

# Credit Market Competition and the Gender Gap in Labor Markets

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# Motivation

- Between 1970 and 1995, the gender gap in US labor markets narrowed substantially
  - Female labor force participation increased from 50 to 76 percent (Goldin, 2006)
    - Male labor force participation around 90 percent throughout that period
  - Female-to-male wage income ratio increased from 0.6 to 0.73 (Blau & Kahn)
- Conventional explanations focus on changes in technology, perceptions, and social norms
  - „The pill“ removed the risk of an accidental pregnancy (Goldin & Katz, 2002)
  - Waning social stigma surrounding married women’s non-household production (Goldin, 2006)
  - Altered identity placing career on equal footing with family (Fernandez et al., 2004)
- This paper: the role of credit markets
  - Banking deregulation of the 1970s—1990s increased competition among financial intermediaries
  - Hypothesis: Credit access and labor market opportunities improved, more so for women
    - „Credit empowers women“ (well-known fact from microfinance)

# „Credit empowers women“—reasonable hypothesis in the West?

- With soon-to-be President Hillary Clinton, easy to forget how far we've come since 1960s
  - (Or not—just watch „Mad Men“!)
  - (Or maybe we haven't—just watch „Donald Trump“!)
- US women's equality of credit opportunities (surprisingly) recent phenomenon
  - Women needed a male co-signer for a bank account, a credit card, or a mortgage until 1970s
    - Married women needed their husband's approval
  - Creditors could count a woman's income at 75 percent
  - Creditors could refuse to consider income from part-time employment, alimony, or child support
- This changed with the 1974 Equal Credit Opportunity Act
  - Made it unlawful for creditors to discriminate against any applicant on the basis of „race, color, religion, national origin, sex, marital status, or age.“
    - Curiously, the provision „on the basis of sex or marital status“ was added by Congresswoman Lindy Boggs without the knowledge of the rest of the Banking Committee members

# Women's empowerment, cntd.

- Not to mention that:
  - Women could be refused a job for being female until 1964 (Civil Rights Act)
  - Women could not divorce their husband on the grounds of domestic violence until the 1960s
    - New York allowed it in 1966...
    - ...as long as there was „a documented sufficient number of beatings“
  - Women were not admitted into Yale or Princeton until 1969, into Harvard until 1977
    - Cornell started in 1870, University of Chicago since its inception in 1892
  - Women could be denied to practice law until 1971
  - Women could not legally challenge sexism in the classroom until 1972 (Title IX of the Civil Rights Act)
  - Women could not serve on a jury in all 50 states until 1973
  - Women could lose their job if they became pregnant until 1978 (Pregnancy Discrimination Act)
  - Women could not refuse to have sex with their husband in all 50 states until 1993
    - „Marital rape“ was not a legal concept

# The role of US credit markets

- „Boring banking“ until the 1970s
  - Tightly regulated and unglamorous
    - Interest rate controls, separation of banking from trading, securities, and insurance
    - „Banker’s hours“: 9:30am to 4pm (until today, the NYSE’s opening hours)
    - Local monopolies (state-wide branching prohibited in all but 12 states + DC)
- Gradual wave of staggered branching deregulations
  - 35 states lifted restrictions on state-wide branching until 1993
  - All 50 states (with the exception of Hawaii) lifted interstate branching restrictions, too
- Well-documented effects of local credit market deregulation
  - Income (Jayaratne & Strahan, 1996; Huang, 2008)
  - New business creation (Black & Strahan, 2002; Cetorelli & Strahan, 2006; Kerr & Nanda 2009)
  - Demand for education (Levine and Rubinstein, 2013; Sun & Yannelis, 2016)
  - Income inequality (Beck et al., 2010) and racial inequality (Levine et al., 2014)

# This paper

- Hypothesis: Deregulation reduced gender gap in labor force participation & wage income
  - Deregulation-induced higher rates of new business creation raised demand for labor
    - Larger effect on female labor force participation as labor supply more elastic (Goldin, 1990)
  - Higher demand for skilled labor and easier credit access raised demand for education
    - More so for women because of an evolving career-oriented female gender identity
  - Higher supply of educated women and higher supply of service-oriented private sector jobs
- Individual-level data on 1,614,187 individuals from the CPS over 1977—1994
  - Comparing labor force participation and wage income between men and women
    - Across deregulated and regulated states
  - Controlling for demographics (age, race, marital status, education, etc.)
- Accounting for confounding effects
  - Controlling for economic circumstances (State X Year FEs) and for time-varying social norms
  - Tests of contiguous MSAs with similar unobservable opportunities

