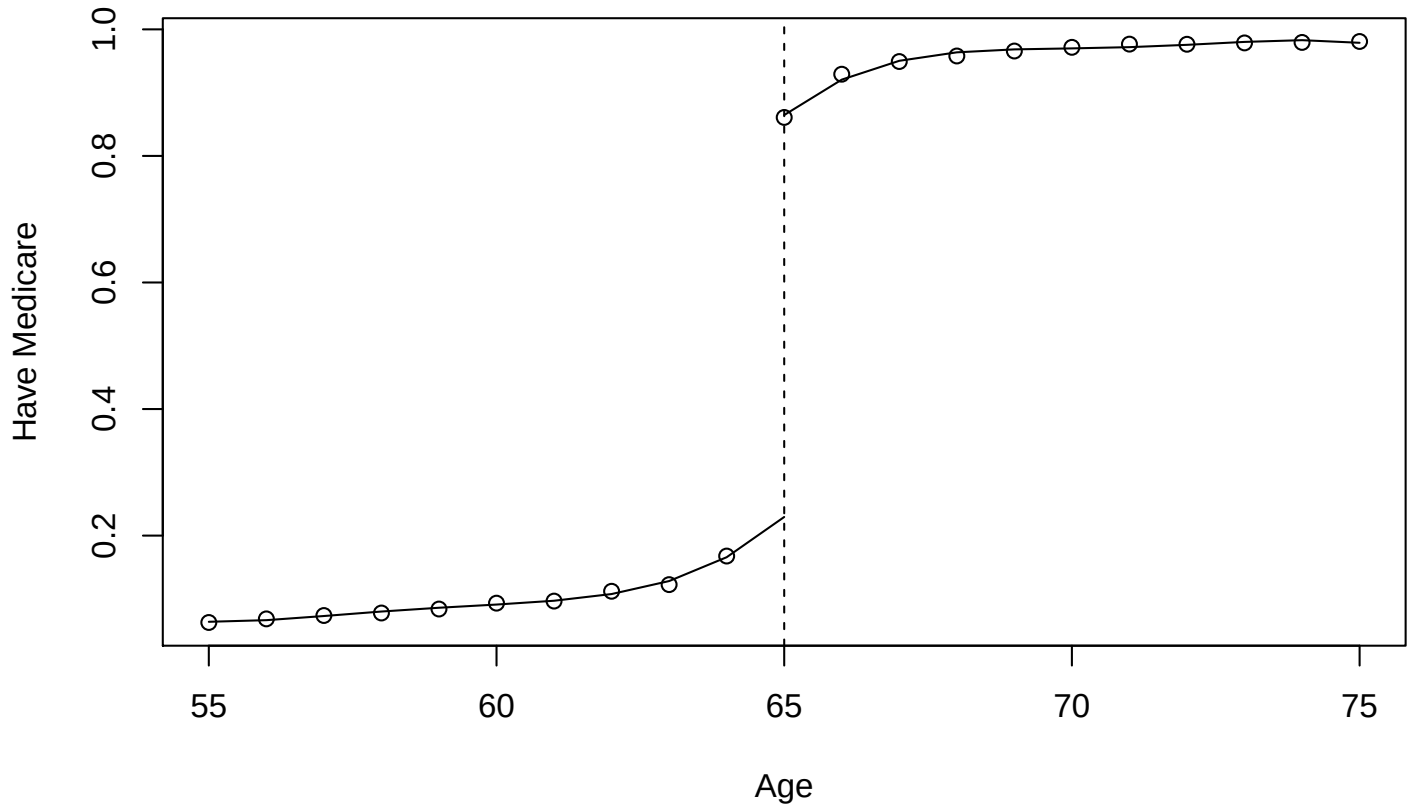


Figure: Regression Discontinuity in Medicare Coverage Rate at 65

Original Medicare

Part A

- No premium as long as an individual has been working and paying Medicare taxes for at least 10 years
- $1316 deductible for a hospital stay of days 1-60
- co-pay is $322 per day for days 61-90, and $658 per day for days 91-150
- no deductible and co-pay for the first 20 days of skilled nursing care
- co-pay is $164.5 per day for days 21-100

Part B

- Optional, $134 monthly standard premium
- $183 yearly deductible, 20% co-insurance

Medicare Supplement Insurance

People can optionally purchase Medicare supplement insurance (Medigap) to fill the out-of-pocket (OOP) expenditure hole of the Original Medicare

Medigap policy:

- sold by private companies but strictly regulated by federal and states
- help pay the share cost of the original Medicare
- all policies must provide a set of standard benefits
- price varies depending on the specific additional benefit of that policy
- some policies provide extra coverage not included in the original Medicare
- cannot decline coverage based on medical and health issues

Medicare Advantage Plan

Medicare Advantage Plan

- sold by private companies contract with Medicare
- provide the same benefits as the Original Medicare
- not the same system as the Original Medicare
- can optionally purchase extra content such as OOP limit, dental care, vision care, annual physicals, etc

Post-65 Medicaid

"Seniors aged over 65" by itself a Medicaid eligible category

Financial eligibility requirement is also relaxed

Compare the senior category with the medically needy category:

- 47 states impose higher income limit (4 lower)
- 19 states impose higher asset limit (4 lower)

Post-65 Medicaid

Individuals covered by both Medicare and Medicaid are called "dual eligibles"

For the medical expenditure of these dual eligibles, Medicare pay first, then Medicaid pay the part not covered by Medicare

