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SEM Brief 13: Worker Borrowing Habits

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Brief D: Worker Borrowing Habits

Main Findings: Workers in Better Work factories borrow and pay off significantly more money than workers outside of Better Work. Borrowing money can signal a lack of funds to pay for necessities, however, the SEMs suggests that Better Work may increase workers' pay security, enabling them to borrow more funds for larger investments. Better Work has a dual effect on borrowing because it also increases workers' plans to retire from their factory, which reduces borrowing, but the effect is outweighed by the effects of pay security.

Better Work's effect on pay security also increases the amount that workers pay off, even when controlling for amount borrowed. Interestingly, we find that although Better Work reduces the use of piece rates, workers with piece rates pay off their debt in larger amounts.

1. Reduced Form

Due to low response rates and overlap for the amounts that workers borrowed and repaid towards their debt, this analysis does not separate baseline and endline observations. To maintain the same sample of participants studied as the other long-term outcome briefs, a balanced panel is used. This is a slightly different sample from the first nine briefs so reduced forms for all considered variables are represented in Table 13.1.

Workers in Better Work factories have significantly different borrowing habits as shown in equations 1 and 2. Across the baseline and the endline, they borrow 31 percent more money than workers not in Better Work. They subsequently pay off more of their debt by 15.6 percent, although it is not enough to immediately pay off all their borrowing.

As has been seen before, in equations 3 through 8, Better Work encourages higher pay and fewer working hours while shifting away from full incentive pay. The use of piece rates declines by 15.4 percent and is partially substituted by a combination of hourly and piece rate, which the use of rises by 8.7 percent. Overtime is less likely to be paid after achieving a production target ($b=-0.038$), instead being paid after eight or nine hours of work in a day ($b=0.90$).

Better Work also encourages greater worker union representation ($b=0.065$) and improved benefits to workers. Workers observe less discrimination from promotions. They believe that promotions are based on performance ($b=0.054$) and are less likely to have felt that there was an unfair obstacle when getting promoted ($b=-0.16$). Workers also experience better maternity benefits including having greater access to maternity leave ($b=0.037$) and other accommodations for workers who are pregnant, such as the ability to sit and work fewer hours ($b=0.103$). With these benefits, workers are more likely to want to retire from their current factory if it is part of Better Work ($b=0.17$).

The bottom rows of Table 13.1 show worker personality traits. Better Work improves the extent to which workers feel resilient and able to recover from stressful events quickly ($b=0.135$). Better Work workers feel unable to control important things in their lives less often ($b=-0.133$), which is complemented with more of an internal locus of control ($b=0.058$). Better Work has no effect on a worker's growth mindset or their ability to manage and bounce back from challenges.

2. Simultaneous Equation Modeling (SEM)

We first consider what determines the amount of money that workers borrow. Figure 13.1 and column 1 of Table 13.2 show findings for the SEM on borrowing. The model identifies three channels through which Better Work encourages greater borrowing. First, Better Work factories are more compliant in paying their workers hourly overtime. The model accounts for monthly pay, which controls for any pay increase from being paid overtime. Outside of being paid more for overtime, hourly overtime is a more secure form of payment as it assures that if a worker works more than eight or nine hours in a day, they will be paid for it. When a worker feels more secure about their income, they may feel more inclined to incur debt because they know they will continue to have the money to pay it off.

Similarly, Better Work may increase worker pay security when it reduces discrimination for promotions. As workers believe that promotions are based solely on performance, they may feel more confident that they can receive a promotion and increase their income. With greater control over their future earnings, workers may be more willing to borrow greater sums of money.

In addition to greater present and future income security, Better Work workers have greater feelings of resiliency, believing that they can quickly recover from hard or stressful events. Feeling like they can quickly come back from hardship would make the act of borrowing money less daunting. Workers in Better Work factories believe that they have the security to pay off their debt, but also feel that if there is a tough situation, they will be able to recover and still manage their debt.

