

# An Exploration of Policies to Mitigate Unemployment Through the Lens of Behavioral Economics

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## Abstract

The effectiveness of labor market policies in achieving a low unemployment rate and short unemployment spell depends on the extent they reflect or account for behavioral responses. Insights from behavioral economics demonstrated realistic deviations from traditional economic assumptions of rational behavior. This paper examines the effect of status quo bias, anchoring and insufficient adjustment, and implicit discrimination in the labor market. The underlying behavioral implications of phenomena such as deferred decisions, complexity in choices, and labor market expectations are discussed with substantial evidence from seminar papers and empirical observations. The paper also proposes ways in which heuristics may be employed in employment services, unemployment compensation, and job training to smoothen the labor market's operation, reducing unemployment.

## 1 Introduction

Carlos Saavedra Lamas once said that "Unemployment is a great tragedy, the man who goes about hopelessly seeking work to earn bread for his children is a living reproach to civilization." [Ins] Unemployment occurs when individuals of working age are actively searching for employment but unable to find work. It is an indicator of the wealth of a country and the overall economy's performance.

From the macro perspective, unemployment slows down economic growth with fewer workers producing output. The devastating collapse has been shown during the recent pandemic when the United States annual rate of G.D.P. decline approximates to 32.9 percent. More than 1.4 million Americans filed new claims for state unemployment benefits weekly [Cas20]. The long-term unemployment rate increases to over 40 per cent, comparable to the Great Recession in U.S. history. Extensive evidence suggested that job loss can permanently

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lower wages, worsening mental and physical health, and possibly higher mortality rate. Unemployment also affects the disposable income of families and erodes purchasing power, resulting in poor socioeconomic outcomes [EG06].

With that being said, combating unemployment has been the priority of policymakers. The United States labor market is dynamic and turbulent, which requires the aid of labor market programs and employment policies to tackle its underlying unemployment issues. Recent research in labor markets indicated numerous informational and motivational challenges, which insights from behavioral economics can be a vital step toward effective interventions.

Behavioral economics emphasizes the validation of modeling assumptions in traditional economics. It concerns the bounds of rationality when economic agents make decisions and integrate insights from psychology to explain the divergences of economic decision-making from conventional theories. The inconsistency in decisions made by individuals is often due to cognitive constraints and computation effort. Thus, they constantly use heuristics to reduce the complexity in decision-making. As stated in Kahneman's *Maps of Bounded Rationality: Psychology for Behavioral Economics*, heuristics are cognitive shortcuts that the human brain uses to cope with complex tasks without computation to simplify decisions [Kah03]. This process of substituting difficult questions with a simpler one will likely result in systematic biases and errors, particularly in decision-making.

The labor market policies face challenges in addressing unemployment as they are constructed based on standard economics' rational behavior assumptions. They neglect individuals' behavioral tendency to procrastinate, be put off by complexity, and hold nonstandard preferences [BCKM12]. Hence, studying behavioral economics in the labor market context can lead to new approaches in policymaking that mitigate the impact of unemployment and promote better practices to alleviate unemployment, boosting and sustaining growth in the economy.

This research paper presents the causal relationships between heuristics and unemployment, incorporating various implications from studies and experiments that shed light on reducing unemployment based on behavioral economic principles. Impacts of status quo bias, anchoring, and implicit discrimination on job seekers and employers' decisionmaking will be discussed, as these factors contribute to unemployment. The paper also comprises recommendations and discussions of policies that policymakers could implement to eliminate or reduce heuristics' impacts in causing unemployment, thus adopting more effective measures to combat unemployment

