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Increasing Retirement Savings by Working Women:

Understanding Gender Disparities in Wisconsin Deferred Compensation Program Account Balances

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Abstract

The purpose of this study is to increase understanding of the sources of observed gender disparities in Wisconsin Deferred Compensation Program (WDC) account balances. With this information, the WDC hopes to increase the usefulness of information provided to potential and current WDC account holders. The WDC is a supplemental tax-deferred voluntary retirement savings program offered to individuals holding jobs covered by Wisconsin's public pension system. Because women and men employees are equally likely to participate in WDC, account balance differentials must come from different contribution levels, investment strategies, continuity of coverage, or withdrawal behavior. First, this paper reports on what administrative data reveal about the reason for gender differences in WDC account balances and contributions. Second, the paper shares conclusions drawn from four focus groups of female WDC account holders about other factors that may influence the decisions regarding WDC participation, contributions, and investment choices. A subsequent paper draws conclusions from a survey of both WDC account holders and non-participants about WDC participation and contribution decisions within the broader context of family savings decisions.

This project was the brainchild of Shelly Schueller, Deferred Compensation Director at the Department of Employee Trust Funds (ETF) and Margery Katz, ETF Librarian. It would not have been possible without their enthusiasm and cooperation. Shelly was not only always available to describe the details of the WDC but also enabled the receipt of data from both Great- West Retirement Services (GWRS) and ETF. We also thank Russ St. Clair at ETF, and Liz Davidsen and Sue Oelke of GWRS for their extracting and explaining the WDC data. Xiao Xie also contributed in the early stages of this research. The research reported herein was performed pursuant to a grant from the U.S. Social Security Administration (SSA) funded as part of the Financial Literacy Research Consortium. The opinions and conclusions expressed are solely those of the authors and do not represent the opinions or policy of SSA, any agency of the Federal Government or the State of Wisconsin, or the Center for Financial Security at the University of Wisconsin-Madison.

Introduction

In Wisconsin, most public sector employees have access to a voluntary supplemental tax-deferred retirement savings program, the Wisconsin Deferred Compensation Program (WDC). WDC administrative data consistently show that women have significantly lower WDC account accumulations. Interested in learning more about the causes of this gender disparity in WDC account balances, the Wisconsin Department of Employee Trust Funds (ETF), which is responsible for the administration of the WDC, partnered with the University of Wisconsin-Madison Center for Financial Security (CFS) to explore participation and contribution patterns among women and men eligible to participate in the WDC and the potential consequences of these disparities for financial resources in retirement. The study focuses on State of Wisconsin employees for reasons we explain below.

In this paper we first review the published program data that motivated this study. We next use WDC administrative data to document and analyze sources of gender differences in participation in and contributions to the WDC program. The administrative data enabled the selection of and shaped the discussion topics for four focus groups of female WDC account holders. This paper concludes with the implications of results for ETF and other public sector agencies interested in reducing gender gaps in participation and contributions to voluntary retirement savings plans.[1]

Study Background

Wisconsin Deferred Compensation Program: Overview. The Wisconsin Department of Employee Trust Funds (ETF) administers employee benefits, including pensions, that are offered

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[1] We also conducted a survey of state employees who were eligible to participate the WDC, some of whom did and some who did not. A separate paper reports on the analysis of those data.

by all Wisconsin State agencies and public universities as well as by most local governments and school districts.[2] With the exception of limited-term employees and those working less than one-third time, public employees are covered by the Wisconsin Retirement System (WRS). This is a mandatory pension plan that, uniquely, pays the higher of a benefit based on a pension formula or an annuity based on accumulated contributions and investment earnings.[3] Employees in a position covered by WRS may also be eligible to participate in the Wisconsin Deferred Compensation Program (WDC). Authorized by s. 457 of the Internal Revenue Code, the WDC is a supplemental, tax-favored retirement savings program intended for government employees.[4]

Chapter 187 of the Laws of 1981 created the WDC. The State of Wisconsin first offered this option to all state employees in 1982. In 1983, the laws were changed to permit local governments to offer the WDC to their employees, though they are not required to do so (Wisconsin Department of Employee Trust Funds 2009).[5] Individuals, as long as they are in a

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[2] The major exceptions areis the City of Milwaukee and Milwaukee County, which administertheir own separate pension systems.

[3] The plan is not a typical defined benefit plan. The monthly amount paid to a separating worker, eligible for a benefit is equal to the higher of a "formula benefit" or an annuity purchasable with the account accumulations based on past employer and employee contributions plus fund earnings. This is not a defined contribution plan, however, since the account accumulations may only be annuitized, investments are managed by the State of Wisconsin Investment Board, and a single level of account earnings is applied across all accounts.

[4] Likewise named after the authorizing Internal Revenue Code s. 403(b) plans cover public educational and some nonprofit employees and s. 401(k) plans cover workers at private employers.

[5] Approximately 70 percent of eligible non-state public agencies offer the WDC to their employees. About 70 percent of WDC account holders are state employees and 30 percent local and school district employees (Wisconsin Department of Employee Trust Funds 2009).

WRS-covered position[6], may elect to contribute any amount subject to the federal annual maximum limitation and may alter amounts, cease, or resume payments with very few administrative limits. Wisconsin state agencies may offer only the WDC as a tax-deferred retirement savings option. However, local units of government may provide other competing s. 457 plans and the University of Wisconsin (all campuses), community colleges, and public school districts may offer their employees the option to contribute to both the WDC and 403(b) plans.

The WDC shares some characteristics with other tax-deferred options, such as 401(k) and 403(b) programs.[7] See Appendix A for a comparison across the benefit plans to which Wisconsin public employees may have access. Like a 401(k) or 403(b) plan, WDC contributions and gains are tax deferred until distribution and contributors must be active employees of the institution offering the plan. However, there are some important differences. WDC withdrawals, allowed upon separation from government employment, are not subject to the early withdrawal penalty prior to age 59 ½ (although ordinary income tax rules will apply). Withdrawals prior to age 59 ½ from a 401(k) generally results in a 10 percent income tax penalty. In addition, WDC withdrawals may be issued as an annuity (partial or full), as a lump sum, or as periodic withdrawals. Annuitization is not a permanent decision; annuitants may switch to other forms of

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[6] This typically means they are contributing to the WRS, but there are a few exceptions when someone may be in a covered position, but are not themselves covered. One group is WRS annuitants who return to work in a covered position but to participate in WRS would have to temporarily cease receiving their WRS annuity .

[7] These plans are named after the section of the IRS code that defines what qualifies each plan for tax-favored treatment. 457 plans cover government workers, 403(b) plans cover education sector workers, and 401(k) plans private sector workers.

payout or reverse that decision. Although there is an identical maximum contribution limit permitted by IRS rules for all these plans, the contributions to the WDC (or any 457 plan) are not limited because of simultaneous 401(k) or 403(b) contributions. Thus, contributing to both a 457 and a 401(k) or 403(b) can potentially double the annual permitted tax-deferred contribution.[8] All plans have identical "catch-up contribution provisions" that apply to individuals 50 years old and above, but 457 plans like the WDC offer an additional option permitting somewhat more generous contributions in the three years prior to retirement. Important to understanding account activity is that the WDC offers rollover options (to and from IRAs as well as other qualified plans such as 403(b) plans) as well as financial emergency hardship withdrawals that may be allowed under all tax-deferred plans at the employer's discretion. It does not currently allow loans against accounts.

It is important to note that the WDC is a supplemental retirement savings plan offered to employees only if they work in a WRS covered position and thus is offered to employees already covered by a mandatory defined benefit plan. Cessation of employment in a WRS covered job requires cessation of WDC contributions, although funds can be left in the WDC account and will continue to receive (tax-deferred) investment earnings and can be transferred among investment options.