# Result 1: Deregulation reduced gender gap in labor markets

	Weeks worked last year			Log (Weekly wage income)		
	Full sample	Contiguous MSAs	Controlling for social norms	Full sample	Contiguous MSAs	Controlling for social norms
Female	<b>-3.1633***</b>	<b>-3.8000***</b>	<b>-6.9384***</b>	<b>-0.7504***</b>	<b>-0.7350***</b>	<b>-0.9137***</b>
Deregulation X Female	<b>0.6497***</b>	<b>1.0520***</b>	<b>0.6829***</b>	<b>0.1389***</b>	<b>0.0911***</b>	<b>0.1458***</b>
Demographic controls	Yes	Yes	Yes	Yes	Yes	Yes
State X Year FEs	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,614,187	41,029	1,614,187	1,182,408	30,518	1,182,408

- In deregulated states, relative to regulated states and relative to men:
  - Women's number of weeks worked per year increased by 0.65 (20 percent decline in gender gap)
  - Wage income of working women increased by \$40 per week (23 percent decline in gender gap)
- Both results hold after:
  - Controlling for demographics
  - Controlling for State X Year fixed effects
  - Controlling for time-varying social attitudes
  - Studying contiguous counties across state borders

## Result 2: Extensive margin of labor supply

	Not in labor force	Employed in private sector	Employed in public sector	Self-employed
Female	0.2719***	-0.1916***	-0.0004	0.0088
Deregulation X Female	-0.0418***	0.0503***	-0.0020	0.0002
Demographic controls	Yes	Yes	Yes	Yes
State X Year FEs	Yes	Yes	Yes	Yes
Observations	1,614,187	1,614,187	1,614,187	1,614,187

- In deregulated states, relative to regulated states and relative to men:
  - Women less likely to stay out of the labor force
    - Decline in household production
  - Women more likely to be employed in the private sector
    - Better paid relative to public employment and to self-employment
- Likely driven by a new-private-firm-creation-driven increase in labor demand
  - Extensive evidence (Black & Strahan, 2002; Cetorelli and Strahan, 2006; Kerr and Nanda, 2009)
  - Female labor supply more elastic due to changing social norms (Goldin, 1990)

# Result 3: Demand for formal education

	High school or less	College drop-out	College degree or more
Female	0.0360***	-0.0040***	-0.0377***
Deregulation X Female	-0.0147***	0.0129***	0.0138***
Demographic controls	Yes	Yes	Yes
State X Year FEs	Yes	Yes	Yes
Observations	1,614,187	1,614,187	1,614,187

- In deregulated states, relative to regulated states and relative to men:
  - Women less likely to end their education at high-school level
  - Women more likely to enroll in college
  - Women particularly more likely to obtain college or graduate education
- Deregulation likely increased the return to and decreased the cost of education
  - Higher availability of educational loans across the board (Sun and Yannelis, 2016)
  - More so for women

# Result 4: Type of private sector employment

	Male job pre-1977	Well-paid job 1977	Well-paid male job pre-1977
Female	-0.5536***	-0.3269***	-0.4155***
Deregulation X Female	0.0729***	0.0527***	0.0684***
Demographic controls	Yes	Yes	Yes
State X Year FEs	Yes	Yes	Yes
Observations	1,056,418	1,056,418	1,056,418

- In deregulated states, relative to regulated states and relative to men:
  - Women more likely to be employed in jobs dominated by men before 1977
  - Women more likely to be employed in top-50% paid jobs before 1977
  - Women more likely to be employed in top-50% paid jobs dominated by men before 1977
- Deregulation likely increased the supply of high-end jobs previously out-of-reach for women
  - In combination with an increase in skill acquisition: reduction in the wage gap

# Conclusion

- Abundant evidence that microfinance benefits women disproportionately
  - „Low-income women taking loans to support tiny enterprises“ (Demirguc-Kunt et al., 2009)
    - Reduction in female poverty
  - Intrahousehold decision-making (Ngo & Wahhaj, 2012)
- We show that credit access can benefit relatively more women in developed countries, too
  - US banking deregulations of the 1970s, 1980s & 1990s reduced gender gap in labor markets
    - Relatively higher increase in female labor force participation and wage income
  - Main mechanisms: (1) shift away from household production; (2) increase in skill acquisition; (3) higher entry in well-paid private sector jobs
- Policy implications and extensions
  - Credit market competition can dampen the effect of gender bias (Ongena & Popov, 2016)
  - More powerful if coupled with more females in banking (Beck et al., 2013)
  - Did bank competition reduce taste-based discrimination, as in Levine et al. (2014)?

THANK YOU!