The Impact of Delayed Wage Payments on Spending and Investment in Malawi

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Sector(s): Finance

Fieldwork: Innovations for Poverty Action (IPA)

Location: Mulanje district, Malawi

Sample: 365 workers

Target group: Workers

Outcome of interest: Asset ownership Consumption smoothing

Intervention type: Commitment devices Alternative work arrangements Performance-based pay

AEA RCT registration number: AEARCTR-0000437

Research Papers: Income Timing and Liquidity Constraints: Evidence from a Randomized Field Exper...

Partner organization(s): Mulanje Mountain Conservation Trust (MMCT), Yale Savings and Payments Research Fund, Gates Foundation, University of Michigan Population Studies Center (PSC), Michigan Institute for Teaching and Research in Economics (MITRE), University of Michigan - Rackham Graduate School

Low-income people with limited access to savings may prefer less-frequent lump-sum wage payments over frequent ones in order to save for larger purchases. Moreover, policymakers are often concerned that recipients will misspend cash transfers on temptation goods. In partnership with Mulanje Mountain Conservation Trust, researchers conducted a randomized evaluation to test the impact of paying workers on a weekly basis or in one lump sum, as well as of receiving payments in contexts with greater temptation to spend, on their spending and investment decisions. Workers assigned to receive lump-sum wages were more likely to purchase a high-return investment. Receiving wages in a tempting market environment, however, had no impact on total expenditure nor spending on temptation goods.

Policy issue

People in low- and middle-income countries may want to defer their income to receive a single lump sum paid later rather than more-frequent wage payments. These lump sums can help households make large purchases like durable consumer goods, goods in bulk sizes, or other investments. On one hand, people might prefer delayed lump-sum wage payments because they face constraints in their ability to save. On the other hand, people with limited access to credit may prefer more frequent wage payments in order to smooth their income.

While less-frequent lump-sum wage payments may help low-income people save for larger purchases, policymakers are often concerned that recipients will misspend cash transfers on temptation goods, or those goods that are commonly perceived as harmful (e.g., alcohol or tobacco) or that the purchaser would prefer not to buy when asked at a different time. Does paying workers weekly or in one lump sum affect workers' spending and investments, and how does the environment where workers receive the payment influence financial decisions?

Context of the evaluation

In 2014, 46 percent of the adult population in Malawi did not use any type of financial service, formal or informal.[1], Just under 70 percent of Malawian adults reported that they had not borrowed in the past year due to concerns about indebtedness and their ability to repay.[2], Additionally, 54 percent of adults did not save, which they attributed to having no money left over after living expenses or not having any income.[3] Study participants also likely had challenges saving: 74 percent stated a preference for lump-sum wage payments prior to the intervention.

Market days are a common institution in rural Africa, bringing together traders and customers at fixed locations on a regular schedule. Surveyed study participants in the evaluation visited the market six times per month on average and found markets to be tempting environments to spend money.

Sellers at a market.

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Details of the intervention

Researchers partnered with Mulanje Mountain Conservation Trust (MMCT) to conduct a randomized evaluation that tested the impact of paying workers on a weekly basis or in one lump sum in "tempting" and "non-tempting" environments on their spending and short-run investment decisions.

As part of a cash income generation program, MMCT offered temporary informal employment opportunities during the agricultural offseason, a time when incomes were low. MMCT hired 365 workers over the course of three months for two rounds of work opportunities. Those hired worked about four days per week for two weeks in each round of the evaluation, at a daily wage rate of MK400 (US$2.50).

All workers were randomly assigned to one of two payment schedule groups: a “weekly” group that received their wages on a weekly basis beginning at the end of the second week of work, or a “lump sum” group that received their wages all at once three weeks after the last day of work. Payments started after the work was completed and each group received the same total amount in wages.