Post-65 Medicaid

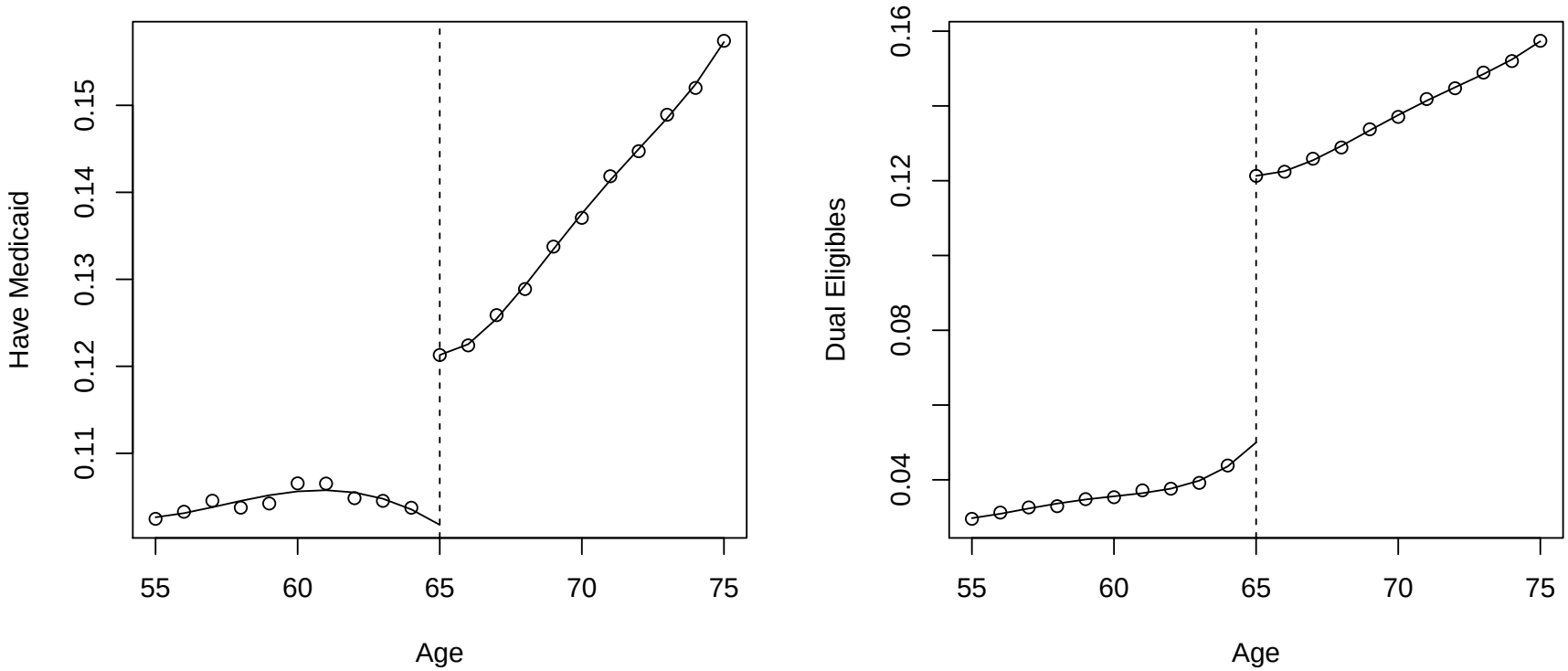


Figure: Regression Discontinuity in Medicaid and Dual Coverage Rate at 65

Medicare Savings Program

Medicare savings programs are partial Medicaid benefit package for seniors aged over 65

- Qualified Medicare Beneficiary (QMB) Program
- Specified Low-Income Medicare Beneficiary (SLMB) Program
- Qualifying Individual (QI) Program
- Qualified Disabled and Working Individuals (QDWI) Program

All Medicare savings programs have much more lenient income limit and asset limit than the Medicaid full benefit package

- No asset limit is imposed in Alabama, Arizona, Connecticut, Delaware, DC, Mississippi, New York, and Vermont

Medicare savings programs cover the premium, deductible, copay and coinsurance of the Original Medicare.

Social Security

People can start to claim Social Security retirement benefits as early as age 62 or as late as age 70.

Keep a broken marriage just because want to keep the spouse-dependent benefits?

- Not necessarily. Because people can get benefits based on ex-spouse's working history

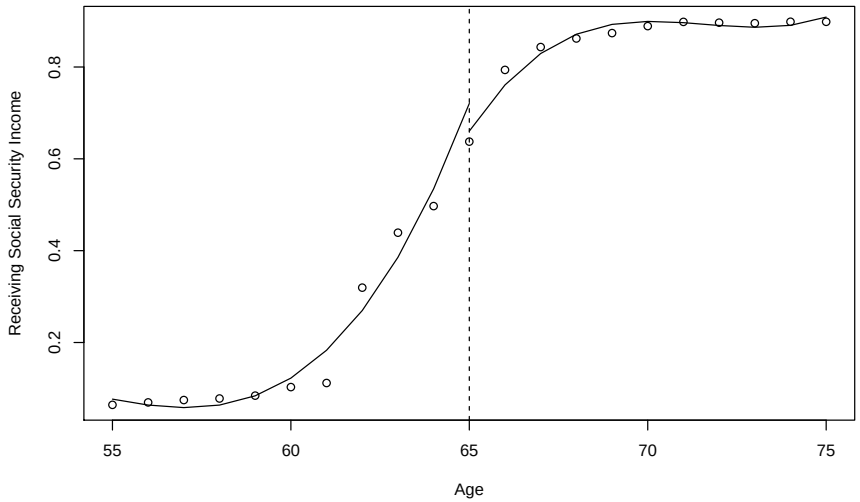
An immediate marriage just because want to get benefits from the new spouse?

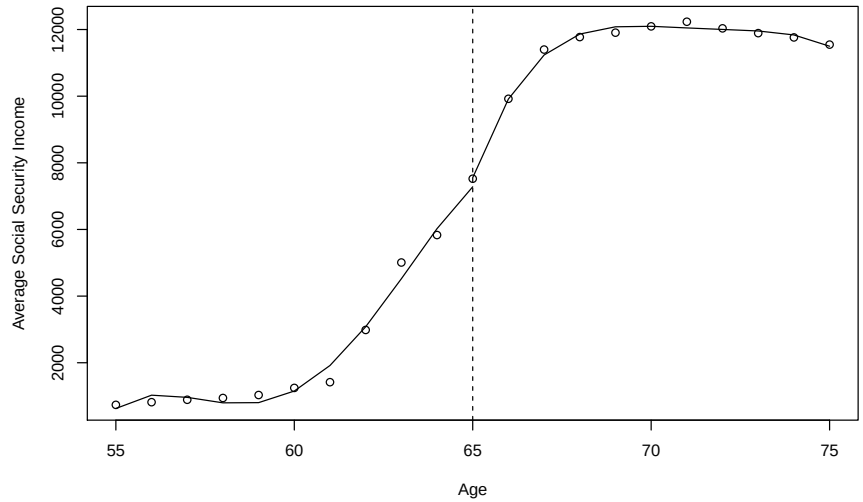
- Not necessarily. Claiming spouse-dependent benefits requires that couples must have been married for at least one year

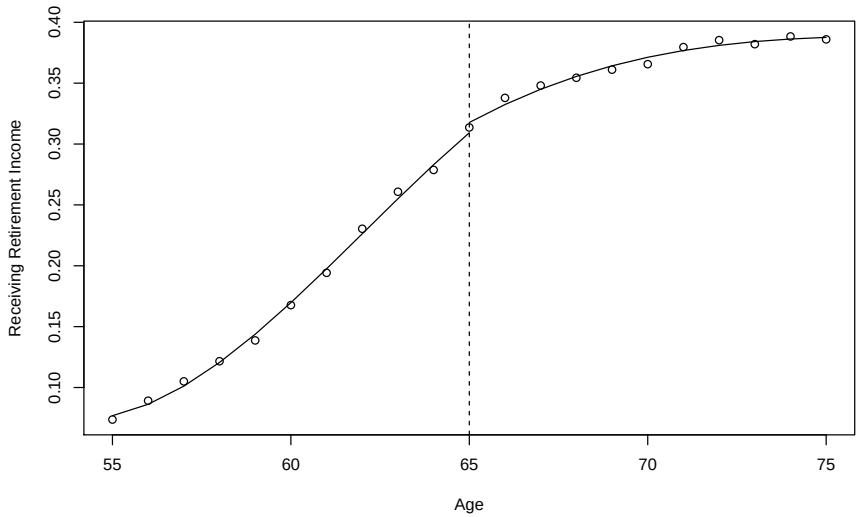
Shoven, Slavov and Wise (2017) shows that