WDC administration has three levels. First, WDC investments are overseen at the state level by the Deferred Compensation Board and ETF, which select investment options, monitors

[8] Thus someone covered by both a 457 and a 401(k) or 403(b) plan may contribute the maximum allowed to both plans. This does not apply to simultaneous 401(k) and 403(b) plan coverage in which case the single maximum applies to the combined amount. In 2010 and 2011 the maximum contribution was the greater of 100% of taxable income or $16,500, with individuals over age 50 allowed to contribute an additional $5,000 per year.

performance, and sets all program policies. Second, all day-to-day recordkeeping responsibilities, employer services, and other program activities are contracted to an outside organization. [9] Third, the personal level of administration, such as account changes and managing investments, can be done by a participant online as well as by phone or in-person consultation with WDC representatives.

Gender Disparities: Overview from WDC Annual Reports: WDC annual published reports for 2006–2010 have consistently shown lower balances held by women participants. Table 1 reproduces some relevant comparative values for male and female WDC account holders.

[Table 1 about here]

These annual reports indicate equal numbers of male and female participants, but whether this represents equal participation probabilities cannot be known from these data alone.[10] WDC consistently reports higher average dollar contributions by males but whether these are due to females contributing a smaller percentage of salary or due to lower salaries is not reported. Other factors that may drive balance differences and are investigated in this and the report on survey data include:

- lower salaries of female employees,
- lower contribution rates at a given salary,
- fewer years of eligibility (i.e., WRS coverage),
- more years during which contributions were not made to WDC by account holders,
- more likely pre-retirement withdrawals,

[9] Currently, this contract is with Great-West Retirement Services (GWRS), and includes local Wisconsin-based support and representation for employees (Wisconsin Department of Employee Trust Funds 2009).

[10] Equal number of participants is consistent across all ages.

- different investment choices that result in lower returns, and
- roll-over and distribution differences.

The WDC 2010 annual report suggests some of these factors may play a role in gender differences in fund accumulations. The report indicates that:

- Roll-overs from other tax-deferred accounts are larger for male account holders. This is likely a reflection of the higher average lifetime earnings and retirement accumulations of males in all jobs, but it may be due to females being more likely to withdraw accounts when leaving an employer.
- Female WDC account holders are more likely to interrupt making contributions, and these interruptions are most likely to occur at younger ages for women. These early interruptions will have a greater effect on retirement accumulations than at older ages due to the effects of compounding.
- Women account holders are more likely to make a financial emergency hardship withdrawals (Table 1); they withdraw on average the same dollar amounts as men, despite initial lower account balances.

These aggregate data on account activity balances, however, do not permit an assessment of the distinct role that salary, employment, and withdrawal disparities play in the lower account accumulations of women than men. We turn next to exploring the influence of these factors using individual data for WDC account holders.

Study Design

Population Studied. We analyze the WDC contribution behavior of State of Wisconsin employees, which is approximately 45 percent of WDC account holders. This restriction was made for several reasons. First, not all WRS-covered local (non-state) public employers elect to offer the WDC to their public employees. However, all State of Wisconsin employees are eligible to contribute to the WDC. Second, for state employees, the WDC is the only optional tax-deferred program offered. Thus for them, but not for university and technical college employees who may have s. 403(b) options, WDC administrative data provide complete information on their participation in employer-provided tax-deferred options. It is only for state employees that WDC eligibility is known with certainty and for whom WDC contribution data provide information on their retirement savings made through pre-tax salary reduction. .

Data. Findings reported here are based on an analysis of WDC administrative data and on four focus groups of female WDC account holders.

Administrative Data: Our analysis of WDC participation and contributions is based on administrative data on WDC account holders provided by Great-West Retirement Systems (GWRS), the private company holding the contract to administer the WDC. For individuals who had accounts as of December 31, 2009, GWRS provided data on their WDC account activities between 2006 and 2009. Data included total contributions and fund activity during the year as well as account balances at the end of the calendar year. Because GWRS receives only WDC contributions and thus has only information required for managing those accounts, information on employment (e.g., wages, agency of employment) required linking WDC information to that of the WRS data held at ETF.

Focus Groups**.** Administrative data only record what actions were taken by account holders and not the reasons and motivations behind those actions. Consequently, we conducted four focus groups to gain insight into women's reasons for WDC participation and contributions, including the family and financial contexts within which WDC decisions are made.[11] We chose to define fairly homogeneous groups but with differences among them to elicit views and behaviors associated with demographic and employment characteristics. Table 2 summarizes the characteristics of each of the four groups.

[Table 2 about here]

Focus group members were identified from WDC administrative files, selected by the criteria established for each focus group. All focus groups members were female, worked for the State of Wisconsin, and participated in the WDC between and including 2006 and 2009.[12] Because focus groups would only be held in Madison, which is Wisconsin's state capital, we invited individuals with addresses in that same (Dane) county. The focus groups were defined in order to obtain the views of individuals of different ages and with different work/contribution patterns. Focus Group #1 selected younger employees, while Focus Group #2 selected older employees. Focus Group #3 included only part-time employees, but a cap of age 59 was imposed so as to eliminate those close to retirement who might switch to part-time. Focus Group #4 included people who did not contribute to the WDC for at least one year between and including 2006 and 2009.

Less than a week before our first focus group, Wisconsin's governor proposed removing collective bargaining rights for virtually all public employees in Wisconsin, requiring state employees to pay at least 12.6 percent of their health care costs, and mandating state employees

[11] An additional purpose of the focus groups was to suggest important information that the survey should obtain for a fuller analysis of the WDC participation and contribution decisions.

[12] We were advised to select only females to decrease self-censorship of potentially valuable pieces of information in the presence of males.

to pay 50 percent of their pension contributions (Office of the Governor Scott Walker 2011). These changes were estimated to result in take-home wage reductions of 11.8 percent on average (Office of the Governor Scott Walker, 2011). The Governor also called for a pension study committee that would examine converting the defined benefit Wisconsin Retirement System plan to a define contribution plan. Although not the purpose of the focus groups, these circumstances were reflected in the focus groups' comments throughout. For example, some focus group members who planned to or had very recently retired volunteered that the Governor's proposals influenced their decision. Since the focus groups, these proposals have come into law, and State workers first saw their take-home wages reduced starting in August 2011.

Data Analysis

Sample Restriction. To provide assurance that the restriction of the study to state employees only does not weaken the motivation for this study, Table 3 compares mean account holdings of women and men among all WDC account holders as reported in WDC annual reports with mean accounts of Wisconsin state employees only, based on WDC administrative data. While state employees on average had somewhat higher balances than did all WDC account holders, the gender disparity in account balances is almost identical. The ratio of female to male account balances in 2009 among state employees was .68 compared to .73 in 2009 and .70 in 2010 among all WDC account holders. As among WDC account holders, almost exactly the same number of male and female state employees have WDC accounts. We further restricted our sample by hours of work and earnings to eliminate from our analysis very young individuals whose employment may be training (school) related, those who were age 66 or older, and those whose annual hours of work suggested pre-retirement increases in hours and earnings.[13] Inclusion of these individuals' with unusual hours and earnings would likely bias our findings, as we intended that our findings illuminate long-run pre-retirement WDC contribution behavior. Appendix B describes our sample restrictions in greater detail. These exclusions in the creation of our "Study Sample" do not change the basic finding of gender disparities in average account balances.

[Table 3 about here.]

Participation in WDC. We stated above that equal numbers of male and female participants in WDC need not imply equal probabilities of participation. However, from the data available, that does appear to be the case. ETF provided aggregate numbers eligible (i.e., in WRS-covered jobs) by gender and by agency and county of employment.[14] Table 4 presents these aggregate data on participation in WDC. Almost 60 percent of all WDC-eligible employees have WDC accounts, with 90 percent of employees with accounts in 2009 contributing to those accounts.

[Table 4 about here]

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[13] The formula benefit provides an incentive for higher work hours and earnings in the last 1-3 years of work. Some agencies will allow workers to work more than full-time and have those earnings included in calculating earnings. [Sara, please add here a short footnote on the hours and earnings restrictions.]

[14] Data by county and agency are not entirely consistent with state totals since individuals who work in more than one agency and more than one county will be double counted in agency/county-specific totals. It appears that approximately 14 percent of state workers are employed in 2009 in more than one agency and in more than one county.

