

Electronic Wage Payments for Salaried Workers: What Have We Learned?

Policy Note

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1. Introduction

Globally, 1.7 billion adults do not have an account with a formal financial institution or with a mobile money provider (Global Findex Database, 2017). Unbanked adults – most of who are poor – largely rely on cash to manage their day-to-day finances and plan for the future. Cash-only transactions with governments, banks and other institutions, however, have many drawbacks, including high transaction costs, greater potential for corruption, and a widening schism between the formal and informal financial systems. Electronic wage payments, on the other hand, provide an opportunity to bring unbanked adults into the formal economy and offer an incentive for actively using formal financial accounts. Digital technology, such as mobile phones and the internet, can mitigate and even eliminate some of the barriers that unbanked adults say prevent them from accessing financial services. For example, digital financial services might shrink the distance between financial institutions and their customers. And by lowering the cost of providing financial services, digital solutions might be helpful for those citing high costs as a reason for not having an account at a financial institution.

Research shows that digital payments can help drive development. Digital payments can expand income generating pursuits and asset building for users (Rocabado and Balderrama, 2014). When people are hit with unexpected expenses, digital payments make it easier to get financial assistance from relatives and friends (Jack and Suri, 2014; Blumenstock et al. 2014; Blumenstock et al. 2016). And the benefits transcend just the financial. Digital payments and transfers have the potential to improve client welfare, education opportunities, health, food security and emotional well-being, through cost savings that can be invested elsewhere; time savings, which can allow more time for other productive activities; personal security by limiting the amount of physical cash on a client; and psychological reassurance through the potential knowledge that assistance can be provided if a financial shock occurs (Suri, Jack, and Stoke, 2012). Researchers have also found that digital technology can lower the cost of administering large-scale payment programs. In India, for example, the total time required to collect a social program payment fell by 22 minutes through the use of

smartcards (Muralidharan et al). Digital payments could also offer greater privacy, monitoring, and control to women users (Aker et al. 2016).

Especially large opportunities exist for businesses to boost account ownership by paying their unbanked employees through accounts rather than in cash in Bangladesh's ready-made garment (RMG) sector, which employs nearly 4.4 million workers – of whom 80 percent are women. A 2016 study found that less than 0.5 percent of RMG workers are paid through mobile financial services. Furthermore, only 0.6 percent of all salary payments are currently disbursed via mobile financial services. This demonstrates the significant potential for digital payments to help increase productivity and profitability while lowering costs and improving efficiency.

There currently exists little empirical evidence on the welfare benefits of electronic payments for private sector workers. Digital payments can provide employees a greater control of their financial lives by integrating them into the formal financial system by offering access to accounts and loans and encouraging cheaper modes of savings. Digital payments can also be more secure for employees than manual cash payments, which can be more easily stolen or misappropriated. While security is always a concern when traveling with large amounts of cash, this is especially vital with respect to regular cash payments—such as wages—that are received at publicly known locations and points in time. Evidence from the US shows that when the government introduced the Electronic Benefit Transfer (EBT) in the mid-1990s and thus switched from delivering social cash transfers by paper checks, which needed to be cashed, to electronic debit cards, the overall crime rate over the next 20 years was reduced by almost 10% as a direct result (Tekin et al. 2014). In Afghanistan, Blumenstock et al. (2014) found that workers who received mobile salary payments increased formal savings and reduce reliance on risky saving patterns (e.g. keeping cash under the mattress).

Electronic wage payments have the added benefit of drawing large numbers of previously unbanked workers into the formal financial system. Digital payrolls can serve as a bridge to other digital finance products such as savings, credit, and insurance services and also create the opportunity to embed workers in a system of automatic deposits, scheduled text reminders, and positive default options that can help people overcome psychological barriers to saving money. A substantial collection of literature shows that small "nudges" may have a significant impact on forward-looking financial and nonfinancial behaviours involving defined-contribution pension accounts and commitment savings products that allow users to save money over time (Karlan et al. 2014).

2. Methodology

We conducted a randomized controlled trial with 3,136 salaried factory workers in Bangladesh employed at two large garment factories which, at the beginning of our study, paid all wages in cash. We randomly and individually assign workers within the same factory to either continue receiving their wages in cash or receive electronic wage payments through either a bank or mobile account. We follow workers over approximately two years and measure the effect of electronic wage payments on savings, asset accumulation, the ability to cope with financial shocks. Workers in the control group continued to receive cash wage payments.

Randomization was done at the individual worker unit. This is the level of randomization that maximizes statistical power, and the unit of analysis at which we observe key outcomes of interest. We obtained a list of all workers currently employed on the production line. From this sample frame, we randomized into four groups, stratifying on age group, factory location, and gender.

Our study differs from previous research in several ways. First, we target an unbanked population with high reliance on formal, regular wages. Further, the wages paid to textile workers represent a high fraction of the household's income. Directing the entirety of these funds into a formal savings vehicle could have much higher effects on savings and other outcomes than previous interventions. In addition, our target population often relies on high interest rate loans to make ends meet between pay days and often report cutting back on household spending in the last week of the month. Finally, our partnership with textile factories will allow us to measure the real effects of financial access and planning on productivity and attendance outcomes.