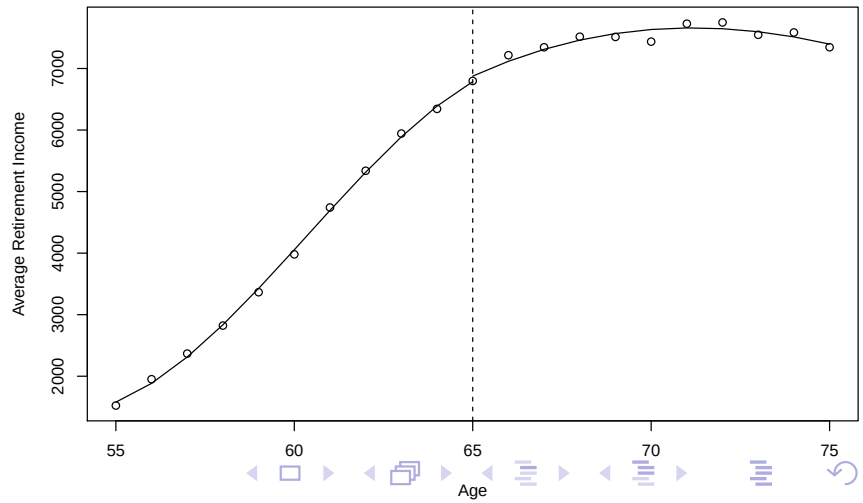
- A majority of people claim Social Security at 62
- Another majority of people think it is a social norm to claim Social Security once retired

Social Security









Outline

Econometric Method

Regression discontinuity design

- Age is an assignment variable that exogenously and discontinuously assigns Medicare and Medicaid eligibility to individuals crossing the 65-threshold
- Assume that the counterfactual divorce behavior is continuous in age
- Reduced form intent-to-treat effect

Card, Dobkin and Maestas (2008), Card, Dobkin and Maestas (2009) used RDD and the 65-threshold to study the Medicare effect on mortality and medical utilization

Econometric Method

Age is a discrete variable, thus nonparametric identification is infeasible. I use polynomial regression.

$$y_i = \alpha + \theta \cdot 1(age_i \geq 65) + \sum_{k=1}^{p} \beta_{1k} \cdot age_i^k + \sum_{k=1}^{p} \beta_{2k} \cdot age_i^k \cdot 1(age_i \geq 65) + X_i\gamma + \epsilon_i$$

For individual i

- y_i is indicator for divorce
- age_i is age
- X_i are a set of demographic controls
- θ is the parameter of interest
- α is the predicted counterfactual divorce rate at 65 (if X_i are not included and the age_i is normalized)

Data

Pooled 2008-2015 American Community Survey (ACS) from IPUMS

- Annual interview survey which records 1% national representative random sample
- Contain rich demographic and economic variables, and geographic identifiers

Individuals aged range from 55 to 75

Summary Statistics

Table: Summary Statistics by Age

	Age					
	62	63	64	65	66	67
# Observations	326836	311471	300366	296878	277405	262717
Divorce Rate	17.99	17.62	17.37	16.48	16.39	16.09
Health Insurance:						
Insured Rate	89.17	89.30	89.62	97.87	98.59	98.72
Medicare Coverage	11.21	12.26	16.77	86.09	92.91	94.92
Medicaid Coverage	10.48	10.45	10.37	12.13	12.24	12.59
Demographic Covariates:						
Female	52.07	52.18	52.46	52.69	52.60	53.12
White	81.08	81.58	81.83	82.02	82.94	83.17
Black	10.40	10.20	10.02	9.83	9.39	9.31
College	52.93	52.36	51.18	49.98	49.29	47.85
Employment and Income Covariates:						
Employed	51.15	46.04	42.26	35.97	31.53	28.07
Weekly Work Hours	22.45	19.69	17.83	15.16	13.05	11.25
Wage Income	27226	23838	21377	17744	15049	12478
Retirement Income	5338	5943	6344	6798	7216	7345
Personal Total Income	42906	42223	41089	39809	39998	38936
Social Security Income	2895	5009	5833	7523	9922	11399

*

Outline

Result

Table: Discontinuity Estimates in Divorce Rate at Age 65, with Different Polynomial Order Specifications

	Full Sample			
	Dependent variable: Indicator for divorce			
	(1)	(2)	(3)	(4)
Age $\geq$ 65 cutoff	-0.608^{***}	-0.624^{***}	-0.249^{*}	-0.709^{***}
	(0.061)	(0.095)	(0.143)	(0.228)
Intercept	17.470^{***}	17.251^{***}	16.801^{***}	17.217^{***}
	(0.045)	(0.078)	(0.129)	(0.218)
Polynomial Order	1	2	3	4
Lee-Card Test	0.000	0.003	0.081	0.162
AIC	14585755	14585702	14585680	14585675
N	5894947	5894947	5894947	5894947

* The estimates are reported in terms of percentage points. The models include polynomial of age, fully interacted with indicator $1(age \geq 65)$. The estimates are based on pooled 2008-2015 ACS data. All regressions are weighted by personal sampling weight. OLS standard errors are reported in parentheses. (* 0.1, ** 0.05, *** 0.01)