## 2 Status quo bias

Decision-makers have a status quo alternative —"doing nothing or maintaining one's current or previous decisions." [SZ88]It is known as the default option, which is the choice that decision-makers will end up with if no active changes are made. Economic agents are expected to make rational decisions un-

der uncertainty by choosing among alternatives according to their preferences to attain the greatest utility and satisfaction in the traditional economic view. When selecting from a set of alternatives that bring specific outcomes, individuals rationally rank them in a transitive manner and select the most preferred option. However, real-life decisions differ from those of economic texts. For example, a small town in Germany has to be relocated due to mining projects. Citizens voted for a plan that closely resembled the serpentine layout of the old town when other plans were offered at the same time [?]. In this scenario, the old town is the status quo, preferred by citizens as a superior alternative, although new planning can generate greater efficiency in terms of living. Their decisions revealed the pervasive phenomenon of choosing the option labeled status quo in decision-making practices, displaying a strong affinity for the status quo, which violates the traditional economic framework. In other words, status quo bias happens when individuals adhere to their previous decision without considering the better outcomes resulting from selecting other alternatives.

Fairly weighing the alternatives requires a decision-maker to prevent considerable commitment and psychological investment in the status quo. In fact, "the individual may retain the status quo out of convenience, habit or inertia, policy (company or government) or custom, because of fear or innate conservatism, or through simple rationalization [SZ88]." Individuals exhibit a significant status quo bias, which distorts their incentives in accepting or seeking new jobs. The reservation wage serves as the status quo in labor economics. It is the lowest wage rate for workers willing to take a job [BT09]. An extensive empirical literature has explored and identified a positive relationship between reservation wage and the duration of unemployment. In other words, higher reservation wages lead to longer spells of unemployment.

When a worker loses his job recently, his status quo is most likely to be his previous wage in the short term. The earnings generated from his last job would influence his reservation wage and become the status quo. For instance, an executive administrative assistant who performs clerical and organizational tasks for the law industry earns an annual income of 60,000 USD eventually becomes the status quo that he compares with other alternatives in the job search process, i.e., the new job offers. Such a high-ability worker is prone to be overconfident about his productivity because a higher salary is associated with higher ability and skills. The search model proposed by Falk et al. [FHS06] assumes two types of workers, high and low, corresponding to the probability of receiving a job offer if they search. It was also believed that workers do not know their type with certainty. Thus, their searching decisions are determined by the subjective belief of their type (the probability of a successful job search). The experimental findings in the companion paper confirm that the act of searching and accepting a job offer can be affected by the subjects' misperception of relative abilities as they use the information from past search outcomes. In addition, individuals can be reluctant to sell their human capital for a price below their previously acknowledged value due to overconfidence. However, one may doubt the study's external validity as it was conducted in an artificial setting to observe decisions made by undergraduate students at the University

of Bonn. Such experimental design may be inconsistent in the actual job search context, as college students are not representative of the general population and may respond to treatments differently from workers in the real labor market context [OS08]. Thus, further studies based on the observation of workers could have provided more concrete evidence.

Nonetheless, the results implied that workers overestimate their productivity and expect higher salaries than their status quo, rejecting everything below that does not match with the ability reflected by their previous salary. Their expectations of wages are systematically biased. Moreover, individuals tend to be loss averse in the sense of having preferences that are asymmetric around their previous wage. It represents a psychological cost to take a job paying below their past earnings, and the job would not be a good representation of their perception of their working ability [KT79]. Such misperception subsequently leads to unjustified high reservation wages and reducing their search efforts. As a result, they slow their return to work and extend unemployment durations [BCKM12].