As a first step towards enabling individuals to save, large-scale efforts are currently underway in many countries to open bank accounts for unbanked households and individuals. However, encouraging the active use of such basic accounts remains a major challenge. By providing workers with a salary account, our study creates strong incentives for factory workers to interact regularly with the formal banking system and tests whether this can encourage savings and build financial capabilities.

b. Intervention

Figure 1 provides a schematic overview of the study design and interventions. Working with two textile factories (Standard Group and Azim), a large domestic bank (Bangladesh City Bank) and Bangladesh's leading mobile payments provider (bKash), we randomized participants of our study into one of the following four treatment groups:

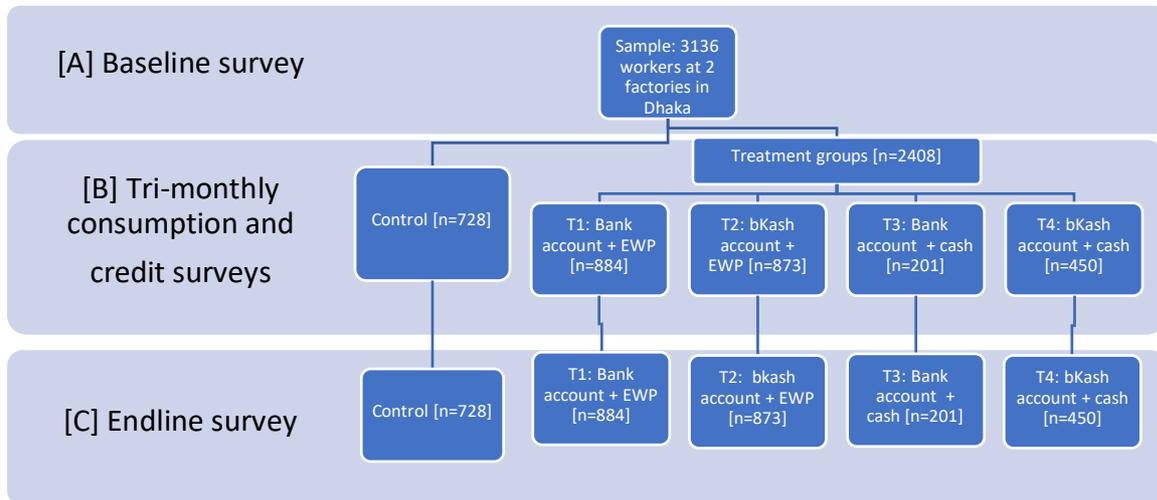
- *Treatment 1: Electronic wage payments into a bank account.* A total of 884 workers (28 percent) were assigned to the bank EWP treatment condition. For each worker in this group, the factory opened a payroll account with its bank

and deposited the worker's monthly wage into the account on the firm's regular payday. Workers were provided with a debit card that they could use to withdraw money at an ATM installed on factory premises. They also received an introductory training session that explained how to use the debit card to access their account, but did not provide additional financial literacy content, and were given access to a bank representative who was present on the firm's premises and could provide assistance in the event that workers faced difficulties using their debit cards to withdraw money.

- *Treatment 2: Electronic wage payments into a mobile account.* A total of 873 workers (28 percent) were assigned to the mobile EWP treatment. In this treatment condition, the firm opened a mobile payroll account for the worker and deposited their monthly wage into this account at the time of the firm's regular payday. The mobile EWP treatment was implemented using Bangladesh's largest mobile payments platform, which is widely used and has an extensive agent network throughout the country. Workers assigned to this treatment condition received a short introduction that explained how their mobile account works and how they can withdraw money at a mobile agent. As in the bank EWP treatment, the training did not provide any additional financial literacy content. A mobile agent was present at the factory on pay days for workers to withdraw their salary, and to aid in case workers faced difficulty using their account or withdrawing money.
- *Treatment 3: Receive a bank account and monthly wage payments in cash.* To be able to separate the effect of receiving wage payments into a digital account from the effect of having an account, 201 workers (6 percent) were assigned to the Bank only treatment condition. In this treatment, the factory opened a bank account for the worker, whose features were identical to those of the accounts opened for workers in the Bank EWP treatment, including provision of a debit card. However, workers in the Bank only continued to receive their wage in cash, so that usage of the bank was optional for this group. All workers assigned to this treatment condition nonetheless received the same introductory presentation as workers in the Bank EWP condition, aimed at familiarizing them with the features of the account.
- *Treatment 4: Receive a bKash (mobile) account and monthly wage payments in cash.* Similarly, to enable us to separate the effect of receiving wage payments into a mobile account from the effect of having access to a mobile account, 450 workers (14 percent) were assigned to the mobile-only treatment. Workers in this treatment received an activated mobile account with the same provider used in the mobile EWP treatment, as well as an introductory presentation meant to familiarize them with the features of the account. However, workers

assigned to this treatment continued to receive their wage payments in cash so that, as in the previous treatment, usage of the mobile account was optional.

Figure 1: Study Design



c. Target population and summary statistics

Workers in the sample were selected from the universe of all production workers employed by these firms at the time of our baseline survey. The firms provided us with a full list of their workers employed in manufacturing jobs. Workers are assigned to one of several salary grades, based on seniority and job description. We exclude the lowest seniority level from our sample, which consists of workers whose tenure at the firm is typically too temporary to warrant opening a formal payroll account. This leaves us with a sample of 3,136 workers who participated in our experiment.

The gender breakdown is approximately 60 percent women and 40 percent men. Almost all the employees are Muslim. Virtually none of the factory workers who work on the production line have bank or mobile money accounts. The use of high-cost moneylender loans (serving as payday loans) is widespread. Further, many workers already use bKash, the local mobile money platform, to transfer wages to their family members in their home villages. However, they use bKash in an inefficient way, relying on the accounts of friends or vendors, and paying higher than necessary transaction fees. Some of the other prominent features of our sample at baseline include:

- **Experience with formal financial services at baseline:** The workers in our sample have an average base salary of Tk 6,855 (US \$88), and very limited experience using formal financial services. At baseline, only 25 percent of workers report having savings in any formal account. 75 percent had used a

mobile payments platform to send money, though few used their own account - less than one percent had savings in a mobile account.