Result

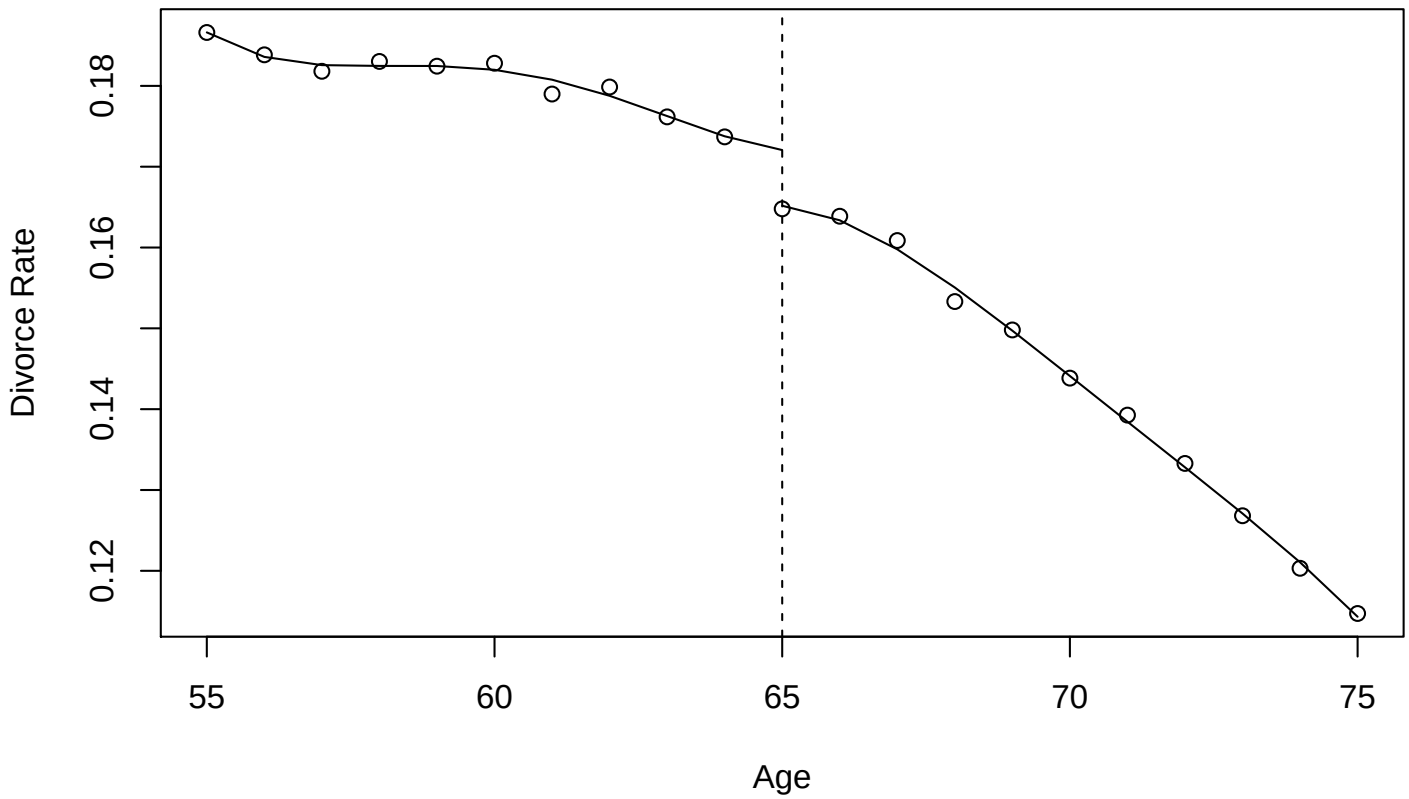


Figure: Regression Discontinuity in Divorce Rate at 65

Result

Table: Discontinuity Estimates in Divorce Rate at Age 65

	Full Sample			
	Dependent variable: Indicator for divorce			
	(1)	(2)	(3)	(4)
Age $\geq$ 65 cutoff	-0.709^{***}	-0.709^{***}	-0.673^{***}	-0.678^{***}
	(0.228)	(0.185)	(0.185)	(0.185)
Intercept	17.217^{***}	17.217^{***}		
	(0.218)	(0.182)		
Clustered SE	No	Yes	Yes	Yes
Demographic Controls	No	No	Yes	Yes
SSI Control	No	No	No	Yes
N	5894947	5894947	5894947	5894947

* The estimates are reported in terms of percentage points. The basic model includes quartic polynomial of age, fully interacted with indicator 1($age \geq 65$). Demographic control variables include indicators for year, state, gender, race, and education. The estimates are based on pooled 2008-2015 ACS data. All regressions are weighted by personal sampling weight. Standard errors are reported in parentheses. (* 0.1, ** 0.05, *** 0.01)

Result

Table: Discontinuity Estimates in Insurance Coverage at Age 65

	Full Sample		
Dependent variable:	Medicare Coverage	Medicaid Coverage	Any Insurance Coverage
	(1)	(2)	(3)
Age $\geq$ 65 cutoff	63.572***	1.971***	8.283***
	(0.980)	(0.157)	(0.290)
Intercept	22.820***	10.155***	89.630***
	(0.922)	(0.157)	(0.285)
Clustered SE	Yes	Yes	Yes
Controls	No	No	No
N	5894947	5894947	5894947

* The estimates are reported in terms of percentage points. The models include polynomial of age, fully interacted with indicator 1($age \geq 65$). The estimates are based on pooled 2008-2015 ACS data. All regressions are weighted by personal sampling weight. Robust standard errors clustered at age are reported in parentheses. (* 0.1, ** 0.05, *** 0.01)

Result

Table: Discontinuity Estimates in Potentially Confounding Covariates at Age 65

	Full Sample					
Dependent variable:	Social Security Income	Retirement Income	Total Income	Wage Income	Employed	Weekly Working Hours
	(1)	(2)	(3)	(4)	(5)	(6)
Age $\geq$ 65 cutoff	110	44	-537	103	0.002	-0.65
	(756)	(104)	(360)	(525)	(0.015)	(0.45)
Clustered SE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
N	5894947	5894947	5894947	5894947	5894947	5894947

* The models include polynomial of age, fully interacted with indicator 1($age \geq 65$). Control variables include year effect, state effect, gender, race, and education. The estimates are based on pooled 2008-2015 ACS data. All regressions are weighted by personal sampling weight. Robust standard errors clustered at age are reported in parentheses. (* 0.1, ** 0.05, *** 0.01)

Heterogeneity

Table: Discontinuity Estimates in Divorce Rate at Age 65, by Gender

	Dependent variable: Indicator for divorce			
	Men		Women	
	(1)	(2)	(3)	(4)
Age $\geq$ 65 cutoff	-0.250	-0.197	-0.967^{***}	-1.063^{***}
	(0.164)	(0.191)	(0.217)	(0.193)
Intercept	14.656^{***}		19.596^{***}	
	(0.138)		(0.165)	
Clustered SE	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes
N	2788260	2788260	3106687	3106687

* The estimates are reported in terms of percentage points. The models include polynomial of age, fully interacted with indicator 1($age \geq 65$). Control variables include year effect, state effect, gender, race, education, and Social Security Income. The estimates are based on pooled 2008-2015 ACS data. All regressions are weighted by personal sampling weight. Robust standard errors clustered at age are reported in parentheses. (* 0.1, ** 0.05, *** 0.01)

