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The Spanish Tax Credit for Mothers and the Fertility and Labor Supply of Immigrants

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Overview

- We evaluate the effects of the 2003 reform in the Spanish income tax on fertility and female participation.
 - Increased deductions for dependent children.
 - New tax credit for working mothers.
- Stressing the differential effect on native versus immigrant women.

Outline

1. Motivation
2. The Reform
3. Native vs. Immigrant Women
4. Previous Literature
5. Descriptive Evidence
6. Concluding Remarks

Motivation

- Spain is one of the OECD countries with the lowest fertility rates and the lowest female employment rates.
- As the immigrant population increases, their employment and fertility behavior is increasingly relevant.
 - In 2005, 10% of the Spanish working-age population was foreign born.
 - Fertility rates are higher among immigrants.
 - Employment rate of immigrant vs. native women?

Policy Response

- The Spanish government has recently introduced reforms aimed at increasing female participation as well as fertility.
- Note that, since mothers are less likely to work than non-mothers, targeting fertility alone would decrease female participation.
- Thus parallel measures are needed that address childcare needs of new mothers.

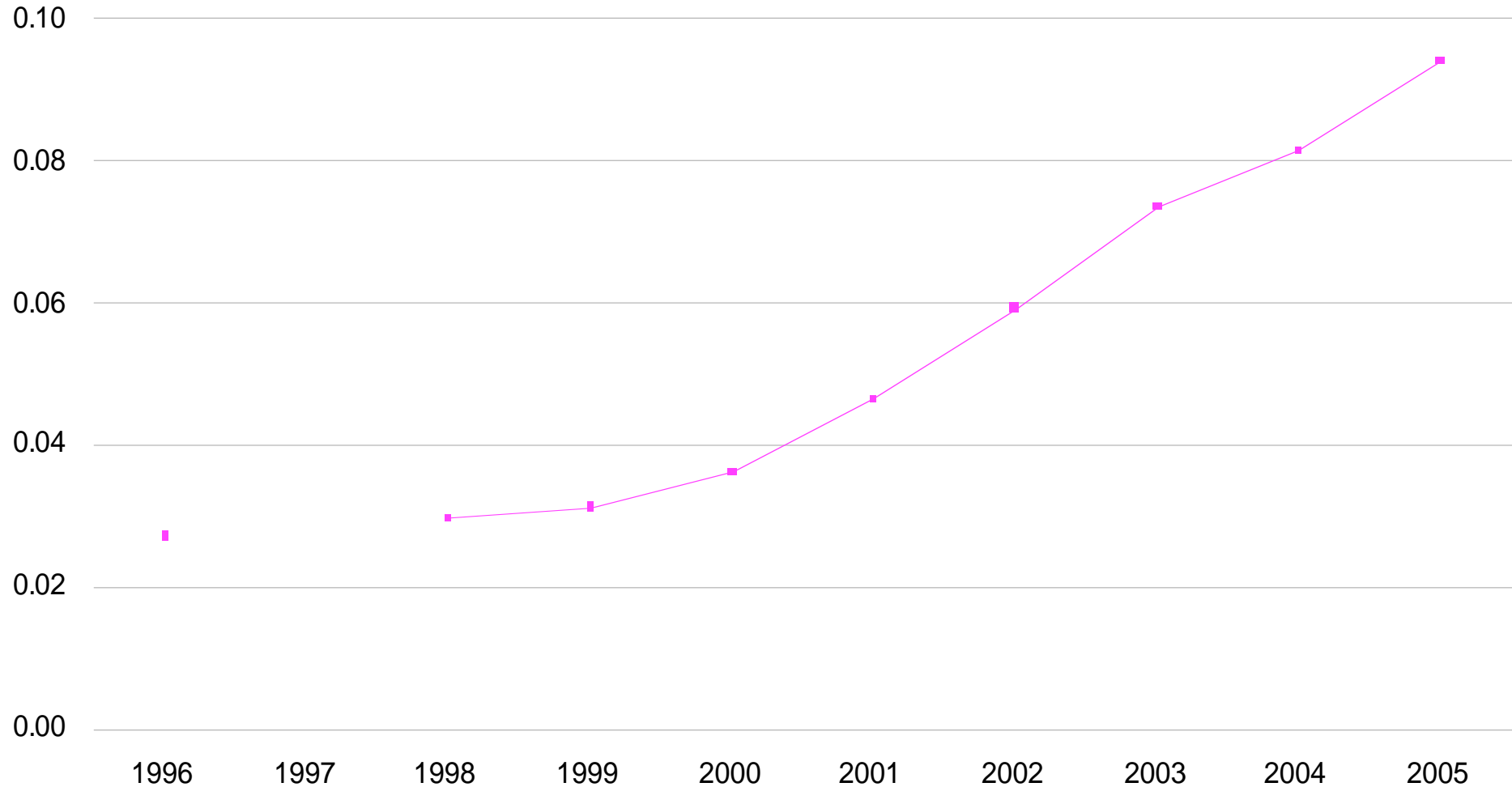
The Income Tax Reform of 2003

- One of the most important recent reforms in that direction took place in 2003.
- The income tax reform aimed at encouraging fertility by:
 - Increasing the deduction for dependent children.
 - Increasing the deduction for children under 3 from 300 to 1,200.
- It also aimed at increasing participation of new mothers by:
 - Introducing a tax credit of 1,200 a year for working mothers with children under 3.