- ***Rampant use of informal financial services at baseline:*** The use of informal financial services, on the other hand, is widespread: 33 percent of workers had informal savings, such as keeping cash at home or with local savings groups. Half had loans outstanding from informal sources, typically at extremely high interest rates.
- ***Financial capability at baseline:*** The vast majority of workers in our sample are from rural parts of Bangladesh and have migrated to Dhaka with specific savings goals in mind. In our baseline survey, 74 percent of workers report that they came to Dhaka with specific savings plans, however only 13 percent of workers with savings plans report that they feel they are close to meeting their targets. The baseline summary statistics reveal that there is significant variation in both financial experience as well as financial literacy and capabilities in the sample. While a minority of workers report experience with formal financial tools and having no problems budgeting their monthly income, 75 percent of workers in our sample have trouble answering basic financial literacy questions; 65 percent report having difficulty sticking to financial plans; and 17 percent report having to cut meals in the last week before payday because they were unable to budget their income over the course of the month.
- ***Education and experience levels at baseline:*** 55 percent of workers in our sample have completed primary school; an additional 10 percent have completed secondary school; and 10 percent have no formal education. The mean (median) worker in our sample has 4.5 (3) years of experience working in the garment industry. Women in our sample are less numerate than men. 35 percent of women have below median levels of numeracy levels at baseline as compared to 24 percent of men.
- ***Low bargaining power for women at baseline:*** Nearly 50 percent of workers in our sample report having complete control on food, large good and special goods purchases. Not surprisingly, however, women seem to have less control over these budgeting decisions. For example, only 32 percent of women workers in our sample report full control over food budget at baseline as opposed to nearly 70 percent men workers. Similarly, only a quarter of women have control on large goods purchases made for the household as opposed to more than half of men workers.

Table 1: Summary Statistics at Baseline

| | Observations | Mean | StDev | Min | Max |
|--|--------------|------|-------|-----|-----|
| | | | | | |

| | | | | | |
|--|-------|-----------|-----------|-----|---------|
| I. Demographics | | | | | |
| Female | 3,136 | 0.591 | 0.492 | 0 | 1 |
| Married | 3,136 | 0.715 | 0.452 | 0 | 1 |
| Primary school education | 3,136 | 0.651 | 0.477 | 0 | 1 |
| Work experience (years) | 3,136 | 4.660 | 3.476 | 0 | 11 |
| Tenure in current job (years) | 3,136 | 3.487 | 3.287 | 0.5 | 11 |
| II. Savings | | | | | |
| Savings | 3,136 | 0.502 | 0.500 | 0 | 1 |
| Savings balance, Total Tk | 3,136 | 14074.460 | 23886.030 | 0 | 180000 |
| Formal savings | 3,136 | 0.253 | 0.435 | 0 | 1 |
| Formal savings balance, Tk | 3,136 | 8456.230 | 19511.000 | 0 | 180000 |
| Informal savings | 3,136 | 0.304 | 0.460 | 0 | 1 |
| Informal savings balance, Tk | 3,136 | 5618.220 | 14238.000 | 0 | 120000 |
| Savings at home, Tk | 3,136 | 1310.188 | 5504.988 | 0 | 60000 |
| Savings with family in Dhaka, Tk | 3,136 | 530.533 | 4353.779 | 0 | 60000 |
| III. Financial planning | | | | | |
| Has savings goal | 3,136 | 0.737 | 0.440 | 0 | 1 |
| Reached savings goal? (yes=10) | 2,312 | 2.847 | 2.214 | 1 | 10 |
| Has made remittance, last 6 months | 3,136 | 0.815 | 0.388 | 0 | 1 |
| Total remittances last 6 months | 3,136 | 58842.360 | 86803.200 | 0 | 2092800 |
| Remittances Dhaka, last 6 months | 3,136 | 12200.700 | 71016.310 | 0 | 862800 |
| Remittances home village, last 6 months | 3,136 | 46641.660 | 49698.320 | 0 | 1438800 |
| IV. Financial capabilities | | | | | |
| Has used mobile money | 3,136 | 0.748 | 0.434 | 0 | 1 |
| Gives in to temptations to spend | 3,136 | 0.719 | 0.449 | 0 | 1 |
| Trouble saying no to requests for financial help | 3,136 | 0.802 | 0.399 | 0 | 1 |
| Trouble staying within financial plans | 3,136 | 0.651 | 0.477 | 0 | 1 |
| Had to cut meals last 12 months | 3,136 | 0.169 | 0.375 | 0 | 1 |
| Would not be able to save 5000 taka over next 6 months if needed | 3,136 | 0.220 | 0.414 | 0 | 1 |
| V. Trust in financial institutions | | | | | |
| Confidence in bank | 1,633 | 8.102 | 2.647 | 1 | 10 |
| Confidence in bKash | 1,633 | 6.056 | 3.370 | 1 | 10 |
| VI. Work satisfaction | | | | | |
| Overall job satisfaction | 3,135 | 7.264 | 2.453 | 0 | 10 |
| Satisfaction with benefits | 3,135 | 7.347 | 2.506 | 0 | 10 |
| VII. Bargaining power | | | | | |

| | | | | | |
|--|-------|-------|-------|---|---|
| Respondent full control on food budget | 3,136 | 0.475 | 0.499 | 0 | 1 |
| Respondent full control on budget for special goods | 3,136 | 0.483 | 0.500 | 0 | 1 |
| Respondent full control on budget for large purchases/good | 3,136 | 0.374 | 0.484 | 0 | 1 |

4. Policy impact and results

We discuss the impact of our two digital treatments – mobile with electronic payments and bank account with electronic payments – separately as we expect these services to impact the workers differently. While airtime purchases, bill payments and remittances are still the top uses of most mobile money services, there has always been an expectation that a range of financial products would be linked to mobile wallets. Despite various experiments and trials, no particular service has shown promise, until now. Consistent with the literature, we find significant differences in the response to these two digital methods in our study sample. For example, mobile money seems to be an obvious choice for Bangladeshi adults to cope with shocks while bank accounts with digital payments seem to promote greater savings. We discuss these differences in response to these different modes of digital payments in greater detail in this section.