Heterogeneity

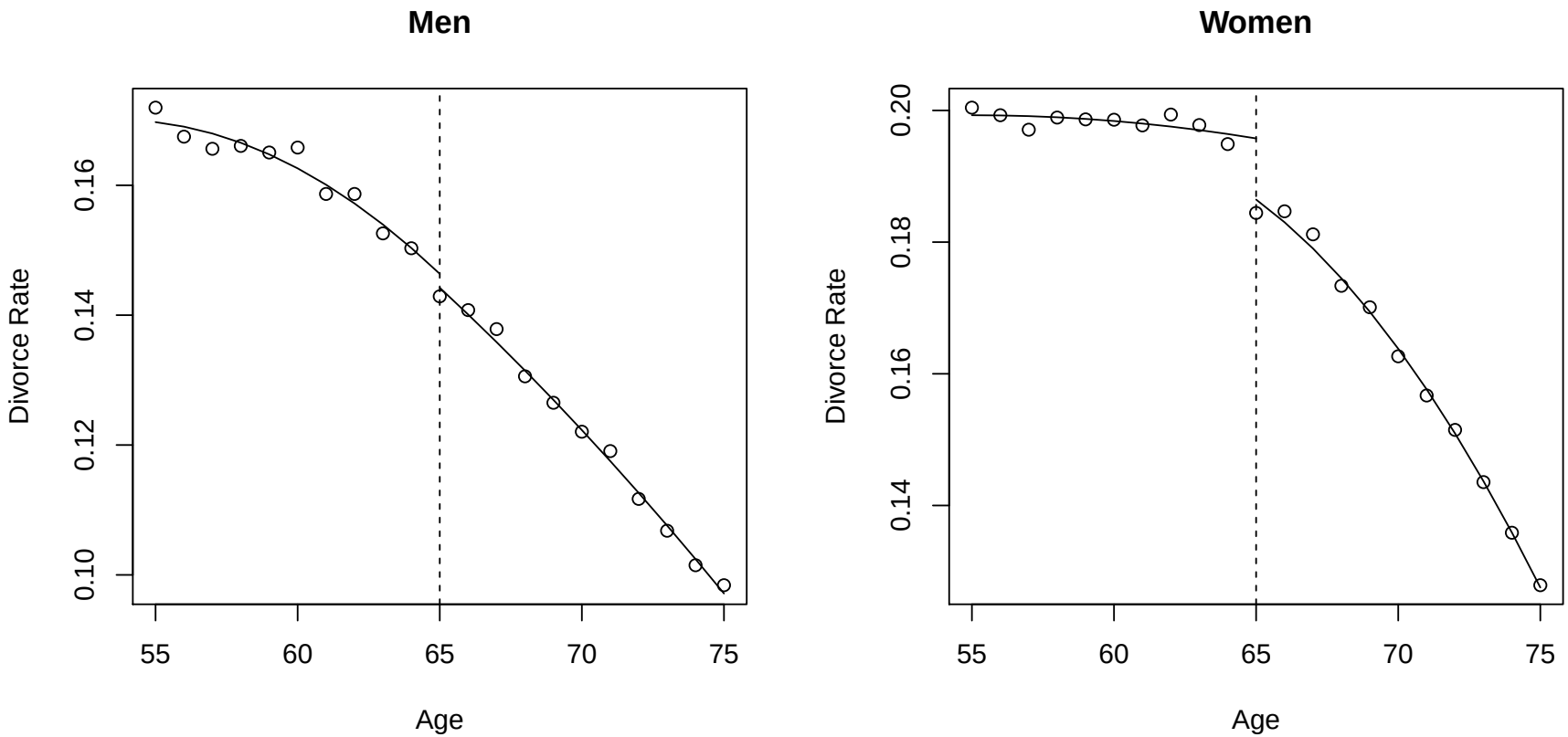


Figure: Regression Discontinuity in Divorce Rate at 65, by Gender

Heterogeneity

Table: Discontinuity Estimates in Divorce Rate at Age 65, by Race

	Dependent variable: Indicator for divorce			
	White		Black	
(5)	(6)	(7)	(8)	
Age $\geq$ 65 cutoff	-0.036	0.062	-1.427^{***}	-1.493^{***}
	(0.164)	(0.164)	(0.375)	(0.360)
Intercept	16.243^{***}		23.374^{***}	
	(0.146)		(0.306)	
Clustered SE	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes
N	4916158	4916158	539317	539317

* The estimates are reported in terms of percentage points. The models include polynomial of age, fully interacted with indicator 1($age \geq 65$). Control variables include year effect, state effect, gender, race, education, and Social Security Income. The estimates are based on pooled 2008-2015 ACS data. All regressions are weighted by personal sampling weight. Robust standard errors clustered at age are reported in parentheses. (* 0.1, ** 0.05, *** 0.01)

Heterogeneity

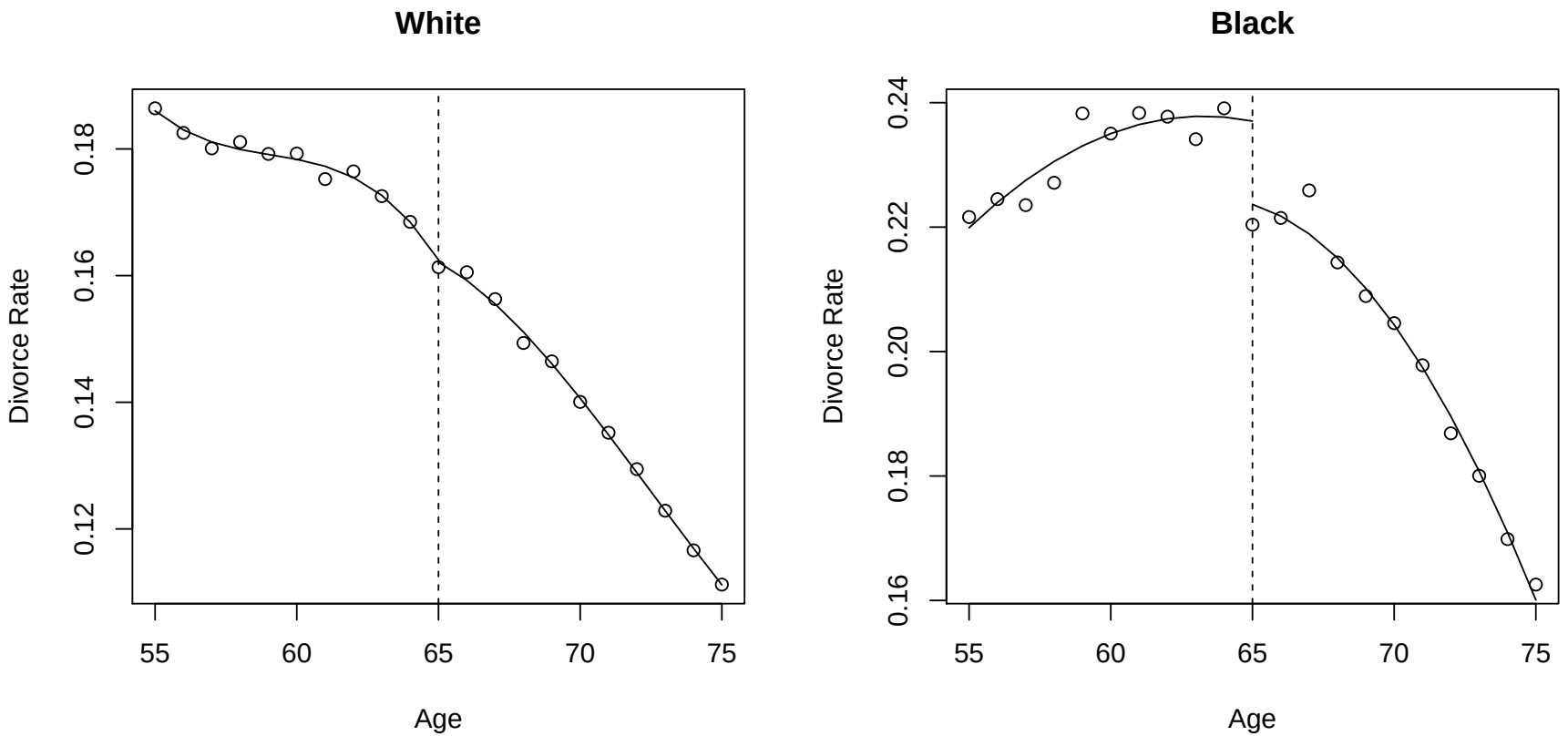


Figure: Regression Discontinuity in Divorce Rate at 65, by Race

Heterogeneity

Table: Discontinuity Estimates in Divorce Rate at Age 65, by Education

	Dependent variable: Indicator for divorce			
	Noncollege		College	
	(9)	(10)	(11)	(12)
Age $\geq$ 65 cutoff	-0.752^{***}	-0.723^{***}	-0.643^{***}	-0.601^{***}
	(0.202)	(0.205)	(0.197)	(0.179)
Intercept	17.386^{***}		17.025^{***}	
	(0.197)		(0.195)	
Clustered SE	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes
N	3006951	3006951	2887996	2887996