Our Idea

- Evaluate the effect of these reforms on fertility and female participation.
 - With particular emphasis on immigrant women.

Female immigrants as a % of all females (Padrón, 1996-2005)



Native versus Immigrant Women (2006)

	Mean	Std. Dev.	Min	Max
Age	36.8	5.880	16	45
Dropout	0.087	0.281	0	1
High School	0.679	0.467	0	1
University	0.234	0.424	0	1
Working	0.633	0.482	0	1
Unemployed	0.071	0.257	0	1
Single	0.134	0.341	0	1
Partner in hh	0.589	0.492	0	1
Kid 0-2	0.193	0.395	0	1
Kid 3-5	0.199	0.399	0	1
Kid 6-15	0.478	0.500	0	1
Kid 16-30	0.404	0.491	0	1
Hours	32.30	17.74	0	99.99

N = 17,259

	Mean	Std. Dev.	Min	Max
Age	33.6	6.632	16	45
Dropout	0.177	0.382	0	1
High School	0.622	0.485	0	1
University	0.200	0.400	0	1
Working	0.637	0.481	0	1
Unemployed	0.090	0.286	0	1
Single	0.155	0.362	0	1
Partner in hh	0.609	0.488	0	1
Kid 0-2	0.234	0.424	0	1
Kid 3-5	0.218	0.413	0	1
Kid 6-15	0.429	0.495	0	1
Kid 16-30	0.558	0.497	0	1
Hours	33.42	18.50	0	99.99

N = 2,132

Previous Literature

- Large literature on the effects of tax credits in other countries.
 - Especially US and UK.
 - But very different design (targeted to low earnings families).
 - No fertility component.
- Sánchez Marcos & Sánchez Mangas (2006) look at the short-term effect of the Spanish reform on female participation.
 - Using a diff-in-diffs approach.
 - Finding a large, significant positive effect on participation for low educated mothers.

Sánchez Marcos & Sánchez Mangas (2006)

- They only look at the short term effect.
 - Only 2 years post-reform (2003-2004).
- They only look at participation.
 - Changes in the definition of unemployment.
 - Effects on employment, hours, etc?
- They use a questionable control group.
 - All mothers with children over 2 (up to 30!).
- They look only at married mothers.

What We Do

- Evaluate the long-term effect of the reforms.
 - Now 3-4 “post” years (depending on whether we include 2003).
- Look at additional outcome variables.
 - Employment, hours.
 - Fertility.
- Improve the control group.
 - Mothers of children 3 to 5.
- Look at possible differential effects for immigrant women, single mothers.

Some Descriptive Evidence

A) Participation and Employment

A.1) Native versus Immigrant Mothers

A.2) Treatment vs. Control, Replicating Sanchez & Sanchez.

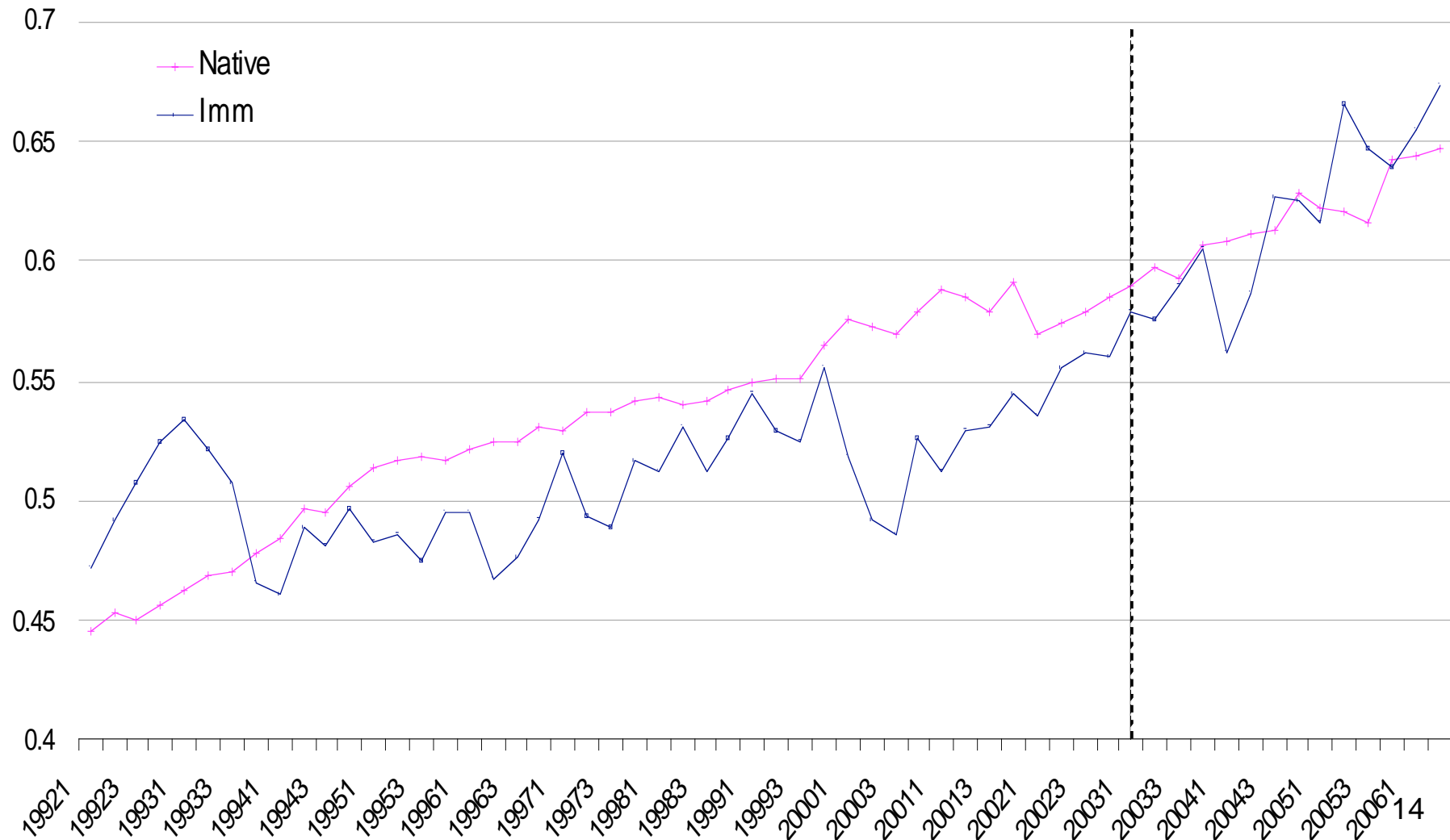
A.3) Treatment vs. Control, Employment.