Overall, our results suggest that treatments stimulated usage of formal financial products. We find detectable increases in savings in both bank treatments. The extensive margin response of receiving electronic payments into a bank account is particularly strong. We also find changes in the composition of savings in the two bank treatments. In contrast, the mobile money treatments did not have strong long-run impacts on total savings accumulation. This is consistent with the typical usage patterns of mobile money accounts, and low incidence of savings accumulation in the mobile wallet. Moreover, we find evidence that electronic wage payments likely did help workers better respond to shocks, especially in the mobile with electronic payments treatment. All treatments appeared to increase general trust in financial intermediaries, especially the mobile money platforms.

We also find striking differences in the responses by gender. Overall, the results are strongest for women, who likely face higher barriers to using formal accounts in absence of the intervention. In our experiment, we observe that in baseline they report lower levels of formal account ownership. In fact, women workers also seem to be less comfortable using mobile accounts and bank accounts. We also find evidence that women and men respond in opposite ways to the treatments, both in the case of asset

purchases and remittances. Below we discuss the results for different outcomes in greater detail.

a. Savings

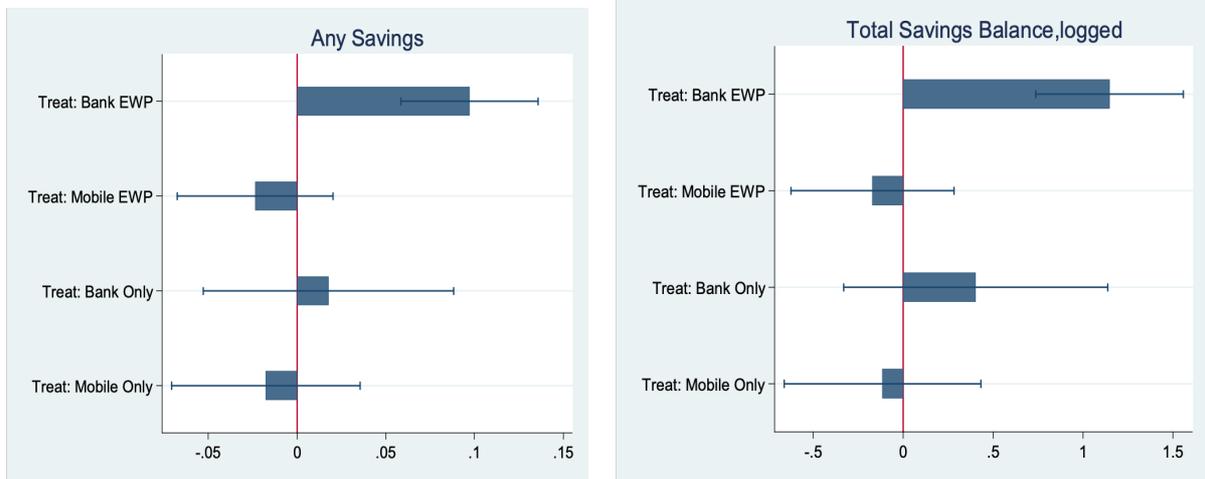
Workers who received a bank or mobile account with electronic payments are significantly more likely to report having a formal account with a non-zero balance. This validates our intervention and shows that in addition to receiving the accounts, workers are indeed leaving some funds in the accounts. We detect both extensive margin effects as well as savings composition effects.

Workers who receive wages directly into a bank account are significantly more likely to report any savings and larger total savings (Figure 2). The higher reported savings is driven by both a significant increase in formal account balances, as well as a significant decrease in money saved informally at home. In other words, we find that workers receiving electronic wage payments to a bank account accumulate formal savings in their account, rather than withdraw money to save at home (Figure 3). Looking next at workers paid wages into a mobile money account, we find a small, though significant, increase in formal account usage with more workers likely to have formal savings.

At baseline, women in our sample reported lower levels of formal account ownership and are less able to interact with financial system. Hence, we expect costs of financial access to decrease by more for women. Our results suggest the same, as women seem to experience biggest gains in financial inclusion. The impact of receiving electronic payments into bank accounts on overall savings balance and formal savings balance is twice as large for women as for men. Meanwhile, male workers in our sample tend to engage greater with mobile money technology with the feature of electronic payments. We observe a greater effect on formal savings balances for male workers who receive electronic wage payments in their mobile money accounts in comparison to their female counterparts.

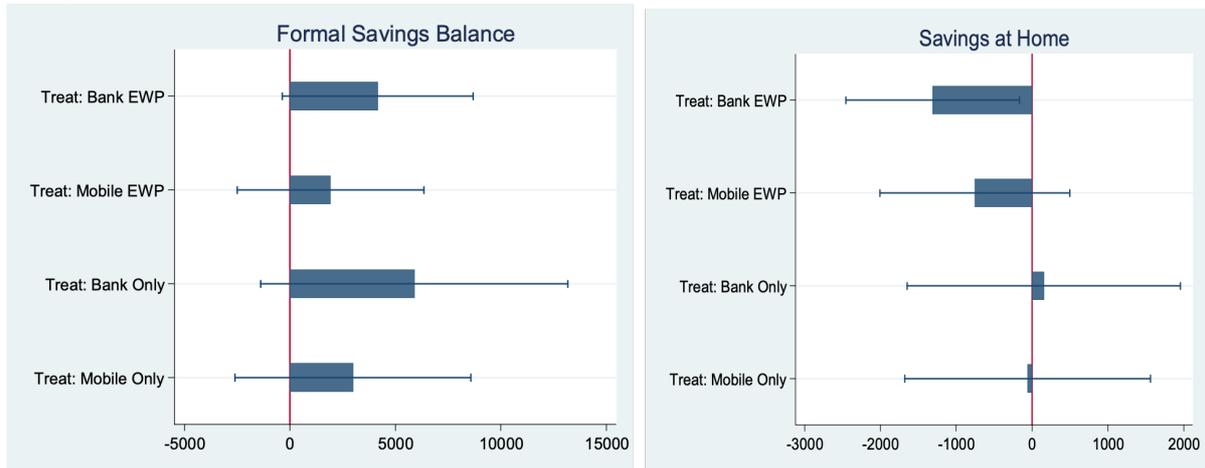
Workers who received only a bank account have a significant increase in total account balances and significant decrease in savings with family or friends in Dhaka, suggesting that workers might be depositing money previously held informally outside their home. Finally, we find no effect on any measure of savings of only having a mobile money account, which is consistent with other literature showing that these accounts are traditionally not used for savings (Jack and Suri, 2014).