* The estimates are reported in terms of percentage points. The models include polynomial of age, fully interacted with indicator $1(age \geq 65)$. Control variables include year effect, state effect, gender, race, education, and Social Security Income. The estimates are based on pooled 2008-2015 ACS data. All regressions are weighted by personal sampling weight. Robust standard errors clustered at age are reported in parentheses. (* 0.1, ** 0.05, *** 0.01)

Heterogeneity

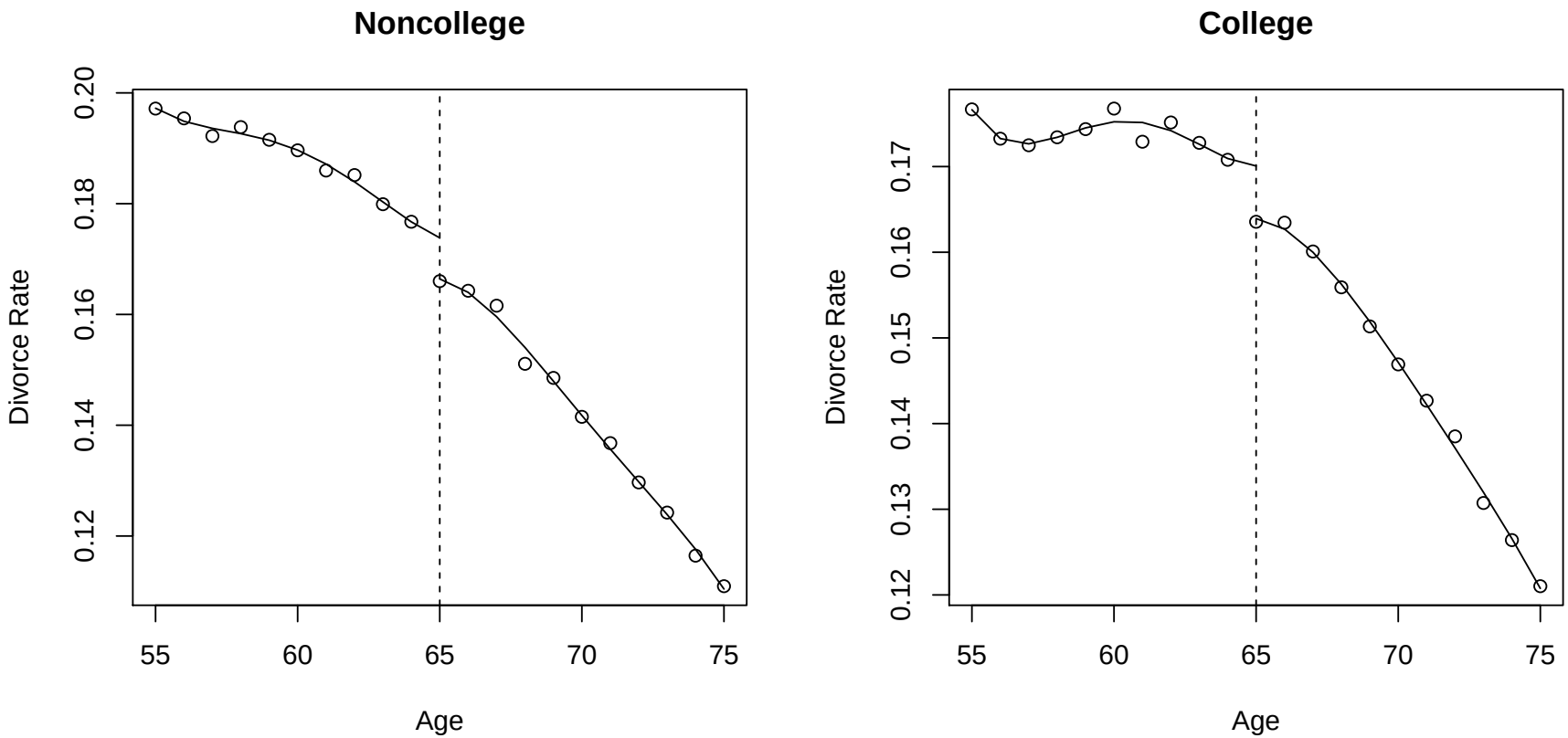


Figure: Regression Discontinuity in Divorce Rate at 65, by Education

Discussion: Separate Rate

Separate couples are still legally married.

Separating basically does not affect Medicaid financial eligibility.

The 65-threshold for Medicare and Medicaid should not affect separate rate.

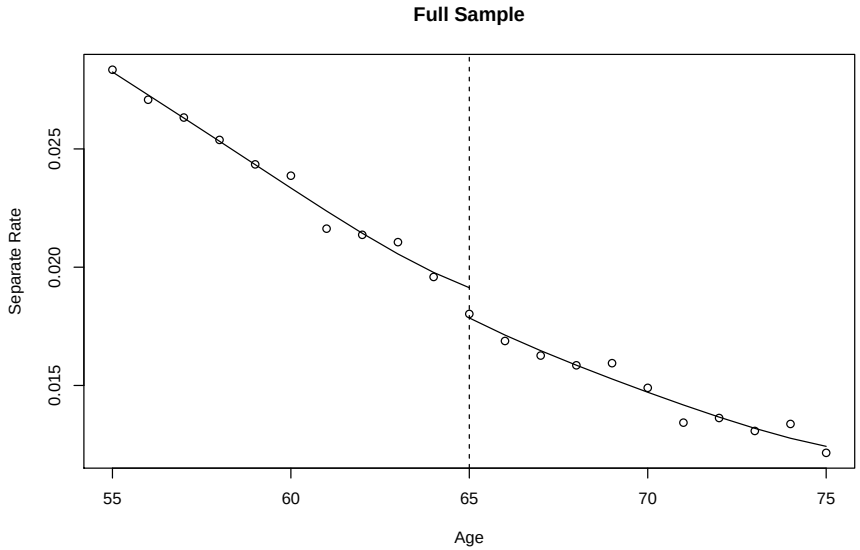
Discussion: Separate Rate

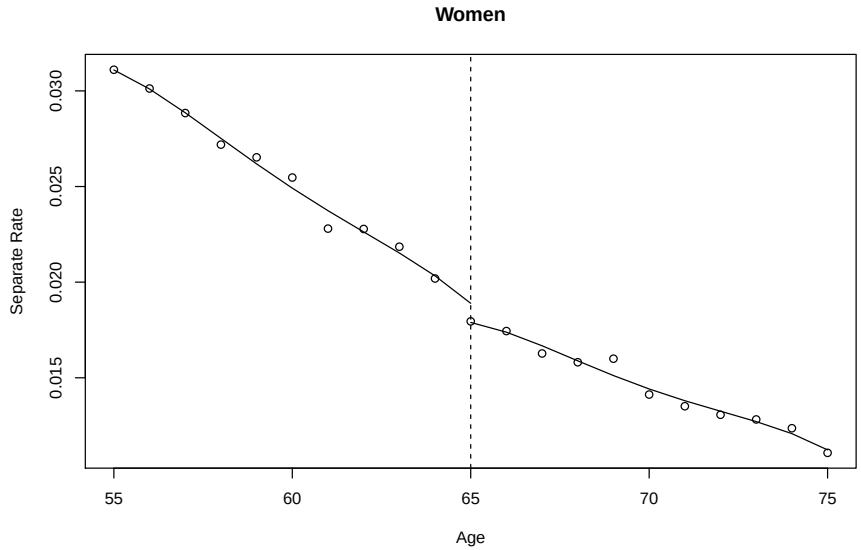
Table: Discontinuity Estimates in Separate Rate at Age 65

