

Sample Steven H. Sandell Grant Proposal

## **Abstract**

Women's retirement account balances lag behind those of similar-aged men, even though women have longer life expectancies. This is partially explained by various factors that contribute to women earning less than men over their lifetimes. Another hypothesis is that women lack empowerment to prepare for retirement, which can be remedied through greater knowledge and attention to retirement planning.

The purpose of this study is to evaluate the impact of an ongoing informational intervention called Embracing and Promoting Options for Women to Enhance Retirement, or EMPOWER. EMPOWER seeks to increase participation and contributions to supplemental retirement accounts, through events hosted by employers and direct communication from employers to women employees. It is a long-term program lasting eight months, and delivering information through multiple media, specific to the problems women face in saving for retirement. EMPOWER was implemented at several State of Wisconsin agencies where employees had access to a voluntary Section 457 retirement savings program (Wisconsin Deferred Compensation, or WDC) in addition to Wisconsin's public pension system.

This study will estimate the impact of EMPOWER on participation, contributions, and asset allocation in WDC and the pension system, by tracking these choices among the EMPOWER target population. We will compare that population to other workers not exposed to EMPOWER: the same employees before the implementation of the program, women employed at other agencies, and men employed at the same agencies. Using monthly longitudinal data, this triple-difference strategy looks for a divergence in the gender gap in retirement savings, after implementation of EMPOWER, at agencies that implemented the program relative to other agencies. The database will cover four years and more than 31,000 employees.

This research will help us learn whether a lack of knowledge and attention are significant barriers to women's retirement savings, by measuring the effect of delivering targeted information intended to overcome these barriers. The practical benefit to society of this research is that these interventions can be portable to other populations of workers where women's savings lag behind men's, and could increase women's well-being during their retirement years.

## **Significance of Gender Gaps in Preparation for Retirement**

Women face a different set of problems at the end of life than men do. Women tend to live longer than men do, which means that they may need to have more set aside for their retirement years, and they may be facing those years alone. Accumulating savings is more difficult since women earn less than men at the same jobs, choose lower paying jobs, are more likely to work part-time, and take more time off of work to care for children and elders (Goldin, 2014; Munnell, 2004). To overcome all of these disadvantages, women must contribute a larger percentage of their earnings toward retirement savings.

Why do women continue to lag behind men in retirement savings, what are the consequences, and what can be done about it? Evidence from a special 2004 supplement to the *Health and Retirement Study* (HRS) shows that women nearing retirement have low levels of financial literacy and are unlikely to have planned for retirement at all (Lusardi & Mitchell, 2008). Other studies using the HRS and its various supplements come to conflicting conclusions about the consequences of undersaving for retirement (Munnell, Rutledge, & Webb, 2014). Using a life-cycle model of financial behavior, it is not clear that simply having lower levels of contributions dooms workers to lower levels of consumption and utility in retirement (Scholz, Seshadri, & Khitatrakun, 2006). It could be the case that their decisions are informed and optimal, and would not respond to additional information or motivation. This is perhaps contradicted by the power of auto-enrollment in retirement plans, which should not change behavior if households are optimizing, but is shown to increase savings (Beshears et al., 2009).

Evidence on the power of workplace financial education is more mixed (Lusardi & Mitchell, 2007). Studying workplace financial education that was delivered to men and women, Clark et al. (2003) found women were more likely to plan to increase contributions, while Collins & Urban (2015) found women actually do increase contributions at higher rates. Other notable studies of workplace financial education find no difference in impacts for men and women (Duflo & Saez, 2003) or do not examine gender differences, but find impacts could be largest for those who save the least (Bernheim & Garrett, 2003). Lusardi & Mitchell (2008) call for educational programs that are long-term, and specifically address women's preferences and saving needs, but to our knowledge no such program has been directly evaluated.

This proposal to the Steven H. Sandell Grant Program in Retirement Research describes a collaboration between researchers at the Center for Financial Security (CFS) at the University of Wisconsin-Madison (UW-Madison) and the Wisconsin Department of Employee Trust Funds (ETF) to evaluate the impacts of the EMPOWER program. EMPOWER consists of information and motivation to prepare for retirement, which ETF targeted to women employees at some state agencies during 2015. By investigating effects on retirement savings among women, this work addresses the key research areas of **wealth and retirement income** and **demographic research**.