To see if agency policies influence these aggregate participation rates, we broke down employees into their respective state agencies.[15] As we expected, participation rates vary greatly across state agencies; among agencies with more than 1,000 eligible state employees, the Department of Transportation has the highest participation rate at 61.5 percent and Department of Veteran Affairs the lowest at 33.7 percent. We hypothesized that, if state agency policies are a major factor in participation rates, then agency differences would be major factors in explaining participation rate differences across counties. These rates also vary; across Wisconsin counties with more than 1,000 eligible state employees, Brown County registers participation at 51.0 percent compared to 35.0 percent in Milwaukee.[16] We do not have data on eligible males and females by county and agency and so cannot directly examine "agency effects" on participation by gender. We calculate a "standardized participation rate" for each county assuming a distribution of employees in the county across agencies identical to that in Dane County.[17] If agency policy uniformly encouraged higher or lower participation within the agency, then this standardization would sharply reduce inter-county variation.

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[15] This analysis was undertaken in part because discussions with ETF suggested strong agency effects on participation probabilities; that is, that certain agencies encourage WDC participation either explicitly or by offering more information through seminars and meetings with human resource personnel than other agencies.

[16] These participation rates are calculated as WDC state employees with a home address in that county as a percent of state employees working in an agency in that county. To the extent that individuals live in another county than the one in which they work, these rates are not precise measures of "county employees" participation.

[17] This is akin to age-standardization when studying population phenomenon—e.g., mortality rates. Standardizing by age leads to an estimate of the total number of deaths due to mortality alone if the age distribution were identical to that of the reference population. Similarly, we are calculating the number of participants expected if the

This exercise required a selection of counties and agencies such that each agency was represented in each of the counties and employed at least one employee in every county (see Appendix C for a list of the 13 counties and 9 agencies). Table 5 shows the divergence in the actual and standardized county participation rates from the Dane County rate. Brown County, for example, has a participation rate (across the nine agencies) that is 6.54 percentage points higher than in Dane County. If the distribution of the total Brown County employees eligible to participate in WDC across agencies were the same as for Dane County, then the overall participation would be higher by only 3.01 percentage points. Thus, while the agency employment pattern contributes to the higher participation in Brown County than Dane County, employees in these state agencies are on average more likely to participate in the WDC in Brown County than in Dane County.

[Table 5 about here]

Removing the effect of agency distribution does not always diminish the difference between Dane County and other counties. In Douglas County, for example, the difference would even be greater with identical agency distributions. This suggests that intra-agency differences, the decisions individuals make about participation, are the driving force in observed participation rates.

Sources of Gender Differences in Account Balances. From WDC administrative data, we can observe the behavior of individual WDC account holders over the 2006-2009 period. Gender disparities in fund balances (shown earlier in Table 3) may result from several factors observable in these data: differences in WDC contributions at given salaries, in fund growth

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employee distribution across agencies was identical to the reference (Dane) county. In both cases an overall rate is calculated by dividing all deaths (or participants) by the population (or eligible) total.

rates net of new contributions, and in contribution persistence over time. We explore the potential contribution of each of these factors.

Contribution differences. To examine contribution behavior among WDC account holders, we define the *contribution ratio*, the ratio of yearly WDC contributions to WRS covered wages paid in that same year.[18] Table 6 shows the average contribution ratio for males and females who contributed to the WDC. In all years, the mean ratio is significantly higher for male contributors. These ratios are considerably below the maximum that on average individuals are eligible to contribute, which, in 2009, was the lesser of $16,500 or 100 percent of earnings. Table 7 Shows the hypothetical contribution-wage ratios that would be observed if all employees in the study sample contributed the allowed maximum. Women, because of their lower average salaries, could contribute in fact a higher percentage of their salary to WDC that could their male colleagues.

[Table 6 and 7 about here]

Table 8 attempts to distinguish the effect of gender—the inherent difference in contribution behavior of women and men—from other gender-related attributes. The dependent variable is the 2009 contribution-wage ratio, again for only those with a positive contribution and wage in each year.[19] The basic estimate includes 2009 earnings ($30,000 - $50,000 the excluded

[18] This ratio is definable only for individuals with both a positive wage and contribution amount in the relevant year. These are based on administrative data and so are exact calculation of that ratio.

[19] Estimates for the years 2006-2008 are available from the authors. They do not change the conclusions drawn from 2009 alone.

category) and age (ages 40-49 excluded).[20] In specification 2, we include a full-time work variable to capture the unobserved preferences that determine both hours of work and contributions.[21] In specification 3, we include a variable that identifies those who worked an unusual average number of hours per week that are not consistent with typical work, earnings, and contribution behavior.[22]

[Table 8 about here]

Even when controlling for other attributes identifiable in the WDC administrative data, female employees contribute a significantly smaller percentage of their WRS covered earnings to their WDC accounts. That percent is less by .5 percentage point, two-thirds of the difference in the raw average shown in Table 6. Being married is positively related to contributions, but the effect is significant only in specification (1).[23] Variation in contributions is a consequence in part of the influence of age, earnings, and time in the program. It is not surprising that older individuals, perhaps becoming more aware and concerned about retirement resource needs, contribute a higher percentage of income. After age 40, contributions steadily increase as a percent of earnings. Contributions during the first years in the program are lower as a percentage

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[20] We tested the use of continuous earnings and age variables but these obscured important differences in patterns as earnings and age rose.

[21] See the discussion below of focus groups that implied distinct differences between part-time and full-time employees

[22] These are average weekly hours for all 52 weeks. Workers who persistently worked 45 hours or more per week throughout the year may be increasing their WRS earnings just prior to retirement, thereby raising their WRS formula benefit.

[23] Marital status may be an unreliable variable since it is not clear when that status was reported to WDC, which does not require updating.

of income; those who contributed first in 2009, 2008, and 2007 contributed significantly less out of covered earnings than did those who were already contributing in 2006. While individuals may be more able to afford to contribute as earnings increase, it is also important to keep in mind that the maximum ratio they can legally contribute falls as earnings rise. That the ratio of contributions rises with earnings indicates that higher earners are not constrained in making contributions by the maximums allowed. Indeed, Table 9 shows that only a small percentage of employees contribute up to the maximum allowed. Females are far less likely to contribute their legal maximum than are males. The inclusion of the hours variables adds modestly to the explanatory power of the regression and changes neither the size nor significance of explanatory variables with the notable exception of the lowest earnings categories. Controlling for full-time versus part-time work, it appears that contributions are linearly related to earnings, rising steadily as a percentage of WRS earnings as earnings rise.

[Table 9 about here]

Fund Growth**.** Differences in fund growth, reflecting different investment strategies and withdrawal behavior, may also contribute to gender differences in account balances. Although the period (2006-2009) of our data was one of erratic market changes (Figure 1), these data may be informative of whether differences by gender in investment behavior matters to account balances as markets rise and fall over time.

[Figure 1 about here]

Table 10 not only tracks the rise and fall in markets during this period but also suggests that any underlying gender-related variation in average account growth may be obscured by this variability.[24] The later and earlier periods exhibit no gender difference while female account

[24] https://docs.retirementpartner.com/ioag/98971-01_IOAG.pdf

holders suffered smaller losses than did men during the 2007-2008 period.   Accounts change not only from investment earnings on initial holdings but also from new contributions and gains on those new funds. Table 11, which provides predictors of account balances at the end of each year, shows estimates of those effects. The account balance at the end of the previous year, not surprisingly, is a major predictor of the balance at the end of the next year. The coefficient on this variable reflects the slow WDC fund growth in 2007-2008, investment losses in the next year, and the rapid investment growth in 2008-2009.[25] Similarly, the net gain in account balances from new contributions reflect market conditions. In 2007 each $1.00 in contributions led on average to account gains of $1.09 because of additional earnings over the year on those contributions. As markets fell in 2008 accounts gained on average by only $.71 from each $1.00 contributed. Recovery during 2008 led to a gain of an additional $.17 from each dollar contributed that year. When taking account of initial balances and new contributions, and the age of the account holder in 2009, WDC accounts of women grew more slowly. Their 2009 balance was less than men's by $487.00 even accounting for initial balance and 2008 contribution differences. Whether this was an aberration or consistent with long-term gender

[25] As described earlier, ETF oversees investments by WDC as well as by the Wisconsin Retirement System (pension) plan. What is called the "Core" WRS funds grew in 2006-07 by +6.7 percent, fell by 26.2 percent in 2007-08 and grew by 22.4 percent in 2008-09. The "Variable Fund" changes were +5.6 percent, -39 percent and +33.7 percent in those years, respectively. This is an indication of overall performance of WRS funds and may imply similar changes in WDC investment options overall. However, while WRS participants' funds are credited with a uniform annual investment gain/loss, only varying with the percentage of funds allocated between the variable and core funds, WDC holders allocate contributions to specific investment options and may change that allocation without limit. Thus gains experienced among WDC account holders vary based on that allocation and the growth of individual options.

differences cannot be known from data for this period of unprecedented investment fluctuations. It may be that, prior to 2008, gender did not play a role in fund *growth*—the gender effect in 2006-08 was positive but smaller in size and only significant at the .10 level in 2007. However, that effect may also have been driven by short-term market changes.