As the worker's unemployment duration increases with time, he may become more reliant on unemployment insurance. Similar to Samuelson and Zeckhauser's field studies of health plans, in which individuals retain unchanging dollar amounts of insurance from the same provider, in the long run, the unemployment benefit becomes firmly entrenched as the status quo [SZ88]. The current financial benefit from claiming unemployment would eventually replace the worker's previous status quo, i.e., previous wage, and become their new reference point. This affinity for the status quo could be interpreted as a rational response for unemployed workers to avoid uncertain outcomes, such as future career prospects or relationships with colleagues in the workplace. However, the presence of status quo bias constitutes an eventual obstacle in choosing better alternatives. The inertia caused by status quo bias reflects the preference to maintain the incumbent course of action even if there were better alternatives or incentives for changes [PK12]. Such inertia in the persistence of inefficient practices is a problem. Rumelt (1995) [Mon95] referenced "cognitive-based inertia" as the consciously continuing behavior of using the same system even though individuals are aware that this choice would not generate the best, the most efficient, or the most effective results. Numerous studies have confirmed the decentivizing effect of unemployment benefits in the labor market shown by the fall in job search intensity. Lichter (2016) [Lic16] exploited the policy reform in Germany, which extended potential benefit duration to investigate the individuals' short-run job search behavior and jobfinding probabilities. Results show that individuals entitled to an additional twelve weeks of unemployment benefits filed fewer job applications. More precisely, the number of filed job applications fell by around 1.8 applications on a weekly average. The changes in job-seeking behavior accompany a significant fall in the short-run job-finding rate. The procrastination and reluctance in job-seeking reflect workers' unwillingness to abandon the status quo irrespective of present alternatives or alternatives available in the future. Despite seeking a job that generates higher pay can lead to more favorable results than the benefit received every week from unemployment

insurance, the unemployed workers ignored the alternatives. They suspended their job search in light of the extended benefit duration with minimal incentives.

This inertia is more recognizable when collecting unemployment benefits becomes habitual behavior. Decision-makers become inert toward new behaviors and automatically engage in one behavior without making an ongoing evaluation unless some circumstance triggers the need for conscious thoughts. Repeated use of a particular system, such as collecting unemployment benefits, could eventually result in cognitive switching costs that create a "lock-in" effect on individuals preferring the system over other alternatives [PK12]. Thus, the unemployed made no further actions and continued to rely on unemployment benefits

In most situations, the unemployed workers can choose among the available options or search for additional alternatives through accessing employment services or assistance programs. However, the number of choices, the complexity of labor market information, and how job conditions match workers' preferences can inhibit optimal job search. Individuals are limited in computational capacity in solving multifaceted problems when exposed to many choices [BLI98]. Literature studies this phenomenon under the term "choice overload." Iyengar and Lepper [IL00] concluded that too many choices could be detrimental to decision-making and actual behavior, eventually leading to decision paralysis, thus delaying choices. Choice overload depletes cognitive resources, which causes the inertness in decision making to persist, exasperating status quo bias. Unlike the predictions made in the standard economic framework, where decision-makers tend to switch from the default and choose the better option, which gives the highest value, individuals have an increasing tendency to stick with the default when choices are overloaded. In the Samuelson and Zeckhauser experiment, subjects were given a hypothetical choice task in a neutral treatment to decide to invest in one of the following: "a moderate-risk company, a high-risk company, treasury bills, municipal bonds." When one option is designated as the status quo — "A significant portion of this portfolio is invested in a moderate risk company," results suggest that an alternative becomes more popular when more options are available [KKT91].

The choice overload paradox has derived initially from consumers' purchasing decisions but results in similar outcomes in the labor market. According to the data from the online job site Zip Recruiter, there has been an increasing number of job vacancies to almost 15 million by mid-March 2021 in the U.S. due to higher labor demand. However, labor force participation remains sluggish as job postings surge [Pop21]. Besides the ongoing concerns about the coronavirus, workers are hanging back because of the choice overload. When companies are staffing up to capture booming demand, unemployed individuals confront an increasing number of multi-dimensional job alternatives, considering family obligations, commuting time, working conditions, prospects, and many more. It consequently increases the complexity of decision-making and enhances the effect of status quo bias. Choices in the labor market can be associated with significant advantages and disadvantages, leading to conflict and tradeoffs that

compel individuals to delay decisions and seek additional information. For instance, a worker may be selecting one of two alternatives. Job A with lower-wage but short commuting time and a contractual bonus can be used to support his family. Job B with higher wage but longer commuting time and no bonus. Or defer the decision and maintain the status quo of remaining unemployed. The third option enables the decision-maker to step backward in considering, seeking further information, or even discovering new alternatives. People are more likely to defer decisions when the other options are equally attractive but not entirely identical [TS92]. Consequently, the employment matches may suffer in speed due to the tendency of fallible individuals to manage complex tasks and defer decisions, dragging the unemployment duration.