Figure 2: Bank EWP increases likelihood to save and savings balance, particularly for women



Note: The graph above presents point estimates at 95% confidence interval. These estimates are based on regressions where the dependent variable is either any savings which is a dummy taking value 1 if respondent holds any saving and 0 otherwise or a continuous variable capturing total savings balance held by the respondent. The explanatory variables include treatments (bank EWP, mobile EWP, bank only and mobile only) and a set of baseline controls.

Figure 3: Workers who received bank EWP or mobile EWP are more likely to have formal savings balance



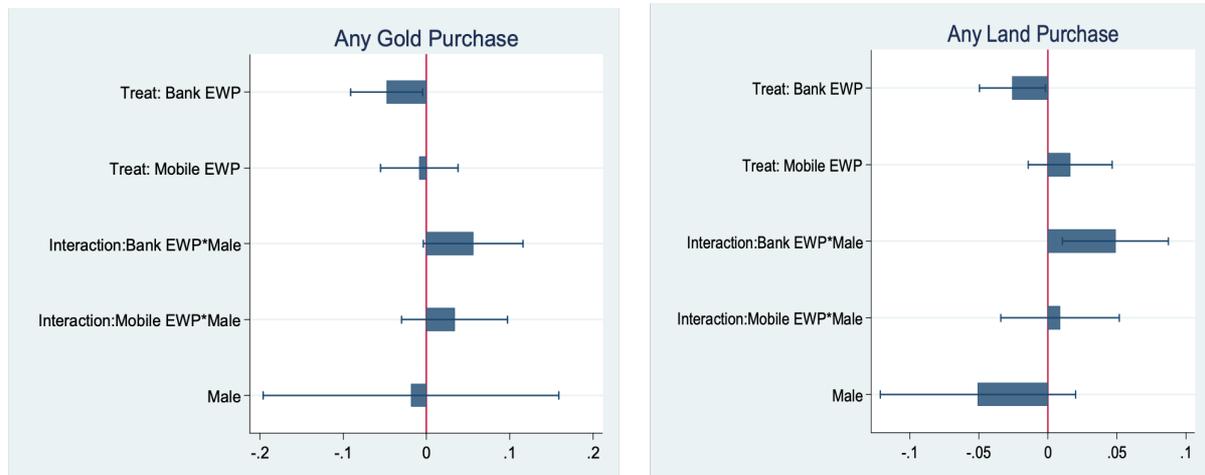
Note: The graph above presents point estimates at 95% confidence interval. These estimates are based on regressions where the dependent variable is either a continuous variable capturing formal savings balance or a continuous variable capturing savings at home held by the respondent. The explanatory variables include treatments (bank EWP, mobile EWP, bank only and mobile only) and controls capturing demographic characteristics of the respondent.

b. Consumption

We observe no average effects of electronic wage payments or access to a bank or mobile account on large purchases, such as a home or land. Similarly, we find no meaningful effect of electronic wage payments or access to an account on land, business asset, gold or home purchases.

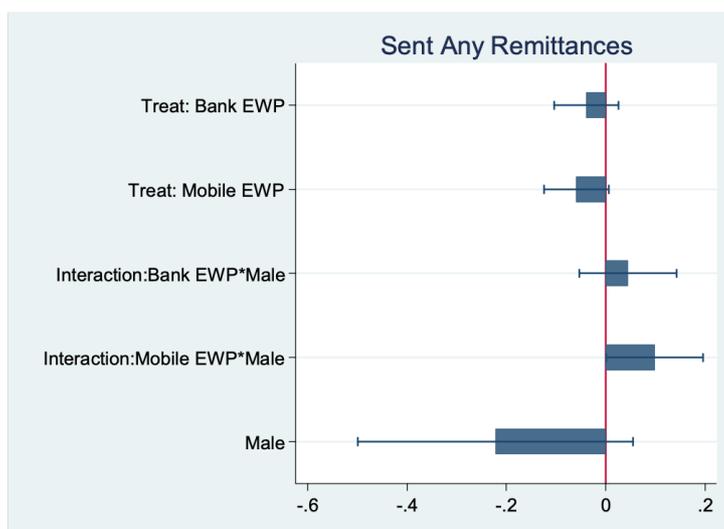
However, we do observe substantial gender differences in these results suggestive of an indirect impact on control over household resources. For women, electronic wage payments seem to shift resources away from accounts and assets shared with others into their financial accounts. We observe that women workers who receive wage payments electronically into their bank accounts are less likely to invest in income-generating assets like land and gold in comparison to male workers (Figure 4). Similarly, women workers who receive wage payments electronically into their mobile accounts are less likely to remit, and remit lower balances than male workers (Figure 5). These findings indicate that for female workers formal savings seems to be a substitute for remittances and asset purchases, as opposed to male workers for whom access to mobile money accounts with electronic payments lowers costs of remittances and potentially accelerates savings toward asset purchases.