[Tables 10 and 11 about here]

Table 12 uses the limited indicators in the administrative data of individuals' investment strategies to understand whether there may be gender differences in fund management that have consequences for the overall gender disparity in account balances and growth. These include the number of different options among which the individual's funds are distributed and the number of times individuals accessed account information.[26] Unfortunately, those data are only available for 2009 and, therefore, we can say nothing about how option allocation decisions affected differential fund growth in the longer run. Controlling for diversification (number of options) and age, women and men experienced the same gains on existing accounts and new contributions. The inclusion of those variables reduces the coefficient on the female variable only marginally (Table 12, column 1). For both men and women, having their WDC account allocated to fewer options (less diversification) was associated with slower growth, implying that fund allocation does matter to account growth over time.[27] Table 13 shows that women were

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[26] WDC offers an array of investment options (See www.fascore.com/PDF/wisconsin/spectrum.pdf) and the freedom to individual account holders to move funds away from or into investment options as they wish either on-line or by telephone. The administrative data do not indicate the type of funds held by individuals.

[27] The negative coefficient does not necessary mean that these investment options lost value, just that controlling for other sources of gains (and losses) individuals whose WDC accounts were in only one investment option had a 2009 account balance that was on average $3,619 below the balances of individuals with funds allocated across eight of more options.

somewhat more likely to have funds allocated to only one investment option in 2009. Interestingly, accessing account information more frequently is negatively predictive of growth.

[Tables 12 and 13 about here]

Both "strategy" effects could be a consequence of reactions to a volatile market; individuals who sold high and moved assets into fewer "safer" investment options would have lost as the market fell and experienced less growth as the market rose. It may also be that these concerned individuals were more likely to make those changes through web access.[28] Checking accounts online would have no effect if WDC account holders were simply checking their accounts with no necessary intention to make changes.

Persistence of Contribution Status and Maximum Contributions. We close our investigation by saying more about maximum contributions, mentioned briefly above, and examining gender differences in contribution cessation. Table 14 shows that the probability of contributing maximum allowed contributions is about 20 percent lower for women. Those who contribute maximum contributions are more likely to be high earners and older employees, indicating that ability to afford higher payment and approaching retirement are key to these higher contributions. The very lowest category of earners, for whom maximum contributions may be up to 100 percent of income, are also more likely to contribute, but not more so than the highest earners.

[Table 14 about here]

[28] WDC offers an array of investment options (See www.fascore.com/PDF/wisconsin/spectrum.pdf) and the freedom to individual account holders to move funds away from or into investment options as they wish either on-line or by telephone.

The WDC annual reports include data suggesting that among all WDC account holders (including educational institutions and local government employees) women account holders are more likely than males to cease contributing. Table 15 shows the probability in each of 2007, 2008, and 2009 that an account holder in our study sample who had contributed in the previous year and was still an account holder at the end of that hear had not contributed at all in that calendar year. Although females are somewhat more likely to cease contributing, the probability is different by only a small percentage points (.3 across all years). We attempted to predict the probability of ceasing contributions, but the available characteristics had very little predictive value as a group or individually. Gender was significant in one year with only a small effect. Cessation is poorly measured in the administrative data, however, since cessations that took place during the year would not be recorded. It is also likely that cessations occur because of changes in personal and job characteristics, data that are not necessary for WDC administrative purposes.

[Table 15 about here]

Conclusions from the Data Analysis. The WDC administrative data allowed the exploration of some factors thought to be causal of women's lower WDC balances. Lower earnings are expected to limit one's financial ability to save for retirement and greater age makes retirement savings a more salient reason for savings. Indeed, higher earners and older employees do contribute a higher proportion of their WRS earnings to WDC. However, even accounting for for the effects of those two characteristics, women still contributee a lower share of earnings to WDC than do men (Tables 7 and 8). Thus, an important reason for lower account balances of women appears to be lower contributions being made by women than by men with identical earnings. We also explored whether women experienced slower growth in funds. Overall that does not consistently appear to be the case, although our analysis does indicate that less diversification in investment options leads to slower fund growth and women's accounts are somewhat less diversified than are men's. Given the volatility in the stock market during this period we are reluctant, however, to draw conclusions about women's long-run diversification behavior. In 2009, the year for which we have fund number, those with fewer investment options experienced smaller account growth than did others (Table 12). As we learned from focus group discussions (described below), some account holders shifted investments to safer and slower growth investments. The 2009 fund data only show number of options held at the end of the year. If women were more likely to move funds to "safe havens," that effect would appear in the coefficient on the female variable.

Our analysis suggest cessation of contributions, at least for a one year period, is neither a large factor on average in account balances nor a major contributor to male-female account disparities. Finally, the maximum contribution limits is a potential constraint on contributions for only a very small percent of contributors, including at the lowest earnings level where the 100 percent of earnings limit could be binding.

Despite the fact that the WDC data do not allow an investigation of the participation decision, the aggregate data provided by ETF indicate that women on average have comparable participation rates to male employees. The analysis of participation across agencies and counties suggests that macro-differences in the WDC or other benefit policies aren't the major reason for variation in participation and therefore specific agency policy is unlikely to play a major role in participation decisions—and perhaps the contribution decisions—of eligible employees. This, however, is limited evidence of that effect.

Focus Groups

The composition of the four focus groups and the planned dialogue were designed to provide information on how women viewed the importance of WDC to their future retirement well-being, how they had made decisions about participation and contribution levels, and what changes they may have made as stock markets fell and rose again. The selection criteria led to the differences among groups in employment and family patterns. While the focus groups were planned before our data analysis, what women said confirm many of our observations based on the data analysis. Table 16presents the basic demographic profile of the attendees.

[Table 16 about here]

For 72 percent of focus group participants, WDC is the only tax-deferred retirement savings program to which they contribute, with this more likely the case among the younger group (#1). Indeed, other than a few women who had larger investments or a great deal of inherited money, most indicated that WDC held most of their investments. Twenty-eight percent of these WDC account holders had spouses who also worked for the state and therefore eligible for WDC participation; only half of eligible spouses participated.

An issue in which ETF was interested and we asked about was why WDC enrollment did not occur upon first eligibility, that is, when first hired in a WRS-covered job. The younger focus group had delayed by fewer years—by approximately 3—a relatively short delay compared to older individuals' 6+ year delay. This difference, however, is likely a consequence of our selection of only current account holders and thus the inclusion of older individuals with longer delays. Nevertheless, the delay in enrollment until later ages is a concern for retirement savings accumulation in general, and the reasons for and consequences of delayed enrollments is an issue to be addressed with the survey data.[29] Part-time employees (fewer than 1,800 hours in 2009) were more likely married, as marriage makes part-time employment possible. Group #4 was composed of women who had interrupted making WDC contributions for at least one full year between 2006 and 2009. These interruptions may have been because they were no longer in a WRS-covered job or because they ceased contributing while continuing to work. Delayed enrollments and contribution interruptions while working in a WRS covered job led to their contributing for 10 years fewer than the years during which they were eligible to do so.