A.4) Treatment vs. Control, Improved Control.

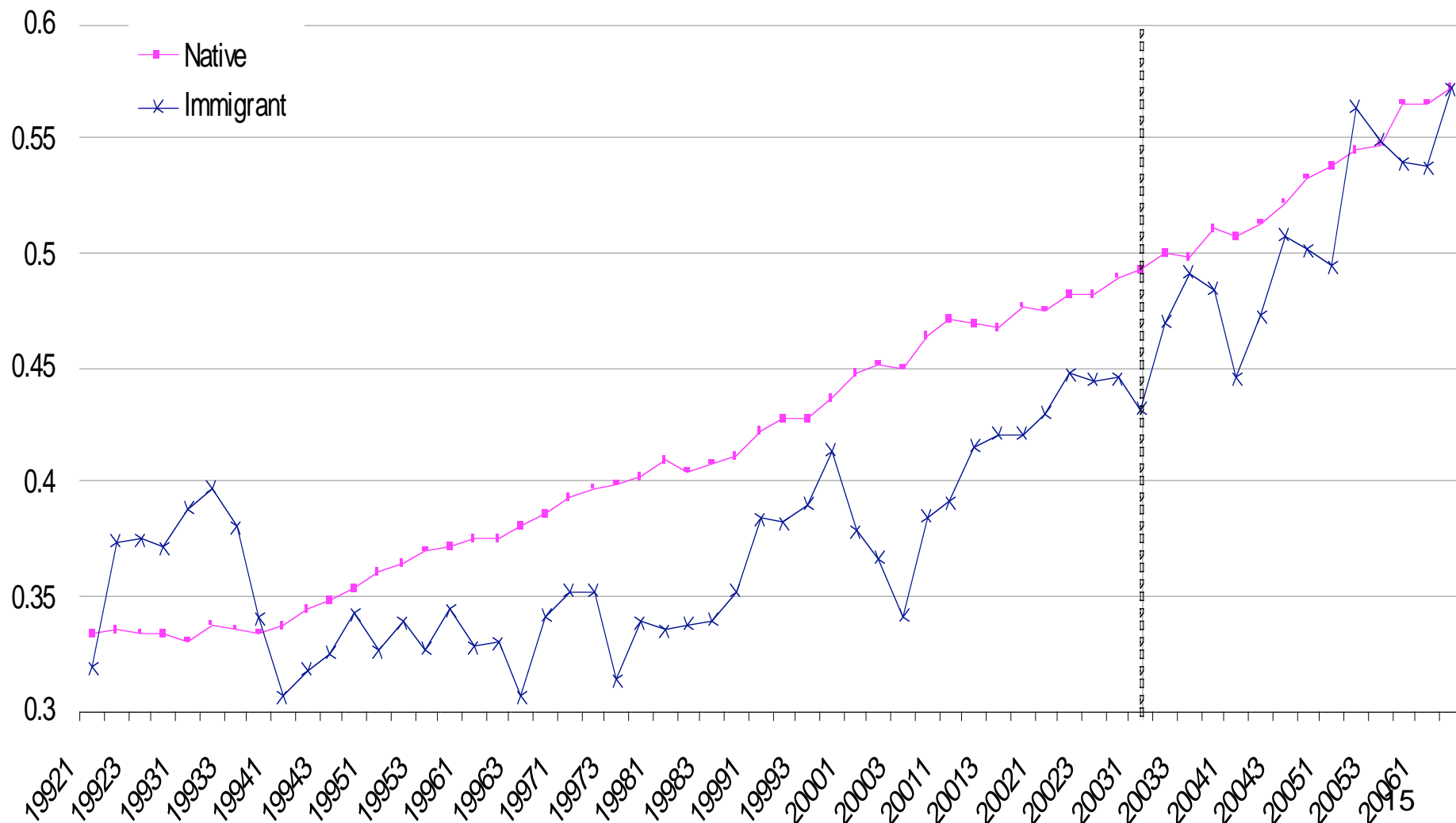
A.5) Treatment vs. Control, Immigrants.