While in the reduced form we saw that Better Work increased borrowing, the SEM reveals that the program has dual effects. Borrowing is increased by compliance on hourly overtime pay, low promotion discrimination, and greater feelings of resilience, but it is also lowered when workers have greater desires to eventually retire from their current factory. Better Work increases workers' desire to stay with their factory. Without the need to considering covering costs while looking for a new job or setting up their own business, workers may feel less of a need to borrow money.

The dual effect of Better Work gives insight into the reasons why workers are borrowing money. Workers are not borrowing to protect themselves from the incurred costs of changing factories and careers, they are instead borrowing because of greater security in their future. This allows them to invest in larger projects, such as home improvements or education, that may not have immediate monetary returns.

It is important to note that the full Better Work treatment effect was only fully explained when controlling for union representation. Representation does not directly affect borrowing, but it likely affects the extent to which workers feel secure in their jobs. Separating workers with similar base levels of job security and protection, we see that further income security and resilience increase borrowing.

In addition to looking at why Better Work encourages borrowing, we look at a SEM investigating the determinants of paying off debt. Results are shown in Figure 13.2 and column 2 of Table 13.2. The model controls for the amount that workers borrow to allow us to only compare workers with similar amounts of debt. Borrowing is a mediator for the Better Work effect on debt repaying: the more workers borrow, the larger the value of their debt repayment.

In addition to increasing borrowing, Better Work again encourages paying off debt through increasing pay security with hourly overtime compliance and low promotion discrimination. The difference between the borrowing model and the paying off debt model is that it is worker's past experiences with promotion discrimination that determines if they pay off debt. Instead of confidence that they have control over their future earnings through promotions, experience with earning promotions is important. The less workers feel like they have had an obstacle for promotion, the more debt they pay off.

Better Work also has a dual effect on debt repayments. Workers paid exclusively through a piece rate repay more debt, but Better Work reduces the use of piece rates. Having a piece rate may increase a worker's feeling of control over their income, which may make them feel more comfortable repaying debt.

Personality traits do not affect debt repayments.

Data Construction

BorrowUSD (natural log)

How much money did you borrow last month?

Debt_PayUSD (natural log)

How much money did you save or pay to your debt last month?

Work_Week

What days of the week do you usually work?

What time do you begin and end each day you usually work?

monthlywageUSD (natural log)

How often are you paid?

How much did you receive the last time you were paid?

Piece_Rate, Piece_Time_Combo

Do you get paid by the piece or by time?

Overtime Compliance Binary

OT_After_8_9

Do you get paid for overtime work? Yes, after 8 or 9 hours of work.

OT_After_Target

Do you get paid for overtime work? Yes, after I complete my production target

Promotion Discrimination 5-point agree scale

Obstacle_Promotion You faced an unfair obstacle getting promoted

Promotion_Performance Promotions in my work unit are based on performance.

Representation (a= 0.6703) Binary

Union Are you a member of union?

Factory_Union Which of the following do you have in your factory? Union
Factory_Bargaining Which of the following do you have in your factory? A collective bargaining agreement

Retirement Plans

Company_Retire I plan to retire from this company

Personality Characteristics 5-point agree scale

IntelligenceR You can learn new things, but you can't really change your basic intelligence.

ResilienceR (a=0.7198)

Stressful_Events I have a hard time making it through stressful events.

Setbacks I tend to take a long time to get over set-backs in my life.

Change_Behavior I can change my life by changing my behavior.

Manage_Challenges I am able to successfully manage the challenges in my life.

Develop_Ability You can always greatly develop your ability

Bounce_Back I tend to bounce back quickly after hard times.

Control In the last month, how often have you felt that you were unable to control the important things in your life?

Demographic Controls

Age

Factory_Experience

i.Position

i.Education

Female

i.Married

Work_Experience

changed_jobs

Factory Characteristics

Factories_Nearby Are there other factories nearby where you could get another job?