To understand the role of temptation in spending of the wage payments, researchers also randomized the day that workers received their payments, either on Saturday, a “tempting” market day, or on Friday, a “non-tempting” day before the market. Therefore, there were four treatment groups:

	Wages on “Tempting” Day (Saturday)	**Wages on “Non-tempting” Day (Friday)**
Lump-sum Payment	Lump-sum wage payment on “tempting” day	Lump-sum wage payment on “non-tempting” day
Weekly Payment	Weekly wage payments on “tempting” day	Weekly wage payments on “non-tempting” day

All study participants travelled to the payroll site (a trading center in the local major market) on all eight paydays during each round, even when they were not being paid, and received MK100 (US$0.63) as an incentive to show up.

To test whether the timing of payments affected respondents' savings and investment, the research team offered a high-return, risk-free investment opportunity (a bond) to participating workers once per round in the week after the final payroll payment was made. Workers were able to buy either one or two shares of the bond that had a risk-free return of 33 percent and was repaid after exactly two weeks.

Researchers collected information on workers' incomes and expenditures in the past week prior to the start of the intervention and after each round of the evaluation. Additionally, they interviewed workers each payday to understand their spending at the market on the previous payday.

Results and policy lessons

Workers assigned to receive lump-sum wages were more likely to purchase the high-return investment. Receiving wages in a tempting market environment, however, had no impact on total expenditure nor spending on temptation goods.

Delaying wages into a lump-sum shifted when people spent money: Compared to workers paid weekly, workers who were paid in a lump sum spent MK1,095 (US$6.85) less on the first three paydays (when they did not receive a wage payment) and MK578 (US$3.62) more on the fourth payday (when they received their lump-sum wage payment). Workers paid in a lump sum spent less of their workfare payments on paydays overall: the share of wages spent by workers paid in a lump sum on paydays decreased from 71 percent to 54 percent, or by 24 percent.

Workers paid in a lump sum were more likely to purchase the bond: The lump-sum treatment increased take-up of the bond by 5 percentage points, representing a 50 percent increase from the weekly wage payment group average take-up of 10 percent. Additionally, paying workers in a lump sum almost tripled the likelihood of purchasing maize in bulk—another high-return investment—which increased from 6 percent to 16 percent. However, workers did not leverage the additional cash at the last payday to purchase durable assets.

Researchers suggest that savings or credit constraints could explain these results. On one hand, workers may have been limited in their ability to save, and deferred lump-sum wage payments allowed them to save up for the bond. Alternatively, for workers without access to credit, receiving a lump-sum payment forced them to "over-save" instead of spend their income earlier. With excess cash savings from the lump-sum payment, they invested in the bond as a way to smooth their income in the future. Therefore, lump-sum wage payments may benefit people facing constraints to savings but hinder those facing credit constraints.

Exposure to the market did not induce changes in temptation spending: Being paid when the local market occurred on Saturday compared to a non-market day on Friday had no impact on expenditure or spending on temptation goods. Researchers suggest that the most likely explanation for these limited impacts is that receiving cash in a tempting environment has small effects on spending decisions.

Overall, these findings show that being paid in a "tempting" market environment does not raise temptation spending. More research to understand how savings and credit constraints explain the impact of deferred lump-sum wage payments on investment decisions is critical for evaluating whether deferred payments would be a useful policy tool in low- and middle-income countries.

Informed by the results of this study, a large nearby agricultural firm tested a savings product that allowed their workers to defer receipt of part of their earnings for three months. The savings scheme was popular among workers, leading to higher savings during the deferral period and increased spending post-payout on bulk purchases and durable goods. Two years later, after two additional rounds of the savings scheme, workers offered the savings scheme had made permanent improvements to their homes.

Brune, Lasse, and Jason T. Kerwin. 2019. “Income Timing and Liquidity Constraints: Evidence from a Randomized Field Experiment.” Journal of Development Economics 138 (May): 294–308. https://doi.org/10.1016/j.jdeveco.2019.01.001.

Brune, Lasse, Jason Kerwin, and Qingxiao Li. "How Important is Temptation Spending? Maybe Less than We Thought." Working Paper, March 2011.

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1. “FinScope Consumer Survey Malawi 2014.” Available at: https://www.africanbondmarkets.org/fileadmin/uploads/afdb/Countries/Malawi/Reserve_Bank_of_Malawi/Malawi-FinScope-2014.pdf
2. Ibid.
3. Ibid.