B) Fertility

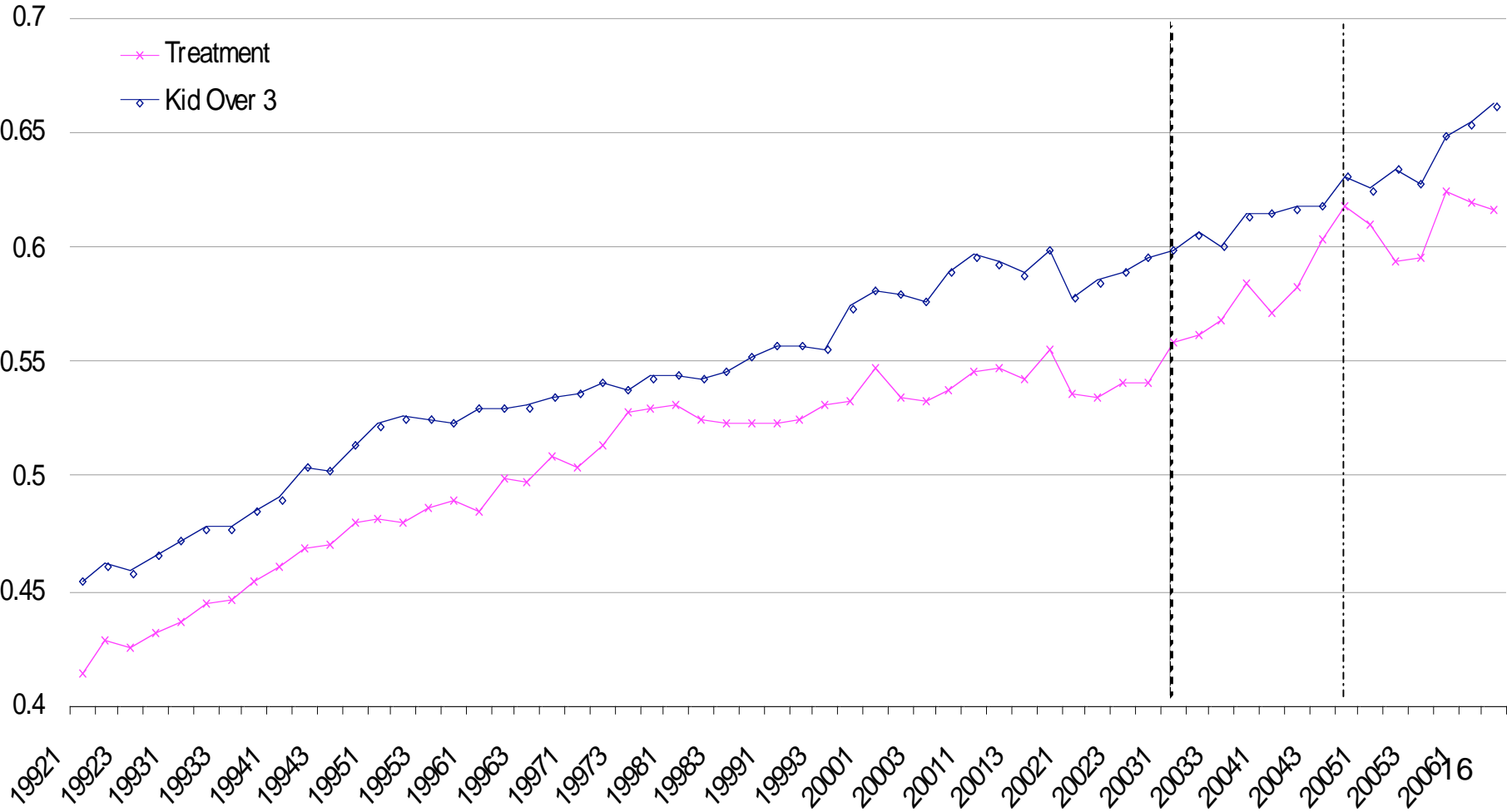
A.1) Participation rate, all mothers, natives vs. immigrants