Vietnam

bw_factory

Time Control

Endline

Figure 13.1 SEM Model 1 on Borrowing

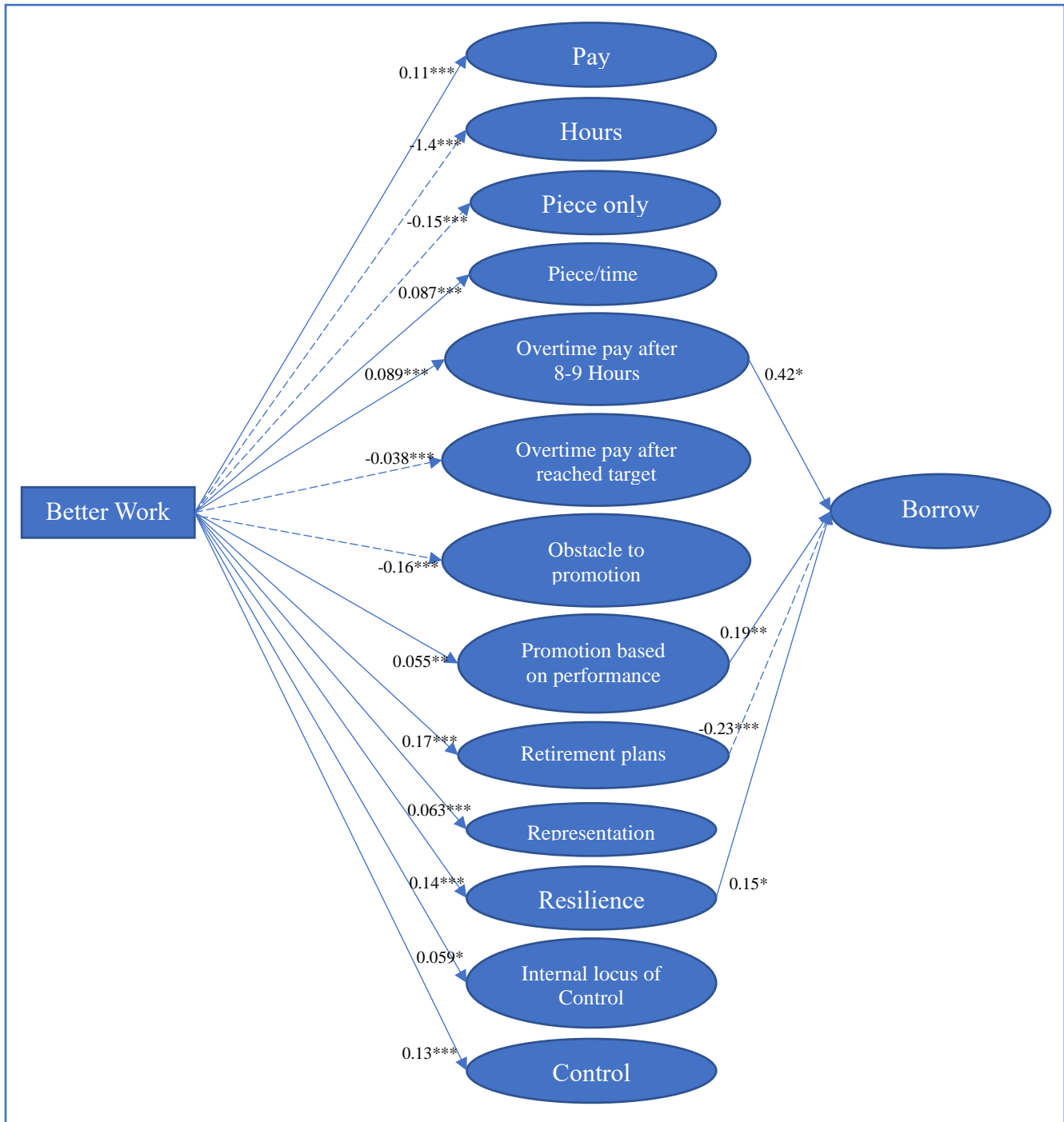


Figure 13.2 SEM Model 2 on Debt Repayment

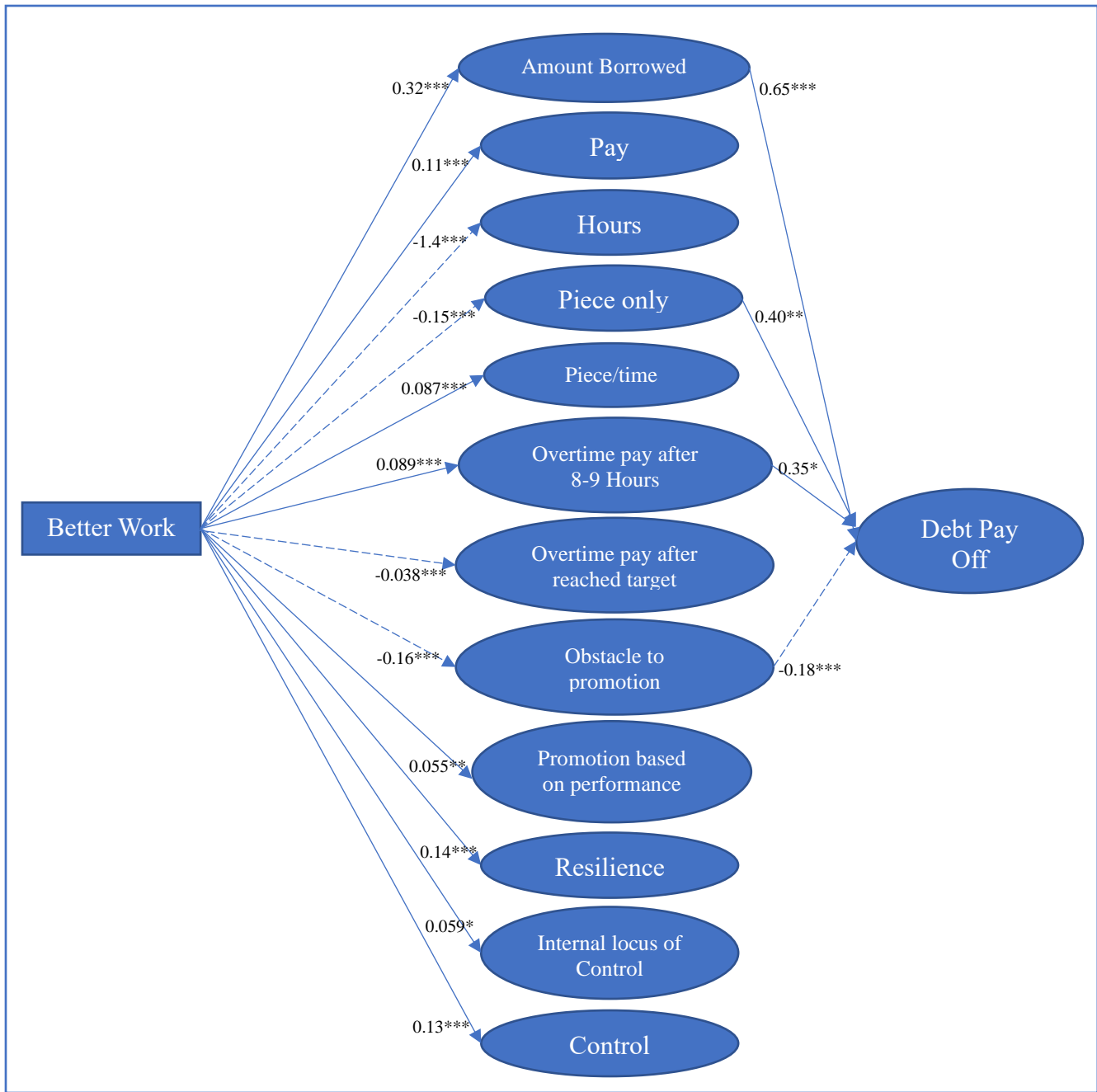


Table 13.1 Reduced Form

VARIABLES	(1) ln_Borrow USD	(2) lnDebt_Pay USD	(3) Inmonthlywage USD	(4) Work_Week	(5) Piece_Only	(6) PieceTime_Combo	(7) OT_After_8_9
bw_factory	0.310** (0.123)	0.156** (0.0699)	0.111*** (0.0174)	-1.328*** (0.445)	-0.154*** (0.0185)	0.0873*** (0.0150)	0.0895*** (0.0145)
Constant	1.611*** (0.515)	2.732*** (0.281)	4.969*** (0.0670)	55.92*** (1.782)	0.347*** (0.0668)	0.397*** (0.0578)	0.575*** (0.0574)
Observations	574	1,595	3,175	3,164	3,193	3,193	3,073
Number of uniqueID	476	1,172	1,728	1,729	1,730	1,730	1,709
VARIABLES	(8) OT_After_ Target	(9) Representation	(10) Promotion_ Performance	(11) Obstacle_ Promotion	(12) Maternity_Leave	(13) Maternity_ Accommodation	(14) Company_ Retire
bw_factory	-0.0380*** (0.0121)	0.0645*** (0.0107)	0.0543* (0.0281)	-0.160*** (0.0292)	0.0137** (0.00548)	0.103*** (0.0124)	0.166*** (0.0399)
