Will a Future Wage Increase Help Workers Now?

Elizabeth Lohle and Joseph Porpora

Experimental Economics

Professor Coffman

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Background

Minimum wage, as well as wage debates in general, have been at the forefront of many political debates within recent times, and understandably so. A majority of American workers are paid hourly wages, and a large number of Americans earn either the federal minimum wage or less. Compared to citizens of other countries, Americans especially feel underpaid and undervalued by their jobs, and our metrics for worker well-being are much lower than those of smaller countries with less infrastructure. An obvious solution is to increase minimum wage. Though easier said than done, this should increase worker well-being once the wage increases. Workers will be earning more and should feel more adequately paid, more properly valued, and more financially secure. However, it is uncertain how long it will take to implement a minimum wage rise or how long it will take after its implementation for worker well-being to truly increase. In order to study one of the multiple ways in which an increase in wage affects a worker's well-being, we focused on if the announcement of a wage increase itself will affect worker well-being. Will just knowing that they will eventually earn more in the future make a worker feel better now?

Literature Review

We were inspired by the paper *Some Consequences of Having Too Little,* by authors Shah, Mullainathan, and Shafir, that tested scarcity and cognition through use of fun experimental games. The authors tested their hypothesis using the game "Angry Birds" in their experiment to determine how scarcity affects how people allocate attention. Although their experiment focuses on a different topic, such as the present effects of present scarcity, we were inspired to use a lab game in our experiment in order to measure cognition as well.

Though not an experiment, the actions of the non-profit GiveDirectly helped form our research question. The non-profit which strives to give cash to those who need it most rather than items of equivalent value were met with a response in Kenya which is similar to what we hope to examine. Upon notifying a village of Kenyans that they would be enrolled in the GiveDirectly program and would be receiving a steady income of cash in the coming years, the village of Kenyans began cheering and dancing. Though they were yet to earn money, this announcement gave the village a very tangible feeling of hope. We are interested if this same feeling of hope can be evoked by a wage increase announcement.

We were unable to find much literature that focused on the present effects of a future increase in wage. Instead, most literature was focused on the present effects of present scarcity. Though earning strictly more will help a worker, the question remains if a worker will be helped before they even earn the raised wage.

Research Question

"Will a future increase in wages increase a worker's well-being in the present?"

As the existing literature on present effects of a future increase is limited, we intend to look at the idea of "worker well-being" from a few different angles: stress, cognition, and willingness to work. Will a wage increase announcement change a worker's stress levels that result from economic strain? How will their cognition levels change while working? Will they want to continue working? We assume that a present increase in wages will increase well-being in the future, as an increase in wages will decrease stress, increase cognition, and increase

willingness to work. Additionally, if you are earning more money, you will be better off than you were before. These benefits of minimum wage, when it's been implemented, have already been tackled from almost every angle imaginable. We did not want to measure the effect of the wage increase itself, but just how the announcement of an increase will impact workers. Specifically, will the idea that things will get better in the future make a worker feel better in the present? Does the concept of "hope" associated with this raise have tangible effects on a worker today?

We hypothesize that when a worker is notified that their wage will increase in the future, they will feel less stressed today and less cognitively overwhelmed. Due to this, they will perform comparatively the same, or even better, at their job after the announcement. They will also stick around at their job and want to continue working in order to earn the larger wage in the future.

Experimental Design

In order to measure cognition for participants, we want to involve them in a task that is extremely boring and requires their full attention. A "boring task" is used in order to ensure the task feels less like a fun game and more like work. This task also needs a metric for success, to understand how a person's cognition changed once they were told of an increase in wage. This requires a task that could be done correctly or incorrectly, to some degree, rather than one which just required completion. We also want to explore how an increase in wage would affect an individual's opinion of their job, their willingness to work, as well as their cognitive abilities or stress levels. These measures of well-being necessitate a way to view the subject's mental state, their drive to continue working, as well as how well they perform their job.

In order to meet these goals, we will first debrief the subject. The participant will be told

that they will be performing a task for three rounds, and that they will be paid on how successfully they complete the task. At the end of each round, they will be asked questions in a survey, and they will also have the option to switch to a different task.

After performing the task for the first round, the subjects will be administered a survey, and will have the option to switch to a different unknown task. After this, the treatment group will be told their reward will be increased during the third round. At the end of the second round, subjects will be administered the same survey, and again have the choice to switch tasks, after being reminded of the third round reward increase.

There will never actually be a third round. The first survey and exit option simulates work under no expectation of wage increase, while the second survey is conducted when the subject is expecting to earn more at a later date. There is no need to actually increase the reward and continue to poll the subject as our two data points are under no expectation of a reward increase, and under expectation of a reward increase. We are not interested in the actual effect of a wage increase, only the effect of its expectation, the announcement.