One possible way of reducing status quo bias caused by choice overload could simplify the information. As mentioned earlier, complex information and choices require enormous cognitive efforts and eventually increase individuals' tendency to incline to their default choice. Workers may lack understanding of the labor market conditions and the application process involved or possess an inaccurate understanding of their skill level and how firms will value those skills. Along with various job choices, making a decision becomes an effortful task that individuals eventually defer choices and procrastinate in their job search efforts.

A better-designed employment service, or tool, can be used in assistance of addressing such issues. Information should be simple and personalized. Although employment and job search assistance tools are already widely available and accessible in career centers and websites, they should focus on gathering information on an individual's background and preferences to recommend fewer but more individualized options. Some job search assistance sites have practiced this method. A British study by Michele Belot has shown that such individualized recommendation results in a 30 per cent increase in job interviews, indicating a much quicker response from the unemployed [BKM18]. On top of reducing the quantity, the descriptions of jobs on the website or handouts can be more concise. They should explicitly provide essential relevant information tailored to job seekers, such as working conditions and wages, instead of achievements and the excessive background information of the firm. Minimizing the number of choices and improving the presentation of information can mitigate status quo bias. The choosing process becomes less complex, and the chances of employment matches would be higher. As a result, such changes can speed up reemployment.

### **3 Anchoring and insufficient adjustment**

Often, people make estimates using an initial value that is then adjusted to yield the final answer. The starting point serves as the initial anchor, formed in the problem or because of partial computations. The anchor is equivalent to the status quo as there is some overlapping between the two heuristics. What distinguishes the two is the insufficient adjustment that causes decisions to be biased towards the initial values. It refers to the anchoring and adjustment bias,

a cognitive heuristic where individuals start with an initial value and adjust their belief based on this starting point. This effect was demonstrated by Tversky and Kahneman (1979) [KT79] by asking subjects to estimate the percentage of African countries in the United Nations. The wheel determines the number, and subjects were asked to make estimates by moving upward or downward from the spun number. The experiment proved that arbitrary numbers create an influence on the estimates. The median estimates were 25 and 65, given 10 and 45 respectively as the initial anchor. The starting information, 10 and 45, exert a drag on individuals' subsequent adjustment process, leaving final estimates too close to the original anchor. It shows that a judgment can be excessively influenced by an initial impression, perspective, or value due to anchoring, causing biases. The insufficiency in adjustments is caused by the effort required to make a judgment or decision, which stops once the adjustment falls within an implicit range of plausible values. In other words, the adjustment would terminate if the adjusted value seemed plausible. If not, an additional adjustment would be made until reaching plausibility.

The anchor can be in two dimensions for an unemployed worker - quantitative and qualitative. Workers tend to bias their reservation wage on their previous salary, which serves as a quantitative anchor. The concepts of anchoring effect intertwined with the status quo bias discussed previously. The status quo can be the anchor or the reference point. Referring to the scenario of the executive administrative assistant who earned an annual salary of 60,000 USD before quitting his job, the 60,000 USD would be the initial value that determines his reservation wage. It creates an anchoring effect that the reservation wage would be higher than it should be as workers persistently misjudge their prospects and working ability based on their previous earnings [KM16]. The anchoring effect will be more substantial if the individual has a solid commitment to the initial value. The wage expectation would be biased toward the initial value by the impact of anchoring insufficient adjustment. Such a phenomenon was shown by Tversky and Kahneman's experiment of estimating the percentage of African countries in the United Nations. Since adjusting away from the initial anchor is effortful, people are less willing to seek more accurate estimates. Hence, the reservation wage would be lying near the anchor side of the implicit range of plausible values, leading to the reluctance to accept jobs that provide wages below that [EG06]. Note that people earn different amounts in their last job. That is, they anchor on different initial values. But because the anchoring and insufficient adjustment have a predominant impact on decision making, the final estimates would reveal similar patterns in which they are close to the initial starting value (previous wage). In addition, the reservation wage declines too slowly compared to the optimal rate predicted by a search model. Most people see accepting a lower-paying job as a more costly alternative than spending more time in the labor market, thus rarely revising their reservation wage downwards [Bru14]. As a result, the bias increases the friction of finding or accepting a job and extends the spell of unemployment.