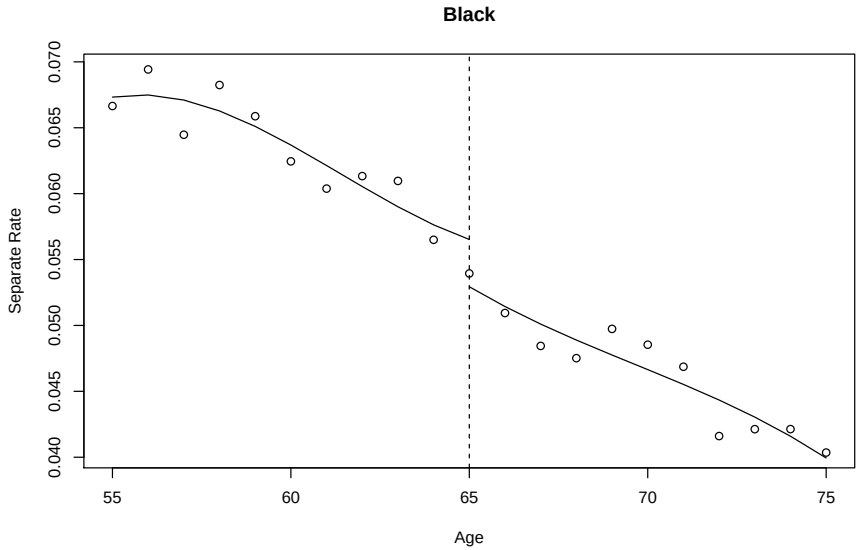
	Dependent variable: Indicator for separate		
	Full Sample	Women	Black
	(1)	(2)	(3)
Age $\geq$ 65 cutoff	-0.094	-0.047	-0.349
	(0.068)	(0.076)	(0.309)
Clustered SE	Yes	Yes	Yes
Controls	Yes	Yes	Yes
N	5894947	3106687	539317

* The estimates are reported in terms of percentage points. The models include polynomial of age, fully interacted with indicator 1($age \geq 65$). The estimates are based on pooled 2008-2015 ACS data. All regressions are weighted by personal sampling weight. Robust standard errors clustered at age are reported in parentheses. (* 0.1, ** 0.05, *** 0.01)

Discussion: Separate Rate







Discussion: Asset Test

The main purpose for medical divorce is to pass income tests and asset tests

Medicare Savings Program

- No asset limit is imposed in Alabama, Arizona, Connecticut, Delaware, DC, Mississippi, New York, and Vermont

I hypothesize that the divorce gap is larger in these states

Discussion: Asset Test

ACA Medicaid expansion started in January 2014

- In expanded states, Medicaid covers all adults with income up to 133% FPL
- No asset tests in expanded states

I hypothesize that the divorce gap would be smaller in expanded states in post expansion period

Discussion: Asset Test

Table: Discontinuity Estimates in Divorce Rate at Age 65, by Whether States Impose MSP Asset Limit

	Dependent variable: Indicator for divorce			
	With-Limit States		No-Limit States	
	(1)	(2)	(3)	(4)
Age $\geq$ 65 cutoff	-0.498^{**}	-0.468^{**}	-1.122^{***}	-1.029^{***}
	(0.201)	(0.200)	(0.265)	(0.305)
Intercept	17.095^{***}		17.080^{***}	
	(0.197)		(0.256)	
Clustered SE	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes
N	5140290	5140290	754657	754657

* The estimates are reported in terms of percentage points. The models include polynomial of age, fully interacted with indicator 1(*age* $\geq$ 65). Control variables include year effect, state effect, gender, race, education, and Social Security Income. The estimates are based on pooled 2008-2015 ACS data. All regressions are weighted by personal sampling weight. Robust standard errors clustered at age are reported in parentheses. (* 0.1, ** 0.05, *** 0.01)

Discussion: Asset Test

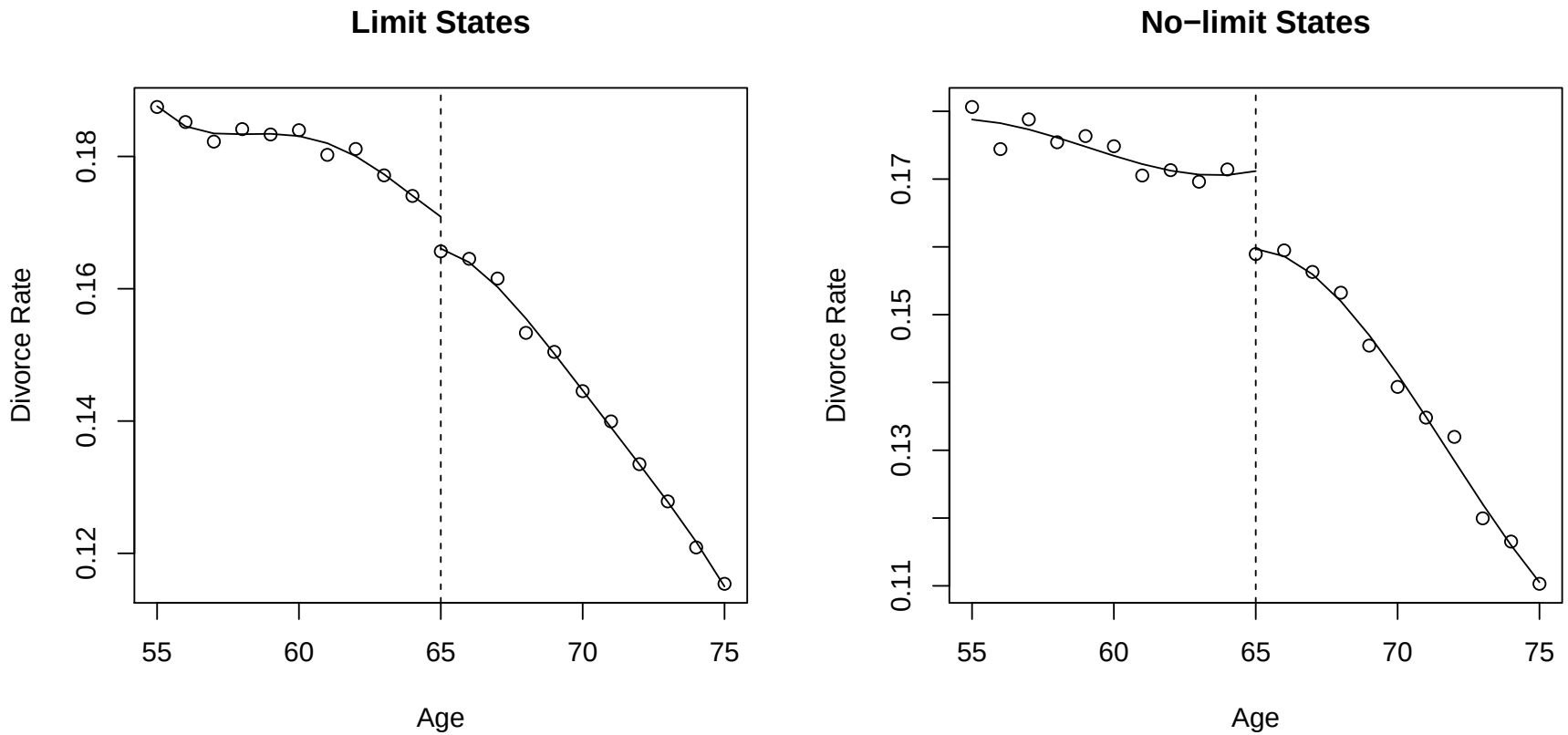


Figure: Regression Discontinuity in Divorce Rate at 65, by Whether States Impose MSP Asset Limit