Figure 4: Female workers with bank EWP are less likely to invest in land and gold



Note: The graph above presents point estimates at 95% confidence intervals. These estimates are based on regressions where the dependent variable is either a dummy taking value 1 if respondent made any gold purchase and 0 otherwise or a dummy taking value 1 if respondent made any land purchase and 0 otherwise. The explanatory variables include treatments (bank EWP, mobile EWP, bank only and mobile only) and a set of baseline controls.

Figure 5: Female workers with mobile EWP are less likely to remit



Note: The graph above presents point estimates at 95% confidence interval. These estimates are based on regressions where the dependent variable is a dummy taking value 1 if respondent sent any remittances and 0 otherwise. The explanatory variables include treatments (bank EWP, mobile EWP, bank only and mobile only) and a set of baseline controls.

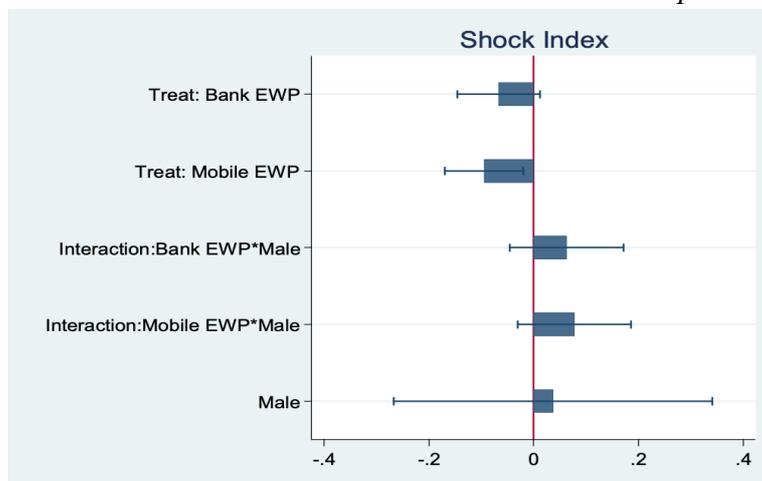
c. Shock mitigation

In our sample, workers seem to be using mobile money accounts as means of transaction, and not store of value. Women, specifically, experience improvements in dealing with shocks in both electronic payments treatments. While mobile money with electronic payments has limited impacts (if any) on long run savings, workers receiving wages into their mobile money accounts were significantly less likely to report inadequate resources to cope with income shocks in the past year. Furthermore, workers receiving electronic wage payments to a mobile money account are less likely to report cutting meals or medical expenses in the past year. Weaker evidence is found that workers receiving only a mobile account (without electronic wage payments) are less likely to be unable to pay school fees. While the point estimates suggest that shocks may have also decreased for those in the bank treatments, the effects are not statistically significant at standard levels. These effects are particularly interesting for and are driven by female workers in our sample who experience improvements in coping with shocks in both electronic payments treatments (Figure 6).

One interpretation of these effects is that mobile payments might facilitate the receipt of payments as well as strengthen and expand informal insurance networks among poor households (Jack and Suri, 2014). However, it is also possible that the composition of savings may also help with shock mitigation. One aspect of the mobile EWP arm that the workers particularly appreciated is its flexibility – mobile money cash out is extremely convenient and can be done at thousands of locations around

Dhaka. This flexibility may facilitate timely shock mitigation by keeping resources highly liquid.

Figure 6: Female workers with bank EWP or mobile EWP can cope better with shocks



Note: The graph above presents point estimates at 95% confidence interval. The estimates are based on regressions where the dependent variable is a shock index. The explanatory variables include treatments (bank EWP, mobile EWP, bank only and mobile only) and a set of baseline controls.

d. Trust

As part of the surveys, we ask workers to rate their confidence in putting 1,000 taka in a bank or mobile money account, respectively, for a one-month period, and confidence of workers in putting 5,000 takas in an account for a 1-year horizon. First, it is important to note that mobile money has a trust deficit among members of the control group. The average confidence in mobile money accounts for the 5,000-taka deposit is 6.256 out of 10, compared to 7.635 out of 10 for banks.

We find that workers who receive payments to a mobile money account or only access to a mobile account report significantly greater confidence in holding money in that type of account for up to a year. Both this group of workers and workers receiving electronic wage payments into a bank account report confidence in holding money in a bank account for up to a year. The increase in confidence due to receiving the mobile EWP treatment erases the trust gap between banks and mobile money. In the control group, only 78 percent of workers believe that mobile money firms behave in the best interest of their customers, compared to 92 percent for banks.

All workers offered any account are significantly more likely to say they believe that mobile money providers act in their customers best interest and that they would recommend a mobile account to others. Notably, only workers receiving wage payments into a bank account would differentially be more likely to recommend a bank account to others. These results highlight that workers tend to already have high

levels of confidence and trust in banks but have less favorable views of mobile money platforms. The treatment improves general trust in both kinds of institutions, but is especially successful at closing the gap between banks and mobile money.

e. Work satisfaction

Results suggest that our treatments improved job satisfaction. The points estimate of all four treatment groups are positive, and the treatment effects for the mobile EWP and bank only groups are statistically distinguishable from zero. These results are consistent with other survey evidence suggesting that when asked at end-line whether, hypothetically, they would switch to a different method, the vast majority of workers reported that they wanted to keep whatever method they were assigned.