On the other hand, workers can anchor on qualitative terms, such as the working conditions, job position, and their previous job location. The anchoring

and insufficient adjustment make individuals irrationally reluctant to relocate to areas with more job opportunities and search mainly for jobs like the previous one by letting go of reasonable opportunities while waiting for the old job to return. Workers can be firmly anchored to their last job, seeing it as representing their social status and personal identities [BCKM12]. Thus, their expected outcome would have a higher resemblance to their last job. It is more pervasive in long-tenured workers displaced from the declining high-wage sector, such as autos and steels. Youngstown, also known as the "Steel town U.S.A.," faced collapse during the 1980s due to heightened competition from foreign markets and a lack of investments to modernize production. The city lost more than 30,000 manufacturing jobs, causing the unemployment rate to hit 24.9 per cent [Rho13]. Workers are discouraged from job search as they are anchored to their previous working conditions in the steel factory and their identity as steelworkers. Individuals do not make sufficient adjustments from the starting point, as proven by multiple studies and experiments. Thus, these workers' job choices would be biased toward the initial status quo, neglecting other job options which generate greater returns. In addition, given that these jobs no longer exist in Youngstown, the bias can be detrimental as workers are reluctant to accept jobs other than steel manufacturing [Rho13]. This consequently leads to the persistence of a high unemployment rate in this region.

Noticing anchors have an enduring power in affecting subsequent decisions and judgments, a potential solution to combat such bias in extending unemployment duration could be to apply a new anchor. This method would require collaborative efforts from influential authorities, such as the government or non-governmental organizations, to establish a new anchor through campaigns. The anchor can be quantitative or qualitative, depending on what anchor authorities are planning to tackle. Like the anchoring effect used in advertising and marketing, a new proposed value would prompt individuals to make decisions based on the new reference point. Anchor-based promotion - presented as multiple unit prices, purchase quantity limits, and suggestive selling - can increase sales as discovered in the field experiments and lab studies [WKH98]. Consumers are often not motivated to engage in extensive adjustment activity that requires thinking about the dynamic costs and benefits. Thus, the anchor offered by the sellers would be a key determinant of consumers' final decisions. Policymakers can apply the same idea to the labor market. The government can conduct campaigns that propose the most up-to-date wage rate of a particular job in one region and contrast it to lower wage rates of the same job in other areas. Workers will perceive this piece of information as a fair deal if they realize that the job offer is more satisfactory than different values. They can be anchored on this new value and adjust their reservation wage accordingly. Alternatively, the government can present inspirational success stories of some unemployed workers pursuing new jobs in unrelated or unfamiliar fields yet achieving satisfying outcomes. Workers can eventually be indoctrinated with the idea of "letting go of the past " as this method could implement a new anchor which nudges them to seek jobs. Authorities can choose the message they want to spread to influence the behavior of unemployed workers. Nevertheless,

the campaign must be large-scale to broadly impact the audiences' decision-making and conform to the message delivered in campaigns. More research and pre-implementation experiments will be required to tailor the campaign to the audience, such as designing and conducting them in the real-life context, to achieve the optimal effect on altering individuals' judgments and decisions.