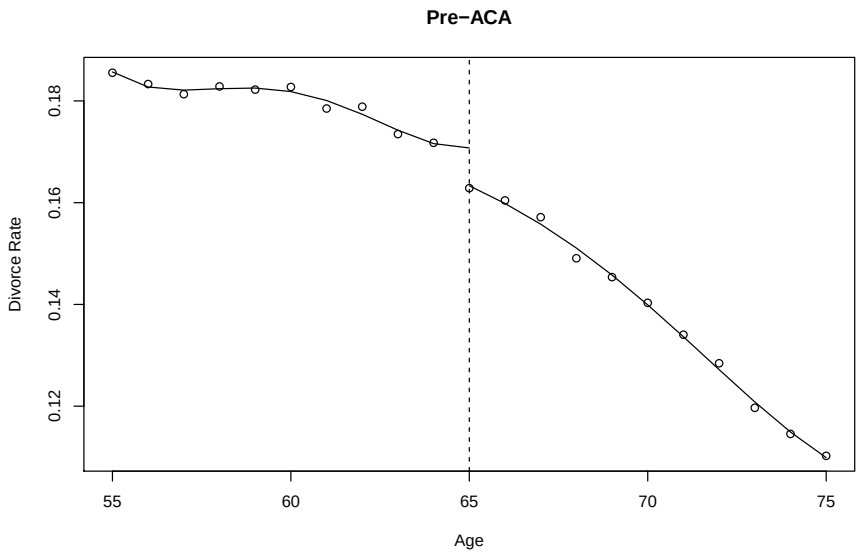
Discussion: Asset Test

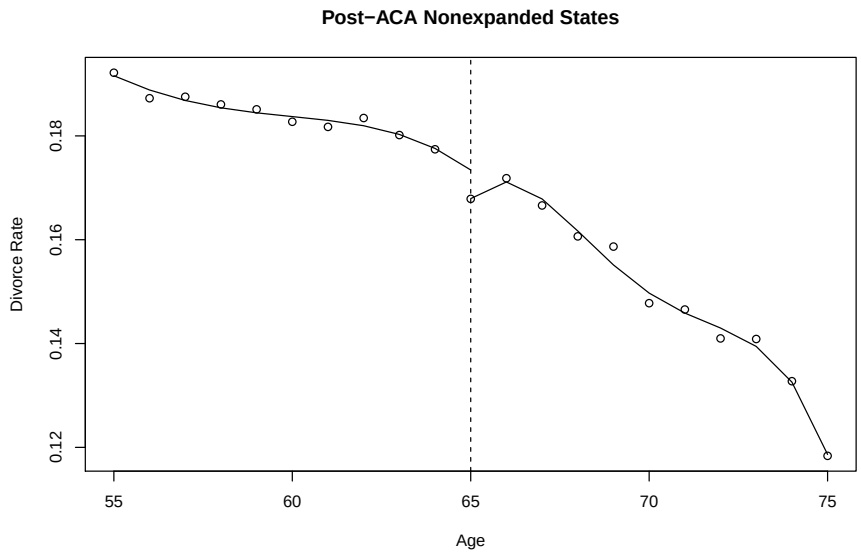
Table: Discontinuity Estimates in Divorce Rate at Age 65, by ACA Period and Medicaid Expansion States

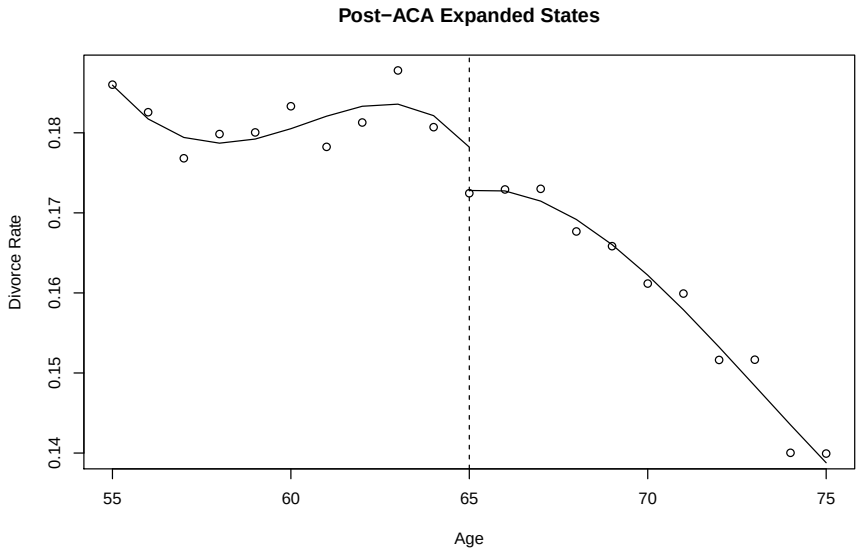
	Dependent variable: Indicator for divorce					
	Pre-ACA		Post-ACA Nonexpanded		Post-ACA Expanded	
	(1)	(2)	(3)	(4)	(5)	(6)
Age $\geq$ 65 cutoff	-0.749^{***}	-0.679^{**}	-0.570^{*}	-0.633^{**}	-0.631	-0.760
	(0.241)	(0.251)	(0.276)	(0.250)	(0.634)	(0.565)
Intercept	17.070^{***}		17.369^{***}		17.897^{***}	
	(0.237)		(0.274)		(0.633)	
Clustered SE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes	No	Yes
N	4285358	4285358	962974	962974	646615	646615

* The estimates are reported in terms of percentage points. The models include polynomial of age, fully interacted with indicator $1(age \geq 65)$. Control variables include year effect, state effect, gender, race, education, and Social Security Income. The estimates are based on pooled 2008-2015 ACS data. All regressions are weighted by personal sampling weight. Robust standard errors clustered at age are reported in parentheses. (* 0.1, ** 0.05, *** 0.01)

Discussion: Asset Test







Outline

Conclusion

- Age-based expansion of eligibility for Medicare and Medicaid at the 65-threshold reduce the divorce rate by 4.1 percent
- The divorce gap is concentrated on women and African Americans
- States without assets for Medicare savings programs have larger divorce gaps
- No evidence for divorce gap in states expanded Medicaid

Questions? Suggestions?

Thanks!