A.1) Employment rate, all mothers, natives vs. immigrants



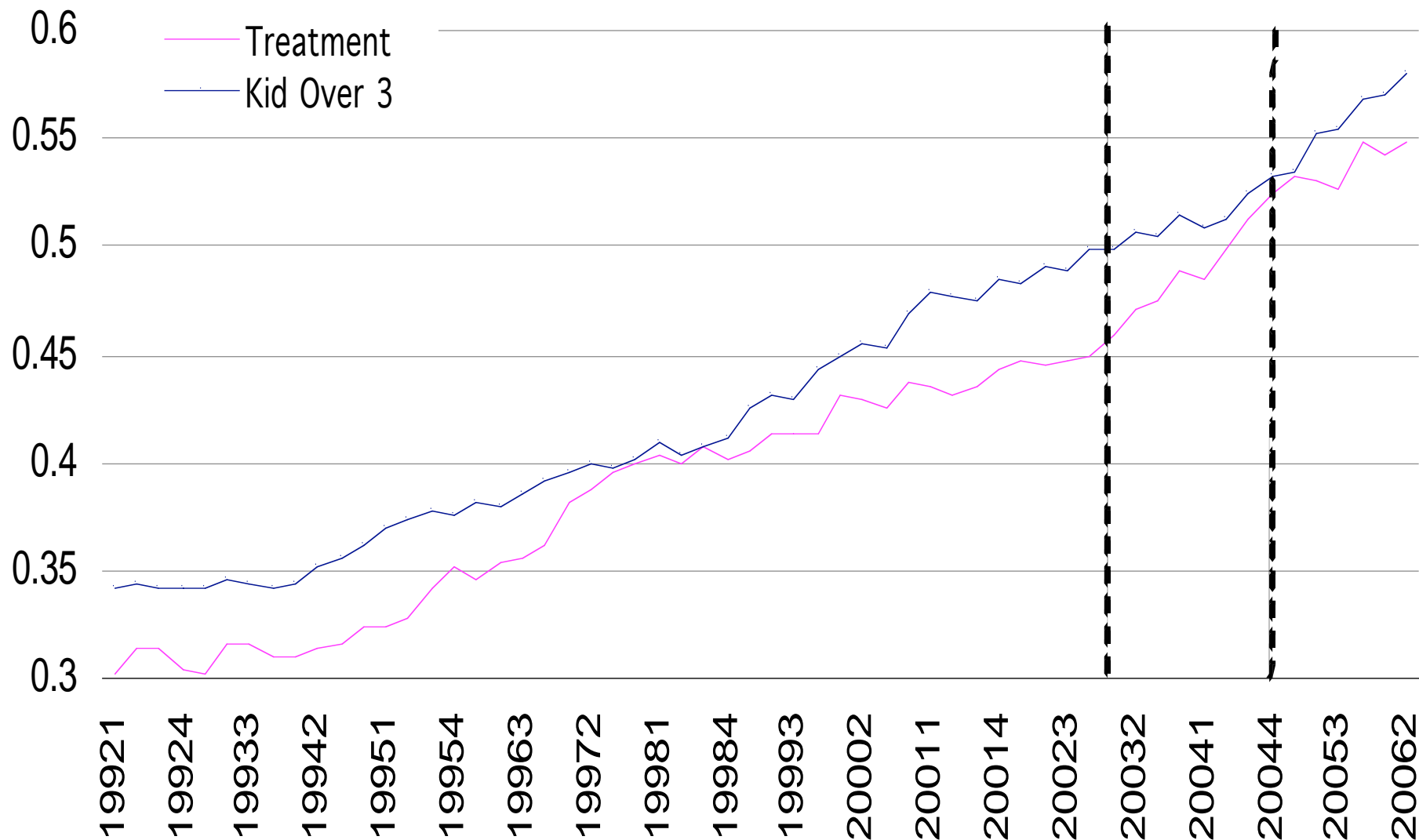
A.2) Participation Rates All Women, Treatment vs. Control Group (replicating Sánchez and Sánchez, 2 more years)



Diff-in-Diffs Participation

All (N+I)		Treated	Control	Differences	Diff-in-diff		
Pre	1996-2002	0.528	0.563	0.036	-0.0038	-0.0035	-0.0056
Post	2003-2004	0.581	0.613	0.032			
	2003-2006	0.593	0.625	0.032			
	2004-2006	0.603	0.633	0.030			

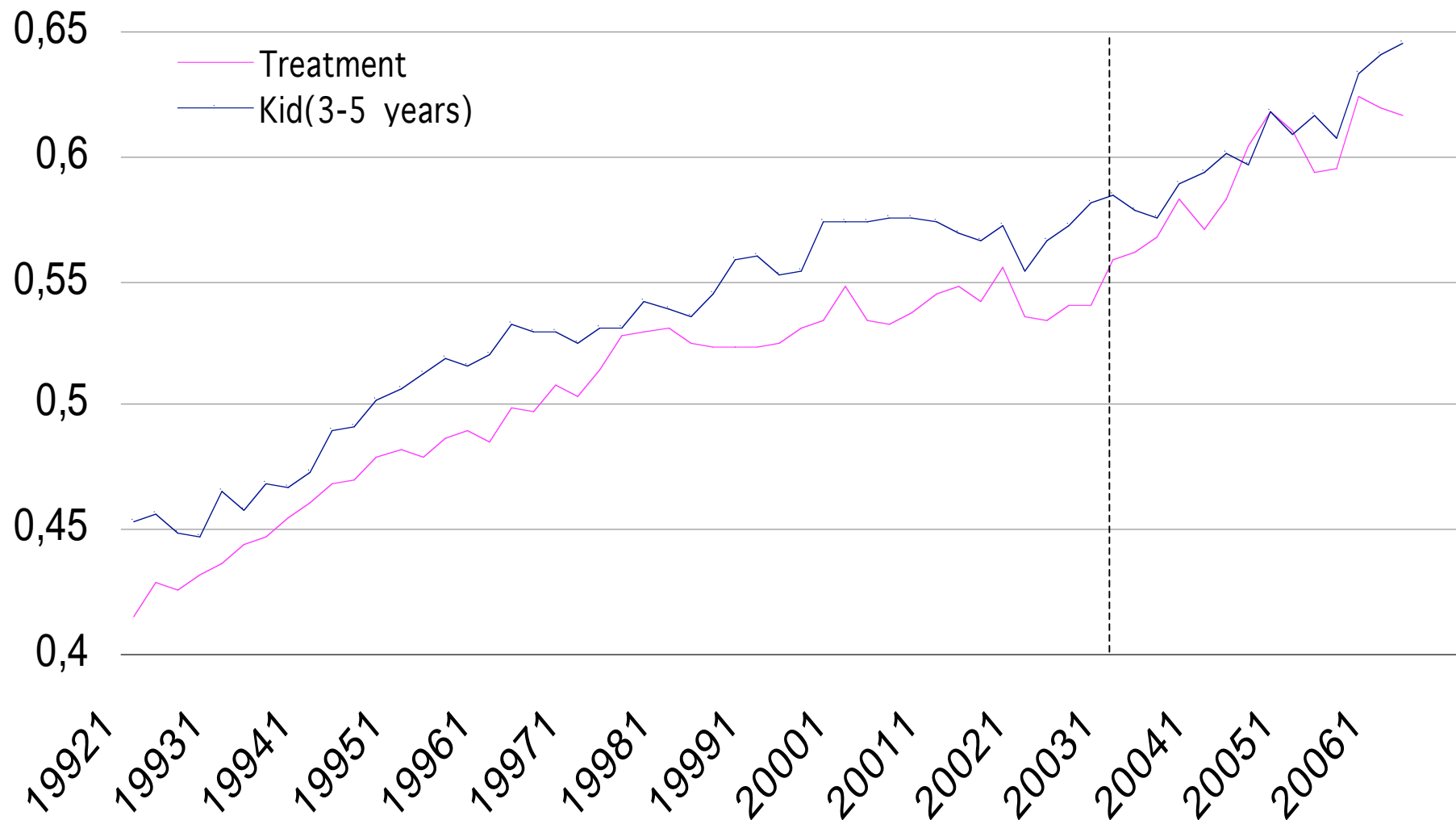
A.3) Employment Rates All Women, Treatment vs. Control Group