The focus groups explored the areas listed below. We describe the WDC enrollment and participation behavior in greater depth, since those are issues we were able to explore and analyze within following areas:

- WDC Enrollment
  - How women heard about WDC
  - Why women sign up
  - When women sign up
- WDC Participation Behavior
  - Where women invest their money
  - Deciding how much to defer
  - Reasons why women cease deferring or reduce their contributions and what WDC could do

[29] Longer delays among older women may also be due to WDC being first offered in 1981. Thus many were not eligible to participate at first hire because the program did not yet exist. Already employed persons may have taken longer to receive program information and to assess the relative value of WDC contributions versus those, perhaps already being made, to other savings options.

    - Planning for withdrawal
- Outside Influencers
    - Shared investment decisions with a spouse
    - Role of financial planners
    - Investments outside the program.
    - Reaction to the decline in the stock market
    - Gender
- WDC program strengths and weaknesses
    - Publications
    - Website
    - Satisfaction with WDC
    - What WDC could do for women

Enrollment.

<u>How women heard about WDC</u>. Participants heard about WDC from a variety of sources: from spouses who were also state employees, new-employee orientation, benefits specialists, fliers, presentations, and paycheck stuffers. However, the source most often mentioned was co-workers. Below is a small selection of quotes that identified peers as key to the enrollment decision.

> *That's kind of how I started. My co-worker, she was older. We would go to break. They would sit and open the paper and would look where they had their money and see how it was doing and it kind of got you interested in it.*

I think it's different coming from somebody who you see as a peer, as a co-worker, not somebody that works for deferred comp… you have more vested in your money and you talk as friends and you say, 'What about this?' I think that holds more coming from somebody who is not managing somebody else's money. It's not their money.

Why women sign up. Women in the focus groups signed up for WDC for a variety of reasons. The first set of reasons involved the program's structure. A majority of women exhibited a fairly uniform appreciation for the value of tax-deferred contributions to their future financial security—and independence. They also pointed out specific aspects of WDC that were seen as beneficial to savings ease. Many commented that WDC is a relatively easy and painless way to save with money taken directly from their paycheck, pre-tax in comparison to the greater complexity of other non-employer associated savings options.

It's pretty clear to me that it was an easy way for me to save the money without actually seeing it and feeling more of a hit to my paycheck.

Non-married women mentioned it as the only income tax credits available to single women who do not own a house or have children. A common theme was the influence of a pay raise on participation. Many women began deferring because they received a pay increase and, instead of taking home that pay, found the WDC helpful as a savings vehicle.

I got a raise and I thought, 'Well, I'll take that money and put it into this deferred comp because I won't miss it.'

Some liked WDC's flexibility in allowing for withdrawals, especially the financial emergency hardship withdrawal option.

The rules of the program were very forgiving for later life incidents. When you read through, if you have significant negative outcomes, there are terms under which you can access that money. And, as someone who doesn't come from money, that really was an important consideration as opposed to other potential investment options. If something happened it wasn't like the money was inaccessible. So it was kind of a combination of a savings and a contingency plan.

This flexibility was important to both those who thought of WDC as a supplement to retirement income from other sources (e.g., as a "rainy day fund," as allowing early retirement in combination with WRS benefit, or for a "once in a lifetime" trip to Europe during retirement) and to those who saw it as important insurance against unexpected events..

For me, this is where I want to be 30 years from now. I don't want to work until I'm 70. If I do good things now, that could pay off. So for me that was a strong motivation…

I figured, you know, I've been married to my husband for [many] years. And I thought if anything would ever happen, at least I'd have that money for myself. I was trying to protect myself. I just thought, you have to kind of take care of yourself.

As women, and we're all in the same age group, I think it was an independence sort of a thing, you know? Whether we came from divorced families or whatever. I think I can speak for all of us, from what I'm hearing, I think we all grew up that you better take care of yourself because you can't be dependent on anybody to [do it for you].

Whether married or not, women in the focus groups saw the WDC as enabling them to independently save for a financial secure retirement. A few mentioned they enrolled because their husbands were not saving enough and others indicated that they were concerned with the adequacy of benefits from WRS and Social Security.

> *I don't have a financial planner and I'm not good with finances, so this was my security blanket. I'm single, but dating, and we might get married down the road. This is my security blanket until I get to know more about finances*

> *I'm not married and so my thought has been I have to be the one to provide for me. And I have to put some money aside regularly. Can't rely on Social Security especially now. And even the pension is getting a little iffy. You have to look out for yourself I guess. And I'm fortunate that I could do that.*

<u>When women sign up</u>. Many women experienced a delay between they were eligible for the WDC and when they actually enrolled. Most blamed the lack of information, little co-worker support, not having enough money, use of other retirement savings plans, lack of social support, or confusion over eligibility.

> *I guess for me, when I started with the state, I was younger, I was a single parent, I don't even know if somebody told me about it, or it was something I was even interested in. It really took a co-worker to sit down and explain it to me and say, 'This is something you should really look at.'*

> *A lot of the people I know in my age group, the women, didn't invest, didn't really save. The idea of having deferred comp wasn't something that anyone else in my peer group was really doing so a lot of other natural supports that I might have in terms of reaching out… just wasn't there.*

However, some described the first year of state employment, especially if young, as a time when one is overwhelmed with information on benefits, many of which have specific enrollment deadlines. Decisions about saving for the future through the WDC, without a required deadline for enrollment, were more often postponed and, by some, forgotten until much later.

> *In the first year you learn a lot about a lot of benefits and there's so much to learn and there's so much thrown at you in the first couple months and then you don't hear about it again. I think the other reason is often times you're paying full premiums for the first six months [of health insurance] and you didn't have the employer contribution for those first six months so that's a huge bill.*

<u>Contribution Decisions</u>. Once a woman decides to sign up for the WDC, she must decide on contribution level and distribution of contributions among investment options. For many women, contributions were at first and may continue to be modest due to low starting salary, other financial demands, market trends, and uncertainty how to set that amount..

> *We had young kids and we ended up with college expenses so I did very minimal for quite awhile and now I'm starting to increase it. But it is hard to figure out how much you can let go…*

> *I'm contributing very modestly now…I'm doing it now because the market is a little bit better [but] I'm losing a lot of money on that deferred comp I feel……[WDC is] going up a little bit now, but not what the market is.*

> *I think I went to the benefits place and someone sat down with me and explained the pre-tax and said, 'How much do you think you could live without?' I think the minimum*

was maybe $10 to start and I think I said $20 and then it ended up being a little more because it's pre-tax.

I started out small. But then I just gradually kept increasing because when you keep doing that, you don't miss the money.

Other women logically determined what they could afford through explicit or implicit budgeting of expenses.

I did my monthly budget and what I had left that I could afford. I took that plus like five percent more of the amount that I came up with.

I would go out and hang out and [co-worker] would be like, 'How much are you spending when you go out anyway? You might as well use that same amount and put it toward something that you can use for yourself later. Treat yourself now but treat yourself later as well.'

I started in deferred comp I felt like I was wasting about $200 a month, just like wasting it. And I thought, 'You know what, I can tighten up a little bit. I'm not going to notice this.' And then I put in probably $200 to $300 a month for about five years.

Increases in the deferral amount frequently resulted from pay raises.

Every time I got a raise, the first couple of raises, I kept like a third of the raise and put the other two-thirds of the raise into it. Still getting a little cookie, but most of that increase went to my deferred comp so I got used to just not having it.

My methodology was I was started doing $50 and every time we got a raise I put the raise in because I could afford to live on what I had previously so I'm not going to miss the raise…

Promotions and pay raises…I competed for a different job and got a promotion, so then I increased my deferral, but I think I've been pretty much set at the same rate for the past few years.

In deciding the allocation of contributions among investment options, again, co-workers were a main influence.

My co-worker that got me started, it was on our lunch break and I kind of just said, 'What are you doing, what's working for you, what is making you money? Okay, I'll put my money there.' I'm kind of like, 'You like to research, tell me where to put it.'