We employ a triple-difference framework to track changes in the gender gap in contributions to retirement accounts, over time, at state agencies that participated in EMPOWER versus those that did not. This study uses longitudinal administrative data at the monthly frequency, covering a period of four years, from a large public employer, the State of Wisconsin. The results will contribute to retirement policy in Wisconsin as well as add to the scant literature on interventions to close gender gaps in preparation for retirement.

### **Setting: State of Wisconsin**

The State of Wisconsin offers two main retirement savings programs for its employees: the Wisconsin Retirement System (WRS) and Wisconsin Deferred Compensation (WDC).

WRS is a mandatory pension program with defined-benefit and defined-contribution elements (<http://etf.wi.gov/publications/et8901.pdf>). Currently, workers contribute 6.8 percent of before-tax income with a 6.8 percent employer match. By default, all contributions are invested in a “fully diversified, balanced” core fund, but workers can elect instead to invest half of their contributions in a stock-heavy fund. Retirees are entitled to a benefit which is the higher of two formula-based calculations, one centering on the three highest years of earnings and the other centering on the balance of employee and employer contributions.

In addition to WRS, WDC provides the opportunity for supplemental savings under Section 457 of the Internal Revenue Code (<http://etf.wi.gov/publications/et8904.pdf>). Workers can make either before-tax or after-tax Roth contributions of any amount each month, up to yearly maximums which vary by age and earnings. Participants can invest contributions across 6 target date funds and 16 options in the core investment spectrum, as well as thousands of

mutual fund choices through a self-directed brokerage option. Retirement benefits can be received as a lump-sum or annuity.

Just over half of eligible employees participate in WDC, contributing an average of six to eight percent of their wages (Holden & Kock, 2012). Participation rates are roughly the same between men and women. However, the account balances of participating women total approximately 70 percent of the balances of participating men. Women earn lower wages on average, but they also contribute a smaller portion of their earnings, are more likely to use emergency withdrawals, and tend to choose less diversified investments that may grow more slowly. The gender gaps persisted after controlling for education, hours, earnings, age, and marital status.

Because of these demonstrated and unexplained gaps, and the potential to address them through an organized messaging campaign, Wisconsin is an ideal setting for this study.

**Intervention protocol: EMPOWER**

In response to gender gaps in retirement savings, ETF and WDC developed the EMPOWER program. EMPOWER is an acronym for Embracing and Promoting Options for Women to Enhance Retirement. To execute these goals, ETF provides a suite of resources that employers can tailor to the needs of their employees. The table below shows the methods of delivery and topics covered, each of which is used at least once during an eight-month span.

Table 1.

Delivery	Topics
<ul style="list-style-type: none"> <li>● EMPOWER website               <ul style="list-style-type: none"> <li>○ Case studies</li> <li>○ Archived presentations</li> <li>○ Schedule of events</li> <li>○ Links to resources</li> <li>○ Links to change contributions</li> </ul> </li> <li>● Webinars</li> <li>● Live events during working hours</li> <li>● Emails from employers</li> <li>● Twitter</li> <li>● “Talk to each other and share”</li> </ul>	<ul style="list-style-type: none"> <li>● Types of retirement accounts</li> <li>● Social Security, including claiming strategies for couples</li> <li>● Building better credit</li> <li>● Setting a budget, making good habits</li> <li>● Retirement calculators</li> <li>● Right-size housing</li> <li>● Beneficiary designations</li> <li>● Caregiving</li> <li>● Investments 101</li> <li>● Scams and frauds</li> </ul>

EMPOWER is tailored by each employer, but its core includes information describing differences in retirement savings between men and women, retirement savings calculations, encouragements to plan for retirement, and concrete information about various retirement savings vehicles available to Wisconsin state employees. Some of these resources are available online, for example from the U. S. Department of Labor (2013), but delivery at employer-sponsored events increases the potential for attention. The theory of change for EMPOWER, which is repeated in materials throughout, is that talking and sharing with coworkers is an effective way to learn about and prepare for retirement.

The EMPOWER program was presented to representatives of each agency. These representatives were Affirmative Action Committee chairs, and had the discretion to decide whether employees at their agency could benefit from EMPOWER. Events tend to take place during working hours and are led by facilitators, so employees' time away from work and the time spent by the facilitators represent costs to the employer implementing EMPOWER.

At employers where EMPOWER was chosen for implementation, monthly checklists were created, committing the employer to undertake communications and events in each month for an eight-month span. For all participating employers, implementation began in April 2015.