## 4 Implicit discrimination

The preferences and beliefs in the eye of economists refer to the "explicit attitudes" in psychologists' view. Individuals can have biased opinions and consciously discriminate for various reasons, including a relevant characteristic associated with particular group membership, such as high productivity and white people. However, "explicit attitudes" may sometimes deviate from one's "implicit attitudes," which is defined as the "unconscious mental associations between a target and a given attribute." [BCM05] Implicit discrimination can be measured and assessed by the implicit association test, which relies on the test taker's speed of response by relating names, words, or images to represent the strength of their unconscious mental association [GME<sup>+</sup>98]. In the economic theories of discrimination, statistical discrimination models are more prominent than the taste-based models, which suggest the emotional and irrational motives underlying ethnic discrimination. Scholars contend the cause of unfair treatment of minority groups by suggesting uncertainties in selections and decision-making. Employers only have a limited amount of information to assess the productivity of a job seeker. The resume only provides a limited amount of background information of the candidate and is often highly suspected. At the same time, if employers do not have sufficient time and monetary resources to assess all resumes, they would be encouraged to develop efficient ways to mitigate the risk of selecting unproductive candidates, for example, making judgments based on the names [Thi20]. In short, behaviors are more prone to implicit discrimination under conditions of ambiguity and time pressure. The results demonstrated in Bertrand and Mullainathan's (2006) [BM06] resume task indicated that the one with an African American name among two identical individuals both engaged in an identical job search have a lower callback rate. One implication would be that employers use race as a factor when reviewing resumes [BM04]. Too many resumes trigger heuristics on employers in reading them under time pressure and juggling the task with other administrative loads. As a result, they determine candidates above the "fit line" based on the African American names and rarely pay attention or award these candidates' skills. This would be a potential explanation for the uniformity of the race gap across various jobs in the labor market, which subsequently contributes to a longer unemployment duration for some minority groups.

Implicit discrimination is a powerful driver of discriminatory behavior in the labor market. There is a significant racial inequality in the U.S. labor market, in which the African American unemployment rate has been above twice the rate of the White [Aji20]. Black candidates face differential treatment

when searching for jobs and poorly performed in the labor market due to the prevalence of implicit discrimination. They also have a longer average length of unemployment of 25.5 weeks compared to 20.8 weeks for unemployed white workers [Wel19]. As mentioned, implicit discrimination arises under considerable ambiguity due to imperfect information. According to Bertrand and Duflo [BD16], "when the person-specific information is limited, group-specific membership may provide additional valuable information about expected productivity" [BD16]. Although the black and white applicants are equal in their actual productivity, implicit discrimination will lead to the black workers being treated less favorably than the whites. Subjects (hirers) in the resume tasks demonstrated an implicit attitude about intelligence in blacks and whites. Resumes with White names have a 9.5% callback rate while African American names have only 6.45% callback rate unintentionally as they unconsciously associate a social group with one or more negative attributes. Blacks, in particular, are related to low productivity and a lack of intelligence [BM06]. Employers hold solid and negative stereotypes about African American job applicants and regard them as lower levels of ability, poor work ethics, and spotty work histories [Ped18]. Hence, resumes from blacks are more likely to be rejected. Besides, the urgency of the resume selection increases implicit discrimination that employers do not award the workers' actual skills. Time pressure would demand quicker mental processing or faster decision-making channels. This forms the basis of implicit discrimination, which the brain achieves by returning to automated responses to avoid cognitive load. Consequently, subjects who felt rushed picked a lower fraction of resumes with African American names, resulting in a lower callback rate for African American names.

To test the external validity of experimental results yield by Bertrand and Mullainathan's study, Gallo et al. [GGR13] systematically investigated discrimination by referees against players who belong to specific social groups by analyzing the football matches in the English Premier League. The results paralleled with previous studies on implicit discrimination and confirmed the underlying causes. The evidence showed that oppositional identity players are 15 per cent more likely to receive a booking [GGR13]. Referees award significantly more yellow cards to oppositional players because they are expected to have a more aggressive playing style.