Diff-in-Diffs Employment

All (N+I)		Treated	Control	Differences	Diff-in-diff		
Pre	1996-2002	0.410	0.435	0.025	-0.0014	-0.0020	-0.0140
Post	2003-2004	0.489	0.513	0.024			
	2003-2006	0.510	0.533	0.023			
	2004-2006	0.525	0.536	0.011			

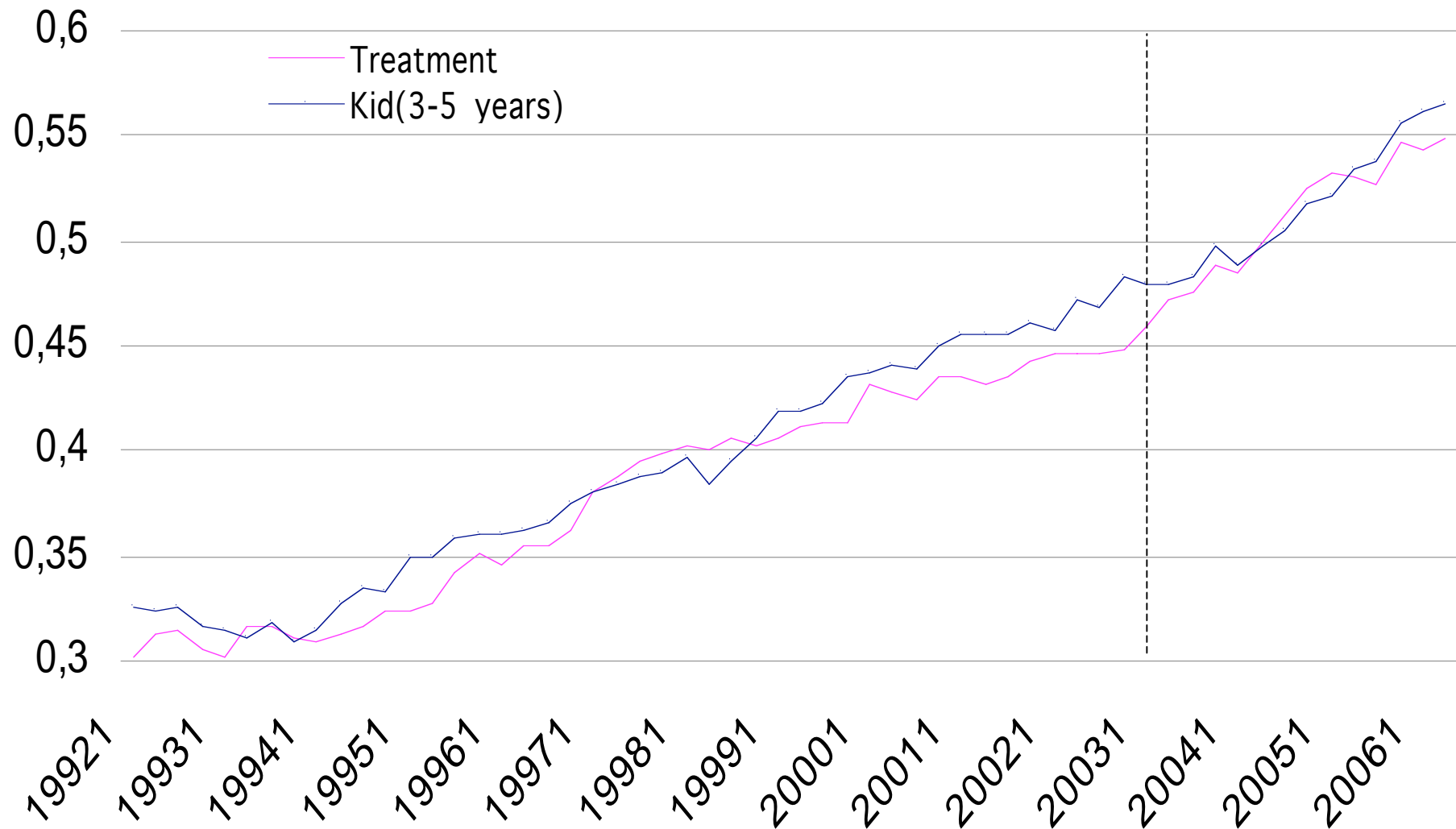
A.4) Participation, Restricted Control Group