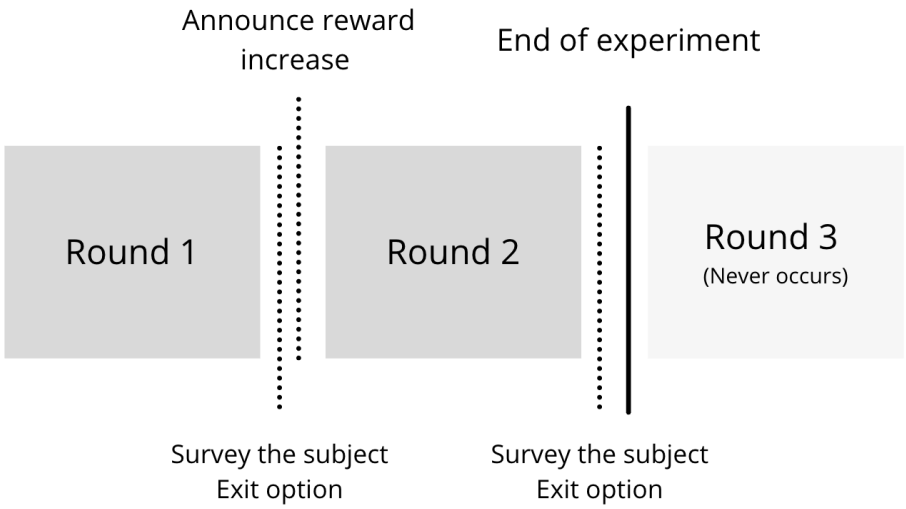

Diagram 1: Experimental Design

For their task, participants will be presented with passages of text from *Moby Dick*, a novel infamous for being incredibly dense and thought of by many to be incredibly boring. They will be tasked to read the passage and count the occurrences of a given letter, such as the letter f. They will be paid 10 cents for each correctly identified letter. This task is intended to be incredibly tedious and requires an attention to detail, circumstances which are helpful to recreating the feeling of work. For those who opted to switch to a different task, we would present them with a similarly taxing task that yields similar pay. Those who switched would participate in the Metronome Response Task (MRT) cognition experiment designed by Seli, Schacter, Risko, and Smilek. Subjects would press a certain key on their computer when certain audio tones play, an experiment designed to measure sustained attention. They would be compensated on a pay scale almost exact to that of the *Moby Dick* reading task.

After the first round, we will survey the subjects and ask, "What is your current happiness level on a scale of 1 to 10?", "How much are you enjoying this task on a scale of 1 to 10?". They will also be presented with the option to switch to an unknown task with an identical reward-scale. These questions and the option to switch tasks can help us gauge how the task makes the participant feel. After this, we will tell the treatment group that in Round Three they will earn 20 cents for every correctly identified letter instead of 10. The control group will not be told this. Round Two will be the same as round one, with different passages and letters, but with the same 10 cents reward. At the end of the round, we will remind them that they will be earning double next round. Then we will ask the same questions to gauge their happiness levels, and if they want to switch tasks.

The experiment would be administered on a computer screen rather than on pieces of paper or through any direct contact or conversation with an experimenter. This isolates any

interactions with an experiment administrator and should make the experiment less biased. This should especially come into play with the survey. If a subject is handed a piece of paper by someone who designed an experiment and then has to answer “How fun is this experiment?”, they may feel pressured to answer in a certain way. Doing this experiment via computer seems the most unbiased and consistent.

> Call me Ishmael. Some years ago—never mind how long precisely—having little or no money in my purse, and nothing particular to interest me on shore, I thought I would sail about a little and see the watery part of the world. It is a way I have of driving off the spleen and regulating the circulation. Whenever I find myself growing grim about the mouth; whenever it is a damp, drizzly November in my soul; whenever I find myself involuntarily pausing before coffin warehouses, and bringing up the rear of every funeral I meet; and especially whenever my hypos get such an upper hand of me, that it requires a strong moral principle to prevent me from deliberately stepping into the street, and methodically knocking people’s hats off—then, I account it high time to get to sea as soon as I can. This is my substitute for pistol and ball. With a philosophical flourish Cato throws himself upon his sword; I quietly take to the ship. There is nothing surprising in this. If they but knew it, almost all men in their degree, some time or other, cherish very nearly the same feelings towards the ocean with me.

Sample of Text from *Moby Dick* with *f’s* Highlighted

Each element in the experimental design is there to simulate an aspect of a real-world labor market. The announcement of a reward increase represents the announcement of a future wage increase. The tasks are purposefully cognitively taxing in order to simulate a non-ideal work environment, and the task is divided into rounds to give a feeling of repetition. Having a task that rewards accuracy instead of one that gives a guaranteed reward incentivises also reflects most jobs and incentivises subject engagement.

The metrics for worker well-being come from a variety of sources within the design. Success at the task of counting letters gives us the subjects ability to successfully perform the task at hand: their cognition. The survey gives us an idea of the subject's happiness levels and

their opinion on the task. The exit option gives us an idea of their willingness to continue working given the conditions they're presented with. These three metrics, when combined, are a good stand-in for the concept of "well-being," while also boiling down the vague concept into quantifiable metrics.

It's important to note that there should be almost no differentiation after the first round between the control and treatment groups, and that any differences in data we expect to see will be after the second round. The first round and its subsequent survey and exit option are identical between both groups, and paths only begin to diverge with the announcement option for the treatment group.

Conclusion

We believe those that are told their reward will increase in the third round will report better well-being when focusing on our three metrics, which intuitively makes sense. In the control group, mental fatigue may set in quickly as there are no bright spots on the horizon. For the treatment group, more participants should stay in order to earn more money, indicating a higher willingness to work. We also believe this added sense of "hope" given by the reward announcement incentives the subject to do better in the present, increasing their cognition, as well as biasing them to rank the task as more enjoyable. We don't necessarily anticipate a subject's well-being to increase, despite our announcement of a reward increase. The announcement of the wage increase likely will not increase cognition or willingness to work; instead it should only diminish these decreases over time. We believe the control group's enjoyment of the task will decrease, while the treatment group's enjoyment will either decrease by less or remain the same.

Why do we care about any of this? Wage debates are really widely disputed, and fully understanding the debate from all angles can be helpful. If a wage increase is scheduled to take place in two years, knowing if it benefits workers now in any way would be incredibly valuable. There is plenty to examine in terms of the effects of wage or reward announcements before they have actually been implemented, such as how long these effects last for. Would this be a temporary morale boost or would it last until the wage raise actually happens? In terms of viewing current effects of future wage increases, this is an area with not a lot of research done, and there is plenty to learn.

Works Cited

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