[A co-worker] kind of took me under his wing. So we talked about my risk factors and how conservative I was and what made me sleep at night and what would keep me awake. So he sort of narrowed it down. 'This seems probably like what you should do.' And we talked about I had CDs at the bank and a savings account and what my past savings practices were and he sort of advised me.

I knock on certain people's doors and I say, 'What option am I supposed to go into?' Or I listen to something in the hallway – that's one way to get information about where you go, but in terms of any of this, I know nothing, I know nothing, I know nothing.

Once aware of their need to make the fund allocation decisions, women did use WDC information sources to evaluate the relative risk of the available options.

> *I kind of went with what my co-workers went with. But I was younger than them so I went a little bit riskier and I read about the riskier ones and I've kind of left it alone since then.*

> *I started by looking at the handy charts and graphs they gave you – the small cap and the mid cap and large cap – and Euro versus US – and it started with a high level discussion of what the differences were and I knew I wanted a mix because you never put all your eggs in one basket, and so then I read a little more of the descriptions of the level of risk and level of performance for each of those and then figured out a split that I was comfortable [with]. It also provided, the reading materials, some assessments on when you're younger you should go for more risk over time, look at the 20-year perspective, not the ten-year.*

> *They [WDC] have that tool where you figure out your risk tolerance. And then they would suggest to you, 'Here's your risk profile' and then they would suggest to you how to distribute it plus your age and how many years toward retirement. [And that is how you arrived at a decision?] Right.*

Others were less strategic in theinvestment option selection.

> *I kind of just drew a name out of a hat and let it ride for two years because I didn't have any clue…I was like, 'Okay, Vanguard let's go.'*

When I first started investing in this, I couldn't afford a financial advisor. And I didn't really care a lot about that. I knew I wanted to save money and invest, but I really didn't want to deal with learning to do that.

These women, some of whom acknowledge their low levels of financial literacy, wished that they had just been told where best to invest their funds.

Mine was kind of start it and leave it there and not worry too much about it except when they call me and say, 'We're closing this fund and you need to move it.' 'Where should I put it?' 'Well, we can't tell you that.'

<u>Cessation and reductions in contributions.</u> While one focus group (#4) was selected with the explicit intent of exploring why women ceased contributing, women in the other focus groups commented on why they had done so as well. Given the 2008 stock market decline and that we selected women who ceased contributing for at least one full year between 2006-09, it is not surprising that the most often given reason for ceasing or reducing deferrals was the bad economy. The second was changes to the household's financial status, including employment status changes of the woman or her husband as well as new or increased financial burden from education, health, and one-time expenses. It appeared that the cessation was biased against the married woman's savings.

We have three kids in college and it seemed smarter to just stop the deferred comp for awhile while we go through these years of heavy tuition payments and then to re-enter, but my husband just stayed in it. We just altered I think mine for awhile.

We had an opportunity to reconsolidate some of our debts left over from graduate school, and refinance our house, and do a whole bunch of things that really changed our *financial position and it was one of those things that was good in the long term, but required a fair amount of short term sinking of cash, so I dramatically reduced what I was putting in last year.*

Consistent with WDC annual report data on financial emergency hardship withdrawals, women in the focus groups took advantage of this option, which also implied deferral cessation.

I just was off for three months and I had a month without pay. Unfortunately I had been sick a lot and my sick leave was gone, so until I had [income continuation insurance], so for three months, I wasn't getting paychecks from ETF… I didn't put in anything for that amount of time.

The exact thing happened to me – no sick leave left, got sick, had to use [income continuation insurance]. I haven't gone back to deferring ever since that happened because my kid went to school then after I went back to work.

Some ceased contributions at the urging of financial planners

Well, I had met with a financial planner at [a credit union] and got two pieces of advice. One was have some more liquid investments that I could get to if I needed to if something came up with the house that I needed to make a big repair or I needed to buy a car or something like that. And the other one was to start an IRA,[30] pay the tax now, and not have to pay the tax later when my income is lower.

Some came to this conclusion without advice from a financial planner and apparently with some apparent misunderstanding about tax differentials when income is lower.

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[30] Presumably this person was referring to a Roth IRA to which post-tax income is contributed. This was a tradeoff between higher but affordable taxes now versus lower taxes but out of less income.

When we're not working we won't have the same kind of income that we do now. So it made more sense to pay the taxes now and to draw it out later when you're on a reduced income.

And even if you didn't have too much taxable income, which I won't, I'd still rather put it in a Roth IRA where there is no taxes.

Finally, some anticipated having to reduce or cease deferrals to WDC if legislation that raised employee contributions to WRS and health benefits was approved.

I don't live paycheck to paycheck, but this proposed legislation, actually, my estimates could be $900 more or to a thousand out of each month. That's a big chunk that I will be -- and I do financially support my mother. So it's huge for me.

Certainly with [Wisconsin's] budget situation, you know you wonder where you're going to cut your own costs, if you're going to have more deductions out of your paycheck. That's certainly an option is to slow down what you're putting into this optional program.

When asked what the WDC could do when women reduce or stop deferring money or when women take an untimely withdrawal from their WDC funds, focus group participants generally agreed that there was little the WDC could do to influence the decision. A few women commented that the WDC could follow-up with those who quit the WDC or reduce their contributions.

I think it probably would behoove them, if somebody discontinues deferrals, to make an inquiry about why, you know. Why you discontinued it. 'We notice that you've stopped *deferring,' you know, and, 'Do you want to tell us why? Is there something that we could do? Do you want to come in for an appointment?'*

Yeah, I think that they could have kept me, if they would have tried. But they didn't care. I mean, there was no concern on their part, which is maybe the way they run the show. But I think if you're a private company, you care more about that. You know, it's your business, and you want people to invest in it. But here, it's like the state, you know, they just take the money. Whatever happens, happens. They don't really -- there's no real concern.

Having said this, most women agreed that there was likely nothing the WDC could do to persuade participants to rethink their decision.

When the stock market tumbled in 2008, few participants recalled receiving any guidance from the WDC and thus felt they were left to deal with this crisis mostly on their own.[31] They responded in three ways. Some left their investments alone but stopped contributing to them. Those who seemed most confident in their financial knowledge, continued to invest reasoning they had the opportunity to "buy low" before the market recovered.

When the market went down you knew that you were just going to have to wait it out. If I take it out now, I'm going to lose what I've put in. So, let's leave it and maybe not put as much in and hope for the best. And I think the market has come back. And it's come back quite significantly.

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[31] In fact WDC did send out information on stock market changes and potential impact on WDC accounts. This response may indicate ignoring that general information, which some explicitly said they did, or the wish that they had been given more directives about how to guard against expected losses.

> *Maybe I have warped thinking – what I was thinking was, it's really bad but maybe it could be good because I could buy more because the prices are lower. Keep on deferring and it's going to grow. Buy low.*

Others pulled their money out of equities and shifted to seemingly safer fixed investments, essentially locking in their losses.

> *I kept losing and losing and I couldn't take it anymore and I switched to the Stable Value Fund.*

The women wished they had received advice from the WDC, but did not expect the WDC to adopt a hands-on policy when it came to employees' individual investment decisions.

<u>Summarizing other areas of discussion.</u> We asked about payout decisions and concluded that while many had a projected (however vague) date of probable retirement, few had considered how or when they would begin receiving WDC (in contrast to WRS) payments. Most trusted that at the critical point they would receive some type of useful information from the WDC or rely on advice from a financial planner. In this regard women exhibited a much lower desire to know, to control their own financial future, and little knowledge about the relative advantages of WDC payout options. Indeed one woman indicated that she became aware of the options for withdrawal only after deciding to roll her WDC account into an IRA.

We also explored whether women made WDC decisions with the advice of their husbands, if married, and/or financial planners. We were struck by a consistent theme reported by most of the married women focus groups 1, 2, and 4 who said that their husbands played little, if any, role in their WDC investment choices – their WDC account belonged to them and not the household.

I'm married and we have joint finances but this is something I do entirely by myself, he doesn't look at my statement when it comes, and I don't talk to him about what my spread is - this is my business.