Similarly, the unemployment duration may also provide a signal to employers about the job seeker's productivity. The unemployment stigma can alternatively explain the unfavorable position which an unemployed person suffers in the labor market. In a recent survey conducted by LinkedIn, 84% of employers believe that companies would have hired unemployed applicants if they were productive. Remaining long-term unemployed makes the employer infer their

inferiority, increasing the employer's reluctance to hire. The effect of implicit discrimination looms bigger if the unemployment record on the resumes shows a longer out-of-work time [HSJ11]. Despite the unemployed applicants having the same qualifications and competencies as other employed candidates, the probability of re-employment diminishes with longer unemployment duration.

In addition to how implicit discrimination affects the hiring decisions, the bias regarding race and unemployment history can also potentially influence the job seeker's decision. Knowing that implicit discrimination would be a persistent barrier in getting hired, workers may apply for more jobs to maximize their chances of being accepted to become employed. The job search patterns by race were observed in Pager and Pedulla's (2016) [PP16] panel survey of Unemployment Insurance recipients in New Jersey, which suggested that black applicants often cast a wider net in their job search than others similarly situated whites. Their search pool includes a greater range of occupation types and occupational characteristics. The increase in search breadth indicates workers' perception of implicit discrimination, representing how African Americans adapt to the labor market discrimination caused by implicit attitudes. On the other hand, workers can be discouraged and become reluctant in the job search as they are aware of the implicit discrimination, even though they are skilled and productive. They could rely on unemployment benefits to sustain their living, which further extends the unemployment duration and increases the burden on the government budget in providing unemployment benefits.

Some innovative modifications can be adopted in the hiring system through technology to address implicit discrimination. As evidenced in Bertrand and Mullainathan's (2006) [BM06] study, American-sounding names elicited approximately 50 per cent more callbacks than African American names. These names reflected the job applicant's race in which employers unintentionally associate their ethnicity with low productivity and poor work ethics, consequently inducing a biased implicit attitude. If an innovative system is adopted that converts applicants' names to codes that conceal the worker's ethnicity or race on the C.V., it helps blind the employers and prompts them to take the worker's qualifications and real skills into account. It also inhibits employers from associating the name of the blacks with negative traits. Similar practices had been done in the workplace, for instance, the blind CV. It conceals some of the candidate's information, such as names, race, and gender, to prevent the employer from imposing preconceived ideas or judgments. IKEA implemented the Blind Curriculum pilot project in 2018. The company selected 18 people through the blind curriculum search, and 15 of them went through the entire selection process with successful results after interviews. This new hiring system enabled the company to accept over 80 per cent of candidates without the recruiter knowing about their age, gender, race, and appearance. Besides, concealing candidates' appearance enables employers to merely concentrate on their showcased skills, resulting in a more justified hiring decision. Orchestras adopted blind auditions when hiring musicians to address the racial and gender imbalance. Musicians had been rejected for positions because of their race, despite their excellent musicianship and technique. By concealing candidates

from the jury during preliminary auditions, roster data has shown a 30 percent increase in the proportion of females among new hires [GR00]. As seen from these practices and results, gender and race create more minor influences on the candidacy. Hence, these approaches enable an equal opportunity to the job seekers with the potential of reducing unemployment, particularly those with ethnic backgrounds or females.

On the other hand, implicit discrimination against unemployed workers is more challenging to eliminate or reduce. Although the U.S. job search assistance program matches workers to potential job opportunities and hides their unemployment status and durations, implicit discrimination persists during the interview stage. Candidates could be asked about their employment status and become stigmatized if they are unemployed, triggering implicit discriminatory behaviors on employers. Unemployment status reduces the chances of reentering the labor force unless the reason indicating the causal externality of an individual's unemployment is made salient. Studies conducted by Ho [HSJ11] showed that subjects (hirers) considered the "laid-off" workers as someone with low ability, and those who "left the job" had low motivation. However, the hiring rate is higher when job applicants are given a chance to emphasize external causation of unemployment, such as employer bankruptcy. Hence, including a section on the job application form for the unemployed to explain the external causation of their unemployment can help to prevent the elimination of completely qualified unemployed applicants for vacant positions. Nonetheless, this proposed solution would only be beneficial to address discriminatory behaviors at a conscious level. The effectiveness can be undermined as implicit discrimination is an unconscious bias that would be harder to tackle.