Constant	0.329*** (0.0486)	0.539*** (0.0417)	3.627*** (0.111)	1.622*** (0.115)	0.940*** (0.0208)	0.840*** (0.0457)	2.121*** (0.156)
Observations	3,073	2,628	3,146	3,110	3,144	3,103	2,954
Number of uniqueID	1,709	1,612	1,726	1,721	1,726	1,720	1,699
VARIABLES	(15) ResilianceR	(16) ControlR	(17) Change_Behavior	(18) IntelligenceR	(19) Develop_Ability	(20) Manage_Challenges	(21) Bounce_Back
bw_factory	0.135*** (0.0346)	-0.133*** (0.0332)	0.0581* (0.0348)	-0.0297 (0.0377)	0.0387 (0.0263)	0.00259 (0.0238)	-0.00826 (0.0242)
Constant	3.061*** (0.136)	0.938*** (0.131)	4.272*** (0.137)	3.364*** (0.149)	3.436*** (0.104)	3.946*** (0.0942)	3.637*** (0.0959)
Observations	3,141	3,163	3,145	3,119	3,151	3,164	3,176
Number of uniqueID	1,723	1,727	1,722	1,715	1,723	1,725	1,727

Demographic and factory controls

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 13.2 SEM Results for Models 1 and 2

VARIABLES	Model 1	Model 2
	InBorrowUSD	InDebt_PayUSD