f. Household control and bargaining power

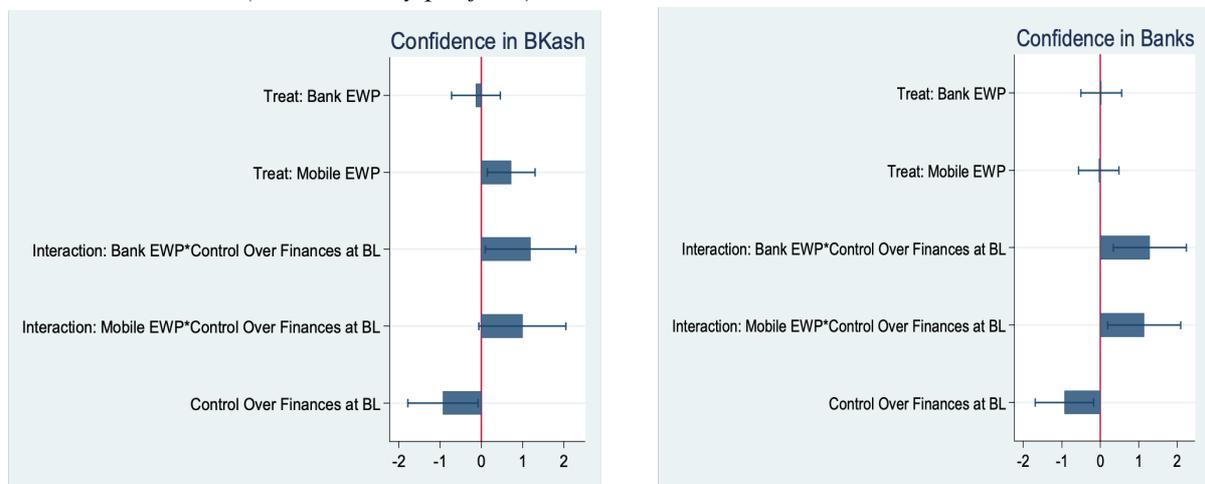
Traditionally, women face greater social demands and have less household bargaining power than men. Having their earnings deposited into their own account can give them more control over their money and, thereby, motivate them to work more (Morawczynski, 2009; Aker et al. 2014). In India, Field et al. (2016) tested the impact of depositing women's wages into female-owned bank accounts versus those owned by the male head of household. The study found this switch led to a significant increase in the number of women working and their total earnings, especially among women particularly limited by prevailing gender norms. Electronic wage payments could be one of the most promising ways to encourage the use of formal financial services by women and improve women's privacy and control over their resources, which may lead to improved ability to make ends meet during a financial emergency.

As described in the previous section, women workers in our sample report significantly less control over budgeting decisions at baseline. In our experiment, we further observe some erosion of control over spending among workers who are either paid wages electronically into their bank accounts or mobile accounts. This is particularly true for female workers. In comparison to the control group, a lower share of female workers receiving any form of electronic payments report having the same amount of control as 12 months ago. In fact, higher share of female workers report a little less control in comparison to female workers in the control group.

To investigate factors that could predict these changes in bargaining power among those treated, we look at two potential predictors of bargaining power: baseline control over financial resources, and suitability for electronic wage payments technology (numeracy at baseline). This is consistent with the factors mentioned in the literature.

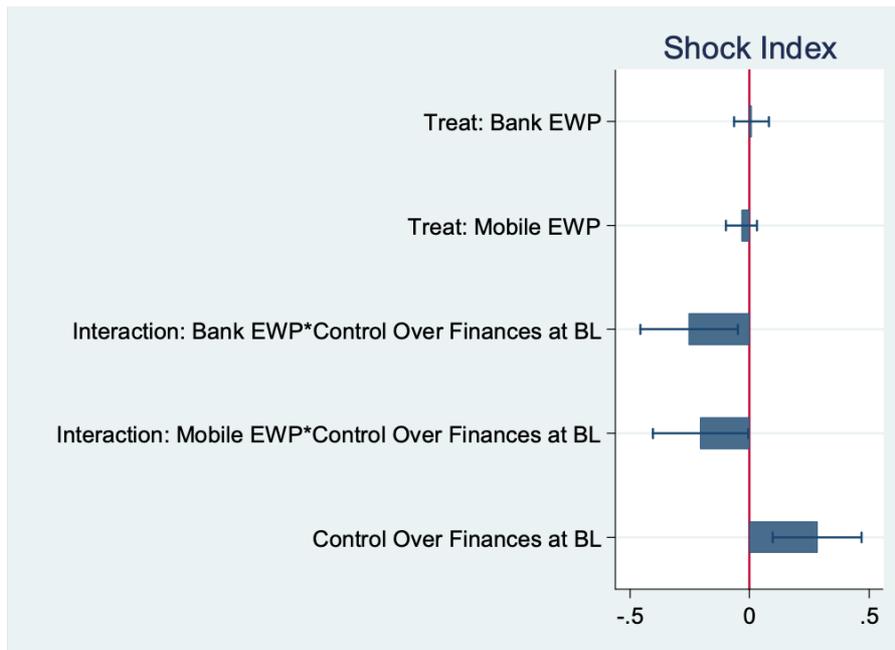
Overall, we observe no detectable loss of control over resources at end-line if women already have greater control over resources at baseline. Interestingly, we find that women with more control over resources already at baseline are best able to use new accounts to smooth consumption, cope with unexpected shocks, and have more trust in both types of institutions (Figure 8 and Figure 9). However, increased transparency of accounts can erode control for some women, especially those least suited to operate the new technology. As shown in Figure 10, less numerate women experience larger loss of control. However, we see no detrimental effect on shock mitigation or trust in financial institutions in this case.