Diff-in-Diffs Participation, Restricted Control Group

All (N+I)		Treated	Control	Differences	Diff-in-diff		
Pre	1996-2002	0.528	0.554	0.026	-0.0152	-0.0133	-0.0137
Post	2003-2004	0.581	0.592	0.011			
	2003-2006	0.593	0.606	0.013			
	2004-2006	0.603	0.616	0.013			

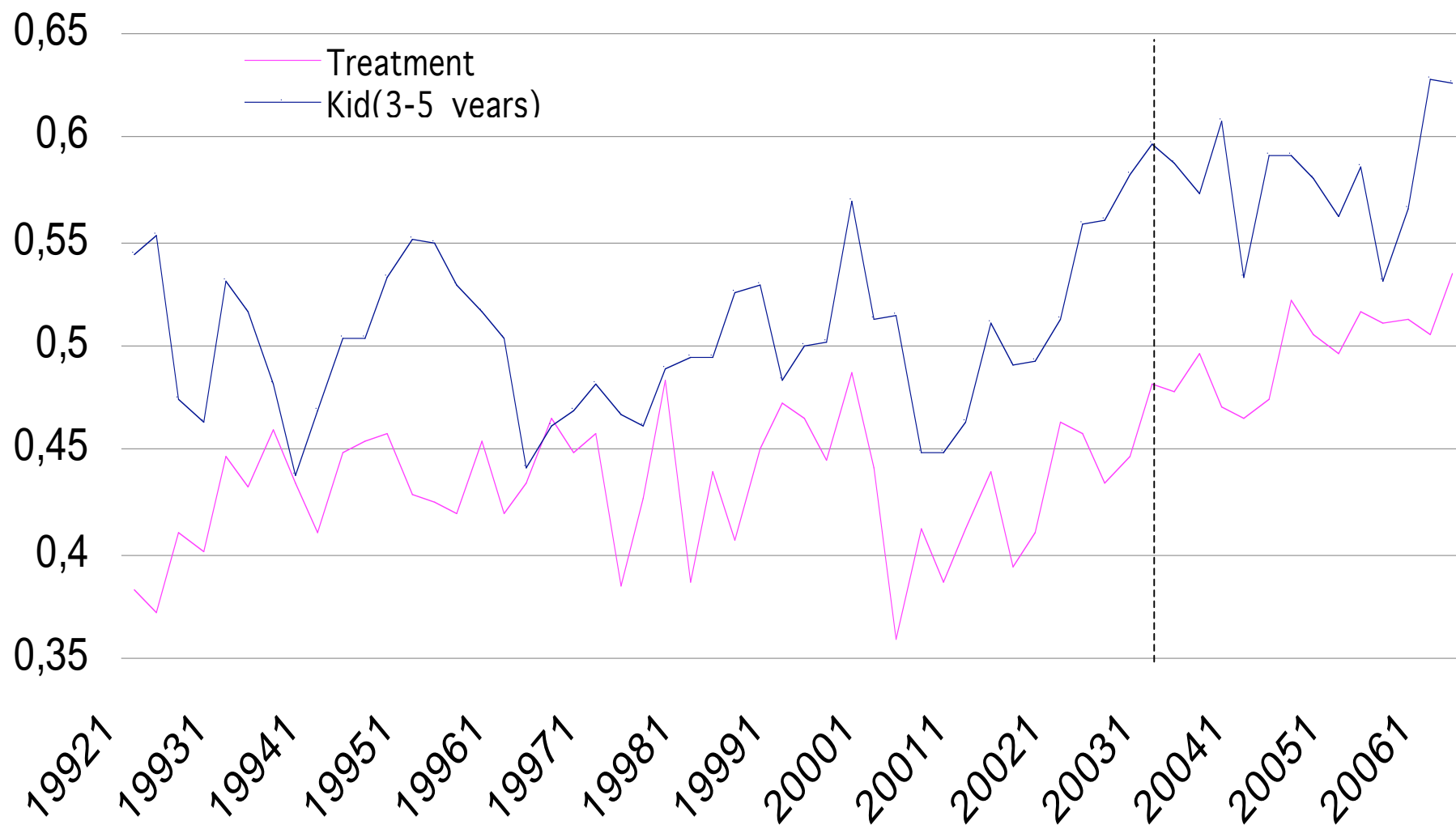
A.4) Employment, Restricted Control Group



Diff-in-diffs Employment, Restricted Control Group

All (N+I)		Treated	Control	Differences	Diff-in-diff		
Pre	1996-2002	0.410	0.420	0.010	-0.0055	-0.0039	-0.0062
Post	2003-2004	0.489	0.493	0.004			
	2003-2006	0.510	0.516	0.006			
	2004-2006	0.525	0.528	0.003			