InmonthlywageUSD	0.0662 (0.102)	-0.00848 (0.0759)
Work_Week	-0.00423 (0.00514)	-0.00190 (0.00419)
Piece_Only	0.142 (0.201)	0.402** (0.161)
PieceTime_Combo	-0.0799 (0.183)	-0.0443 (0.133)
OT_After_8_9	0.422* (0.244)	0.354* (0.182)
OT_After_Target	-0.0129 (0.299)	0.0755 (0.216)
Obstacle_Promotion	0.0400 (0.0755)	-0.180*** (0.0570)
Promotion_Performance	0.191** (0.0812)	-0.0314 (0.0587)
Representation	0.416 (0.265)	
Company_Retire	-0.226*** (0.0727)	
InMoney_BorrowUSD		0.652*** (0.0366)
ResilienceR	0.151* (0.0915)	0.00235 (0.0660)
ControlR	-0.0698 (0.0739)	-0.0223 (0.0556)
Change_Behavior	0.0953 (0.0815)	-0.0123 (0.0639)
Manage_Challenges	0.105 (0.100)	0.00872 (0.0778)
Develop_Ability	-0.0491 (0.0927)	0.0907 (0.0680)
Bounce_Back	-0.0243 (0.108)	0.0508 (0.0798)
IntelligenceR	-0.0490 (0.0714)	0.0494 (0.0528)
bw_factory	0.196 (0.143)	-0.0396 (0.105)
Constant	-0.0245 (1.172)	1.270 (0.894)
Observations	3,193	3,193

Demographic and factory controls

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1