Some said their husbands "could care less" or do "not know anything about finances." Only for women in focus group #3 (those who worked part-time) did husbands play a larger or leading role in WDC investment choices. Sometimes spouses coordinated their investments decisions, women sought the advice of husbands, and in some cases deferred entirely to their husbands regarding their WDC accounts.

My husband, he watches CNBC, which I just find just -- I don't pay attention. I say, 'Okay, honey, here it is and you pick,' and that's what I did, and I wish I knew more though. I would like to know more…

These part-time female employees were more like to think their husbands were more knowledgeable than they.

I am the driver of how much we put in and he makes the decisions on where it goes…With a little input from me, but he's the primary decision maker and I don't even want to touch his funds. It's our fund, but I just have no interest.

Similarly some women depended more than did others on financial planners to guide their financial choices and expected to do this even more upon retirement. In general financial advisors appeared to have encouraged participation and "maxing out" WDC contributions .

Basically [my financial advisor] makes the decisions for me. She knows me well enough to know what keeps me awake at night and what I need and so I don't touch that either, I don't move that around, I don't do anything, she keeps it balanced for me.

Some women were disappointed in their financial planners in part because they "didn't have enough money to bring [the financial planner] to be interested in what we were doing" or were "paying [the financial planner] money for stuff that we could be doing on our own." Although the WDC has offered for-fee financial planning and a managed account service since mid-2008, many women were unaware of its availability.

> *We have multiple pots – my husband has his deferred comp, I have mine, [and] we have pensions. He has one and I have mine. So we're spreading it around. I have a Roth IRA, although that one -- that's very small. So just a balance.*

Conclusions

We have reported on our use of WDC administrative data to understand factors that may affect WDC participation and contribution behavior of women and men. Women have consistently lower account balances than do men, the consequence of many factors that can lead to differential contribution and withdrawal behavior and growth in existing accounts. This is a group of workers covered by a mandatory defined benefit pension plan and so our results speak only to different supplemental retirement savings behavior.

The general findings are that women employed by the State of Wisconsin are equally likely as are men to participate in the WDC and that differences in earnings may explain a large share of the lower account accumulations. Table 17 shows that the earnings distribution of women is skewed towards lower earnings. Our finding that contributions as a percent of earnings rise when earnings rise documents an important reason for lower account balances. This is consistent with other research that has found earning differentials explain much of the difference in retirement plan participation and contributions (Copeland 2005; Papke, Walker, and

Dworksy 2009). Nevertheless, even controlling for earnings and age, women employees contribute a smaller share of the earnings to WDC retirement accounts (Table 8).

Some have argued that women may have lower retirement savings because they are less willing to make high risk-high return investments (See Schubert, Gysler, Brown, and Brachinger (1999) for a review of that literature and reasons why this difference is observed.) There is some evidence from the analysis presented here and focus groups that this may be the case. Women account holders are somewhat more likely to have less diversified investment options; while these could be in a single higher risk fund it is more likely that these are in the stable market or bond funds which reported lower losses but lower gains when the market rose.

The information from the focus groups showed that female WDC account holders were generally aware of wise investment strategies and felt strongly about the importance of these accounts for their own retirement well-being. While some do, many of the married women do not coordinate their savings or retirement plans with their spouse. This is consistent with Uccello's (2000) findings that spouses do not coordinate their investments to diversify risk but rather choose similar risk in investments, indicating a shared household investment strategy implemented independently by each spouse. It may be that women in the focus groups followed this implicit shared strategy but managed their WDC accounts entirely on their own.

That lower account balances are not due to gender alone is consistent with the focus group participants' disbelief that women contribute less to WDC than do their male counterparts. Correctly they pointed out that women make less than men and so this, rather than gender bias against savings, was likely the reason for the lower account balances. Only when pushed for additional reasons did some women suggest that woman may place greater priority than do men on the current well-being of their family and children. Their argument that it may be because living expenses are higher for single women than a married couple is contradicted by the negative influence of marriage for women on fund balance (Table 12). The administrative marital status data, however, may not be accurate on current marital status and provides no information on the family context in which WDC contributions are made.

Of course our empirical findings are only about average affects and focus group discussions were about the diversity of financial decisions and abilities among women. This view of diversity is the richness the focus groups provide. It appears that, despite some access and informational problems that could easily be addressed by the WDC, the WDC provides for easy enrollment, offers easily read and interpreted monthly statements, and, whether on the website or by personal contacts, has "been very helpful in terms of service." Changes in deferrals or reallocation of funds appear to be fairly easily accomplished online or on the telephone. This may explain the equal participation among eligible men and women and the ability of women (indeed all account holders) to make these decisions independent of spouse and financial planners. Indeed perhaps because of their sense of personal ownership of their WDC account, these women called for more financial literacy education. Knowing what they knew, they wanted more. And in some areas it was clear that more education would be beneficial; some in the focus groups showed misunderstanding of the tax implications of withdrawals and of fund diversification effects on account growth.

> *I wish I had more opportunities to come and educate myself somewhere. Financial literacy is something I missed out on somewhere along the way when I was, you know, paying bills. [Is it something that Deferred Compensation should offer?] I think it would be great if they did.*

I don’t know a lot about the different kinds of stocks and they don’t have to tell me which I should invest in but maybe a little more education as to what the different kinds are and then you would have a better educated decision.

The analysis of both the administrative data and focus groups discussion has provided new and potentially instructive information on WDC account holders’ behavior. Our results suggest that, while earnings matter, women contribute less as a percentage of their salaries. The 2006-09 was a period of market volatility, when women in the focus groups said they would have liked more directive advice, and our analysis suggests they might have been better off at least considering advice about diversification even in a period of account losses.

A survey of WDC participants and nonparticipants, only recently available for analysis, is expected to provide information on how participation and contributions may be shaped by other economic and family related factors, and how the WDC may increase account participation, contributions and growth among both women and men. We hope the conclusions finally drawn from this study will guide not only the WDC in improving its own program but may also guide other similar voluntary savings plans in achieving gender equality in account accumulations.

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Appendix A: Comparison of Tax Advantaged Retirement Savings Options

The following table compares key provisions of the retirement plan options available to Wisconsin public employees: the mandatory defined benefit plan (WRS) covering eligible public employees, 403(b) plans offered to employees in public education institutions, and the WDC program.

Table A1: Comparison of the Wisconsin Retirement System (WRS), Wisconsin Deferred Compensation (WDC) and other Tax Deferred Annuities (TDA)

	WRS	**WDC**	**TDA**
Description	401(a) defined benefit plan. Retirees receive a life-time annuity determined by either a formula or total account balance, whichever is higher	s. 457(b) defined contribution plan, which covers the employees of participating government and public sector employers.	s. 403(b) defined contribution plans, for employees in education and non-profit employers
Participation			
Employee Group	Employees of the state, public universities and technical colleges, public school districts, and local government	Employees of a participating public entity. Only optional plan for State of Wisconsin employees; may be one of several options for local government employees.	Employees of a participating public entity
Eligibility	Mandatory; must be employed to contribute	Voluntary; must be employed to contribute	Voluntary
Contributions			
Tax status	Pre-tax contributions	Pre-tax contributions	Pre-tax contributions

	WRS	**WDC**	**TDA**
Individuals' Contributions and Limits	Now paid largely by employer under union/contract agreement. Legislative proposals may change this. Statutory employee contributions are: General employees and teachers: 5%; Executives: 3.2%; Protective Service with Social Security: 5.5%; Protective Services without Social Security: 3.9%	Lesser of 100% gross income or $16,500; this does not need to be coordinate with 403(b) contributions	Lesser of 100% salary or $16,500; this does not need to be coordinate with 457(b) contributions but limit applies to all TDA plans combined.
Catch Up Contribution Rules	None	Two (can only use one option in any given year): 1) Age 50 Catch-Up. If 50 or older can contribute additional $5,500 annually 2) Standard Catch-Up. If you are within 3 years of your normal retirement age[1] and undercontributed in prior years, you may contribute up to an additional $16,500 This amounts to a total possible maximum contribution of $33,000.	If you are older than 50, you can contribute an extra $5,500 annually
Minimum Age for Permitted Distribution	55 (protective service at 50)	Employment termination; no early penalty	Early penalty if younger than 59.5
Required Distribution Age	70.5 age rules apply	70.5 age rules apply	70.5 age rules apply