## **Research Questions**

1. What is the effect of a targeted informational and motivational campaign on women's retirement choices?
  - a. Supplemental retirement savings program: participation, contributions, diversification, changes to asset allocation
  - b. Pension with defined-benefit and defined-contribution components: additional contributions, allocation to stocks
2. Do specific activities or methods of communication yield more behavior change?
3. Are effects of the informational intervention moderated by employee characteristics?
  - a. Age, marital status, earnings
  - b. Prior participation levels, length of employment
  - c. Race, urban/rural

## Research Design: Triple-Difference

To answer the research question of whether the information delivered by EMPOWER increases participation and/or contributions to WDC among the target group, our research design will compare WDC use of the group exposed to EMPOWER to that of other similar groups of workers not exposed to EMPOWER. We create comparison groups consisting of prior observations of the employees studied, men working for the same employers, and women working for other employers. In this way, we can control for any level differences in WDC contributions across time periods, genders, and/or employers. A reduction in the gender gap in contributions at agencies after implementation of EMPOWER, relative to the changes in the gender gap at other agencies, will be evidence of a program impact (Research Question 1).

We formalize this comparison in a regression modeling retirement choices by individual  $i$  in month  $t$ :

$$Y_{it} = \alpha + \mathbf{X}'_{it}\boldsymbol{\beta} + \gamma_1 E_i + \gamma_2 F_i + \gamma_3 P_t + \delta_1 E_i F_i + \delta_2 E_i P_t + \delta_3 F_i P_t + \rho E_i F_i P_t + \varepsilon_{it}$$

$Y_{it}$  – Outcome: participation, contributions, balance, or asset allocation for WDC or WRS

$\mathbf{X}_{it}$  – Vector of time-varying individual characteristics: hours, earnings, and employment

$E_i$  – EMPOWER employer indicator

$F_i$  – Female indicator

$P_t$  – Post-implementation indicator

$\varepsilon_{it}$  – Mean-zero error term

The regression includes a constant and the full interaction between indicators for the employee being female, working at an (eventual) EMPOWER employer, and the month occurring in the post-implementation period. Therefore  $\rho$  is the triple-difference parameter. We will calculate standard errors that allow for serial correlation within each employer.

For the coefficient  $\rho$  to capture the causal effect of EMPOWER, we must argue that the gender gaps in WDC participation by employer would have followed parallel trends in the absence of EMPOWER. This seems likely, since no other changes or interventions were timed coincidentally with the rollout of EMPOWER, and specifically targeted to women at particular agencies. The choice of implementation and timing was up to individual employee “champions” on Affirmative Action Committees, who took on the responsibility of bringing

EMPOWER to their employers. We can provide support for parallel trends using two years of pre-implementation data.

Controlling for employer is important because WDC participation rates vary widely across state employers (Holden & Kock, 2012). We also control for individual-level variables of hours, earnings, and employment. In an alternative specification, we can control more flexibly for constant individual and time factors by including person and month fixed effects that subsume the indicators for constant personal characteristics  $F_i$ ,  $E_i$ , and  $E_iF_i$ , as well as the post-implementation indicator  $P_t$ .

Another alternative is to allow for changing impacts by redefining the timing variable relative to the initial introduction of EMPOWER or relative to certain events (Research Question 2). Lead indicators marking periods before implementation should show no impact, while lag indicators marking periods after implementation could show varying positive impacts. A final alternative is to interact the key  $E_iF_iP_t$  term with individual characteristics such as age brackets to evaluate whether EMPOWER affects older workers differently (Research Question 3).

Because this is a quasi-experiment, testing the impact of information that is readily available online and events that occur in the workplace, the effects of EMPOWER could spill over to men and to women employed at non-participating agencies or to men at participating agencies. The triple-difference approach looks for differential reactions by women at participating agencies, over and above reactions by non-targeted workers.

### **Data: Longitudinal Administrative Records**

ETF has partnered with researchers at CFS to extract and analyze secondary data surrounding the implementation of EMPOWER. The arrangement has been approved by the UW-Madison Institutional Review Board and written in an executed Memorandum of Understanding between ETF and CFS. ETF will provide de-identified administrative data on employees, as well as information about overall program implementation.