A.5) Treatment vs. Control, Immigrants



Diff-in-Diffs Immigrants

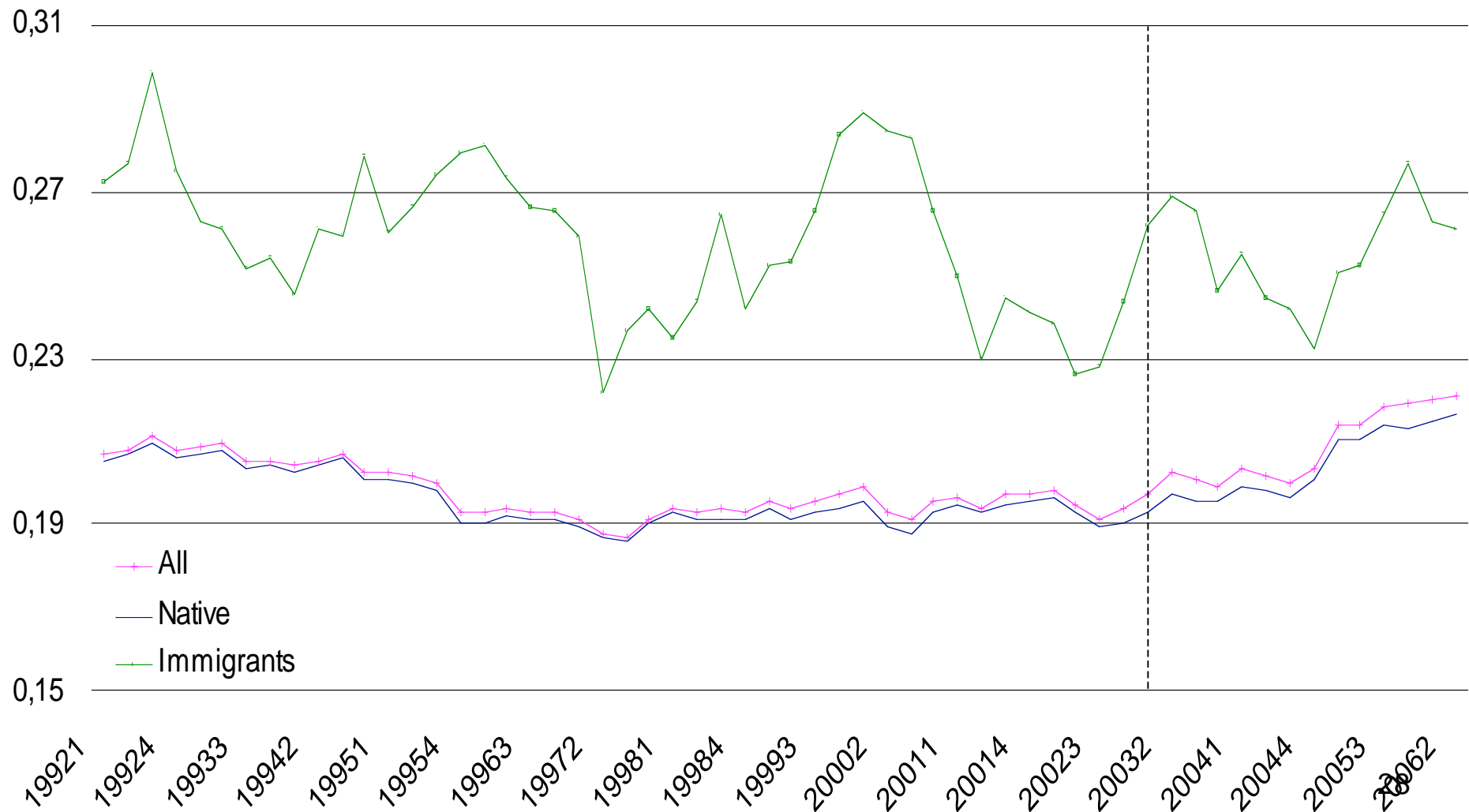
Participation rates							
Immigrants		Treated	Control	Differences	Diff-in-diff		
Pre	1996-2002	0.433	0.499	0.066	0.0307	0.0199	0.0101
Post	2003-2004	0.487	0.583	0.096			
	2003-2006	0.498	0.583	0.086			
	2004-2006	0.504	0.580	0.076			
Employment rates							
Immigrants		Treated	Control	Differences	Diff-in-diff		
Pre	1996-2002	0.304	0.356	0.052	0.0404	0.0326	0.0209
Post	2003-2004	0.362	0.454	0.093			
	2003-2006	0.379	0.464	0.085			
	2004-2006	0.387	0.460	0.073			

Employment and Participation

- Overall effect of the reform:
 - 1.3 to 1.4 points increase in participation.
 - 0.4 to 0.6 points increase in employment.
- Effect for immigrants:
 - 1 to 2 points increase in participation.
 - 2 to 3 points increase in employment.

B) Fertility

Marital Fertility, Native vs. Immigrant Women



Simple Diffs., Marital Fertility

	Average(1997-2002)	Average(2004-2006)	Difference
All	0.194	0.212	0.0175
Native	0.192	0.207	0.0155
Immigrants	0.251	0.254	0.0034

Concluding Remarks

- We analyze the effect of a reform that encouraged both fertility and participation of mothers.
 - Focusing on a potential differential effect on immigrant women.
- Preliminary results suggest larger effects on employment and participation than found in previous studies.
 - Driven by immigrant women!
- Potential effects on fertility, driven by natives?
- So far, only descriptive analysis.
 - Formal evaluation of the effects to follow.