	WRS	**WDC**	**TDA**
Receipt age (without penalty)	General employees: 65, make take employee-only contributions as a "separation benefit" at termination of employment (this is usually 1/2 of money purchase benefit)	Earlier of 70.5 or employment termination	59.5 even if employed
Penalty	no penalty	no penalty	10% if <59.5 unless annuitized
Payout Distribution			
Options	Annuity (if over $348/mo threshold)	Annuity, lump-sum, partial annuity, or periodic	Varies with fund
Annuity options	Life annuity, joint and survivor	Life annuity; periodic; annuity certain	Annuity, lump-sum, periodic, and interest-only
Early distributions	Not possible before 55; age reduction factors may apply between 55 and 65	No early withdrawal penalty	Early withdrawal penalty except for hardship/disability
Investment Option	100% in core, or 50% in variable; all managed by State of WI Investment Board (SWIB)	Employee chooses from plan options - mutual funds (bonds, stocks, balanced) & fixed (money market, FDIC, stable value). Also offers lifecycle/target date, managed accounts & self-directed brokerage options	Employee choses options from individual plan offerings - fixed, variable, mutual funds
If leaving employment	May leave in WRS; SWIB manages money and accumulates returns	May leave in WDC. Worker manages account (fund options, balances, beneficiaries, etc.) and account accumulates returns	Employer must offer option to retain funds in plan

	WRS	WDC	TDA
Roth Accounts	---	Permitted as of January 1, 2011	Allowed
Loans	No	No	Only if specific plan permits
Financial Emergency Hardship Distributions	No	Yes	Only if specific plan permits
Roll-overs	Out only	Out and In	Out and In, if plan permits
Regulations	Not ERISA covered	Not ERISA covered	ERISA covered

Note: * = deferred earnings equals the sum of 457, 403(b), 127 ERA contributions

Source: WDC (http://www.wdc457.org); WRS (http://etf.wi.us); WRS Additional (http://etf.wi.gov/members/benefits_addl_cont.htm); 457 Plans (http://www.nagdca.org/documents/Evolution_of_the_Government_Deferred_Compensation_Plan_Market.pdf), general 403(b) infor (http://www.irs.gov/pbulications/p571/index.html)

Appendix B: Study Sample Selection

The data were provided by Great-West Retirement Systems, which holds the contract for WDC administration. The original data were for 22,059 account holders who held a WDC in at least one of the years 2006-2009 and whose contributions were reported through "central payroll," that for Wisconsin State employees only.[32] The data, sent first to ETF by GWRS was purged of all personal identifiers, including social security numbers and mailing address. This is referred to as the "full sample" in Table 3

Given the focus of the study on how employees save towards a future retirement, we excluded account holders who were 66 years of age or older and those under age 21. This is referred to as the "age restricted sample," of 21,503 observations.

The "Study Sample" which is used in all the analysis in this paper imposes an earnings and hours restriction. The ETF data linked to WDC file showed individuals working what would be termed for unusual numbers of hours per week throughout the year (45+ in all weeks of the year). In addition the WRS pension, based on the three years of highest earnings, encourages high earnings (and therefore hours) in the years just prior to retirement. To reduce the bias in our estimates caused by unusual high earnings and hours and those whose work hours and earnings might have been low in a given year because of mid-year retirements we eliminated

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[32] The initial data file included 152 observations for which no account balance was reported in any of the four years. This may have been because a WDC account was requested and recorded, but no contributions were ever made.

observations in the 1 and 99th percentile of earnings and of hours in each year. [33] Tables B1 and B2 map the (duplicate) number of observations eliminated because of hours (including none reported) and earnings during each year of interest. Table B3 shows the number of observations eliminated from each year's "age restricted" sample and the consequent numbers used in the study sample.

Table B1: Restrictions on Earnings

	Non-earners	<1 percentile of earners		of >99 percentile of earners	
		Cut-Off	Number	Cut-Off for	Number
2006	1,309	$5,200.21	202	$115,371.90	156
2007	1,326	$5,292.80	203	$121,159.00	304
2008	1,742	$6,335.97	197	$129,868.60	157
2009	2,403	$3,765.835	191	$128,249.30	296

[33] The distributions of hours and earnings were otherwise highly skewed. The elimination resulted in a near normal distribution of both.

Table B2: Restrictions on Annual Hours Worked					
	Non-earners	<1 percentile of hours		>99 percentile of hours	
		Cut-Off	Number	Cut-Off for	Number
2006	1,311	264	199	2,877	200
2007	1,333	240	194	2,838	200
2008	1,742	274	197	2,920	197
2009	2,406	130	190	2,787	190

Table B3: Study Sample for Each Year: eliminations due to earnings and hours restrictions			
	Number Eliminated	Total Observations	Percent Eliminated
2006	1,913	19,590	8.90%
2007	2,074	19,429	9.65%
2008	2,339	19,164	10.88%
2009	3,093	18,410	14.38%

We define here some additional terms used in our analysis:

- Account holders: those who have a positive account balance in the year of interest.
- Contributors: individuals who contributed a positive amount during the year of interest. However, some may not have had an account balance at the end of the same year. For example, they could contribute to their account in the first part of the year, but retire and transfer balances before the end of the year. That person would not be an account holder in a given year but they are a contributor. Some analyses of contributions are restricted to account holders only.
- Participants: a general term used to indicate individuals who have a positive account balance at the end of the year and may or may not have made a WRS contribution during the year.
- Earners: ETF records positive WRS-covered earnings for the year.
- Employees: Employees of a State of Wisconsin agency for whom ETF records positive hours of work in a particular year. These may be long-term or limited term employees.

Appendix C: Aggregate WDC Participation Rates

See text and Table 5 for the analysis of agency effects on county participation rates. Table B1 presents the data used. The analysis was restricted to counties in which a common set of agencies had at least one employee.

Table C1: WDC Participation Rate in 2009: Selected Counties and Agencies

County	Dept. of Ag. Trade and Consumer Protection	Dept. of Natural Resources	Dept. of Transportation	Dept. of Corrections	Dept. of Health Services	Dept. of Workforce Development	Office of WI Public Defender	Dept. of Revenue	Circuit Courts
Brown	35.00%	61.07%	59.57%	20.00%	52.38%	35.90%	15.79%	43.33%	41.18%
Dane	48.12%	42.71%	55.78%	40.96%	39.74%	40.75%	52.25%	40.19%	56.41%
Douglas	14.29%	31.58%	72.60%	57.89%	50.00%	30.00%	28.57%	0.00%	83.33%
Fond Du Lac	33.33%	11.11%	65.91%	31.58%	0.00%	33.33%	10.00%	100.00%	40.00%
Kenosha	0.00%	100.00%	54.55%	0.00%	0.00%	47.62%	42.11%	75.00%	47.06%
La Crosse	66.67%	62.12%	77.95%	77.42%	0.00%	46.43%	41.18%	50.00%	69.23%
Milwaukee	63.64%	62.03%	43.20%	27.78%	25.71%	47.80%	55.84%	53.92%	50.00%
Oneida	0.00%	49.72%	73.33%	50.00%	64.71%	50.00%	33.33%	66.67%	60.00%
Ouagamie	33.33%	60.00%	93.33%	0.00%	100.00%	48.08%	46.15%	47.62%	62.50%
Racine	66.67%	52.54%	56.25%	61.54%	30.66%	61.11%	23.08%	75.00%	90.00%
Waukesha	42.86%	38.58%	63.73%	50.00%	80.00%	58.62%	47.83%	57.14%	52.00%
Winnebago	50.00%	52.63%	85.71%	7.14%	30.68%	44.74%	44.44%	75.00%	64.29%

Source: Calculated from ETF provided administrative data.

Increasing Retirement Savings by Working Women: Understanding Gender Disparities in Wisconsin Deferred Compensation Program Account Balances

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