Figure 8: Women with more control over resources at baseline who receive EWP show greater trust in banks and bKash (mobile money platform)



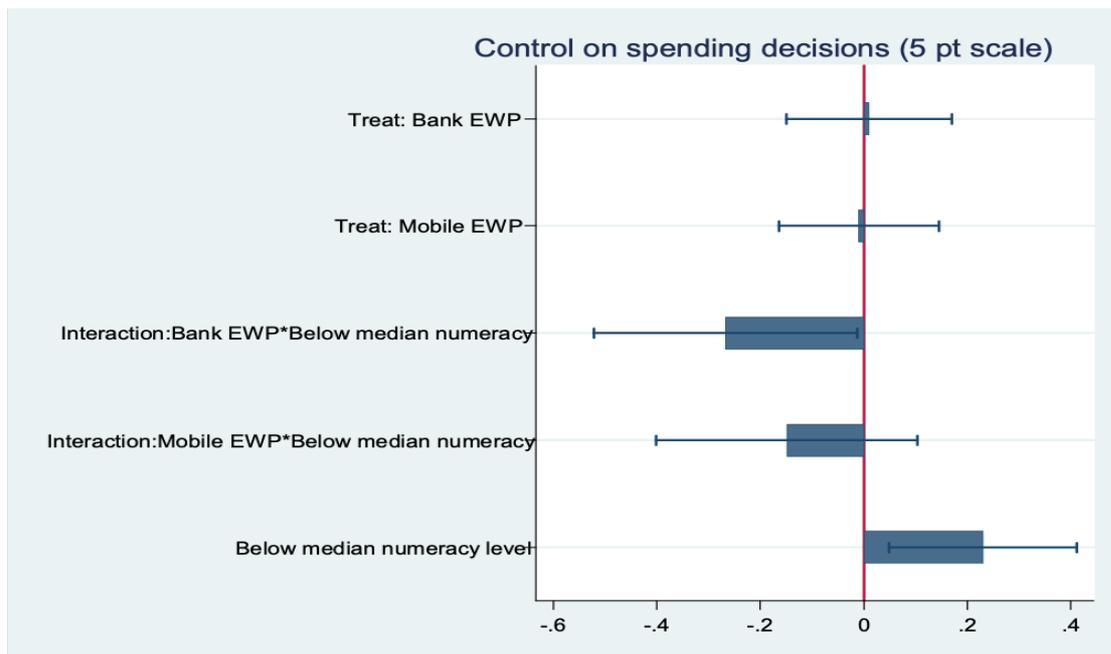
Note: The graph above presents point estimates at 95% confidence intervals. These estimates are based on regressions results where the dependent variable is capturing confidence in bKash and banks. The explanatory variables include treatments (bank EWP, mobile EWP, bank only and mobile only) and a set of baseline controls.

Figure 9: Women with more control over resources at baseline are better able to cope with shocks



Note: The graph above presents point estimates at 95% confidence interval. These estimates are based on regressions where the dependent variable is shock index. The explanatory variables include treatments (bank EWP, mobile EWP, bank only and mobile only) and a set of baseline control.

Figure 10: Less numerate female workers who receive EWP lose some control over spending at end-line



Note: The graph above presents point estimates at 95% confidence interval. These estimates are based on regressions where the dependent variable is a 5-point scale capturing control on spending decisions. The explanatory variables include treatments (bank EWP, mobile EWP, bank only and mobile only) and a set of baseline controls.

5. Policy suggestions

Recognizing how cash-heavy supply chains can raise costs, undermine transparency, and harm workers, global brands have started encouraging suppliers to pay their workers through mobile money or other digital channels (see Box 1). As the majority of the benefits will be realized by female workers, this move is a prime example of these global corporations working to achieve the Sustainable Development Goals on gender equality (SDG 5) and decent work and economic growth (SDG 8).

Before transitioning to digital wage payments, however, the private sector should carefully consider the potential pitfalls that affect whether the switch will have the intended impact. In particular, the design of digital wage delivery must address gender-based barriers to ensure that women benefit. If employers do so successfully, this opportunity may be too good for women and for businesses to pass up.

In our experience implementing the study, there may be several key barriers at play. First, factories may fear resistance by workers. It is true that in our experience, some workers were nervous at the prospect of changing their method of getting paid. However, our results suggest that our workers not only learned how to use their accounts and adjusted to the new system but preferred the electronic account types at end-line.

Second, another barrier to scale-up may be insufficient identification documentation. We found that many workers do not have national ID cards, and among those who do, there are many mistakes in the information printed on the cards. This makes it hard to satisfy the "know your customer" (KYC) requirements imposed by the central bank. Moreover, any changes in the regulatory requirements put any implementation of electronic payments at risk. During our study implementation, Bangladesh Bank changed the documentation requirements five times, for example.

Third, firms may fear the costs of upkeep of an electronic payroll system. Troubleshooting is essential to keep payroll accounts operational. For example, ATM cards may be lost or captured by the ATM machines, and workers may lose their SIM cards, causing a loss of access to their mobile money accounts. Our results show that when implementation works well, trust in the financial system improves. However, a botched implementation could easily have the opposite result.

Box 1. Leading global brands digitizing worker payroll in Bangladesh

Global companies – such as H&M, Marks & Spencer, Target, Li & Fung, Lindex, Debenhams, and Fast Retailing – have recently started collaborating through the HERfinance program to digitize worker payroll at their suppliers in Bangladesh. The program, managed by BSR (Business for Social Responsibility) and developed in close partnership with the Bill & Melinda Gates Foundation, serves as a unique platform for cross-brand collaboration. Participating factories are supported by their partner brands, BSR, and local NGOs throughout the process, working with mobile financial service providers (bKash and DBBL). By joining forces, participating companies have a stronger collective voice in influencing garment factories – with the program reaching more than 100,000 workers, 60 percent of whom are women.

So far, benefits have been several. First, garment factories have observed improvements in efficiency, with 53 percent savings in staff time for their teams handling administrative and finance tasks. Second, digitizing payroll has greatly helped in championing the SDGs, with a 69 percent decrease in women citing an inability to save because a family member controls their salary and a 75 percent–91 percent increase in mobile phone ownership among women workers. Third, this step has helped workers get greater access to financial accounts.

Source: Better than Cash Alliance, June 2018