The database will be longitudinal, tracking individual employees at the monthly frequency. Contributions come out of monthly paychecks, making this the smallest relevant frequency. Asset allocations can be changed daily, and we aggregate the number of changes and the current number of funds at the monthly frequency. The period of observation starts in



April 2013, two years before the implementation of EMPOWER. Data will continue to be added to the study database through April 2017.

Characteristics of the individuals include gender, race, marital status, date of birth, home ZIP code, and hire date. Additionally, the data include hours and earnings for each month. Monthly retirement choices in the data include contributions to pre-tax and Roth WDC balances, any rollovers into WDC, changes in fund allocations, and the number of active funds for WDC. The data include running balances in pre-tax and Roth WDC as well as in each of the core and stock investment accounts of WRS. The data also include the employer of the individual.

This study focuses on more than 31,000 employees eligible for retirement programs at 22 statewide employers under a central payroll system. Employers are categorized by ETF into participating and non-participating in the EMPOWER program, as shown in the table below. This distinction will be further substantiated by reporting on all EMPOWER activities that take place and which employers participate in each activity. These details will allow us to assess fidelity of implementation, and how that varies across employers. Finally, we will observe the results of a voluntary brief survey administered to all state employees in the period after EMPOWER begins. While we cannot link responses to individual data, this will give us an idea of the level of knowledge about retirement savings options, identified by demographics such as gender and by employer.

Table 2. *State Employers in Study, with Number of Employees*

Participating in EMPOWER		Not participating in EMPOWER	
Health Services	5,880	Corrections	9,660
Transportation	3,390	Natural Resources	2,870
Workforce Development	1,640	Veterans Affairs	1,320
Revenue	1,000	Children and Families	730
Administration	880	Public Instruction	640
Agriculture	610	Justice	630
Military Affairs	470	Safety and Professional Services	230
Employee Trust Funds	250	Investment Board	160
Insurance Commissioner	150		
Housing and Economic Development	150		
Financial Institutions	130		
Public Service Commission	130		
Economic Development Corporation	90		
Employment Relations	40		
Total employees	14,810	Total employees	16,240

Relative to studies using the nationally representative surveys such as the HRS and the *Survey of Income and Program Participation* (SIPP), this study will provide more frequent data which will all be drawn from administrative records. This approach increases precision within the chosen sample, but limits the sample to only one part of the household balance sheet, among employees of the state of Wisconsin, for a four-year period. Though the data set may lack representativeness, these data are well suited to answering the question at hand. Frequent observations allow us to track effects of various events and deliveries of information, and a four-year panel is long enough for us to check whether changes in retirement behavior around informational events are unusual relative to the period preceding the events, or are undone in the period following the events.

### **Timeline and Deliverables**

1. Q1 FY2017
  - a. Finalize data request, receive first three years of data
  - b. Data cleaning and initial analysis
  - c. Submit proposal to conferences
2. Q2 FY2017
  - a. Initial reporting to ETF
  - b. Draft working paper
3. Q3 FY2017
  - a. Prepare written report and research article
  - b. Travel to academic conference
4. Q4 FY2017
  - a. Add final year of data through April 2017
  - b. Travel to practitioner/policymaker conference
  - c. Submit article to academic journal
  - d. Final reporting

(In addition, each quarter will include a quarterly update to the Sandell grant program.)

This project will provide valuable products for multiple audiences. First, it will directly inform policy in Wisconsin. ETF is eager to know if the efforts it has put into EMPOWER have changed behavior. If EMPOWER does increase savings, ETF could use this information

in deciding whether to implement EMPOWER at additional agencies. If EMPOWER does not increase savings, the results are consistent with state employees being informed and motivated to make the correct choices, while not ruling out the potential for a different intervention to change behavior. We will report to ETF in written and oral briefings throughout the analysis.

Second, this research will contribute to the literature on retirement savings decisions. While it has been well established that women and men accumulate different amounts of savings, and multiple proposed explanations for the disparity have been tested, there is very little in the way of research on the potential for policy interventions to close the gap between men and women. We will submit our findings for publication in a general interest policy and economics journal or a field journal dealing with pensions or household financial behavior. We will also submit our work for presentation at a national academic conference such as the American Economic Association or the National Academy of Social Insurance.

Third, this work could inform policy beyond the state agencies in the study. If the EMPOWER program demonstrates impacts, it is easily portable to other populations of workers. We will present our findings at a regional conference of practitioners and policymakers, such as the Institutional Investor Institute for Defined Contribution Forum, where Co-PI Collins and ETF are jointly presenting in April 2016.

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