## 5 Applicable solutions to the mentioned heuristics

This section provides a selection of behavioral tools which are relevant to the biases discussed above. Policymakers and regulators may use the following to weaken cognitive and motivational biases, thus addressing the unemployment issues.

### 5.1 Framing

The fundamental causes of status quo bias and anchoring effect can be attributed to how decision-makers perceive the information. The type of information presented, or the words used to describe the choices can be referred to as the "frame." Unlike the standard economic theory, which suggests that the presentation of information about choices and situations does not influence the subsequent decisions due to the assumption of rationality, framing alters one's behavior by its positive or negative connotation, more specifically, gains or losses [KT84]. The same option can be framed in various ways relative to the status quo.

One possible application of framing could be changing the formation of questions during counseling in employment services. The dependence on previous earnings as a reference point for the wage expectation impedes workers seeking or accepting new jobs. Babcock [BLI98] offer one way of tackling bias in the context of law and litigation. The study shows that having subjects question their established judgments by explicitly considering counterarguments to challenge their thinking. Listing counterarguments to one's predictions can reduce overconfidence. Job search assistance can incorporate such a method to adjust workers' unjustified high reservation wages. For example, during the career consultation, one may ask the unemployed workers to explain why they may not deserve the initially proposed reservation wage. The unemployed would have to reflect on their previous job performance and recall memories of their weaknesses. This, in turn, reduces the worker's overconfidence in considering himself a very productive worker, hence lowering their wage expectations. Consultants may ask follow-up questions to raise further the worker's doubt in his actual productivity, such as "does a worker who's often late to work really worth firms paying this amount of salary? Would (a lower value) be better?". The new value proposed would become the new reference point that may influence the worker's subsequent judgments. This approach may help boost the chance of workers accepting a job with a lower wage than the last one. However, the new reference value should be within an appropriate range, slightly lower than the worker's reservation wage, to prevent demotivating workers from seeking jobs or causing tension in the counseling.

Another approach would be considering the context and language used in the presentation of information. Framing can reverse choice preference by invoking emotions such as joy or sadness, changing the perception of loss or gain, influencing risk-taking's propensity [BCKM12]. Rothman [RBWS06] demonstrated how framing consequences as losses instead of gains could enhance health practices throughout the cancer care continuum. Figure 1 presents some examples of gain- and loss-framed statements used by investigators [RBWS06]

Meyerowitz and Chaiken (1987)	
Gain frame	By doing BSE now, you can learn what your normal, healthy breasts feel like, so that you will be better prepared to notice any small, abnormal changes that might occur as you get older. Research shows that women who do BSE have an increased chance of finding a tumor in the early, more treatable stage of the disease. You can gain several potential health benefits by spending only 5 minutes each month doing BSE. Take advantage of this opportunity.
Loss frame	By not doing BSE now, you will not learn what your normal, healthy breasts feel like, so that you will be ill prepared to notice any small, abnormal changes that might occur as you get older. Research shows that women who do not do BSE have a decreased chance of finding a tumor in the early, more treatable stage of the disease. You can lose several potential health benefits by failing to spend only 5 minutes each month doing BSE. Do not fail to take advantage of this opportunity.
Apanovitch et al. (2003)	
Gain frame	There are many benefits, or good things, you may experience if you get tested for HIV. If you decide to get HIV tested, you may feel the peace of mind that comes with knowing about your health. There are many problems, or bad things, you may not experience if you get tested for HIV. If you decide to get HIV tested, you may feel less anxious because you would not wonder if you are ill.
Loss frame	There are many benefits, or good things, you may not experience if you do not get tested for HIV. If you decide not to get HIV tested, you will not feel the peace of mind that comes with knowing about your health. There are many problems, or bad things, you may experience if you do not get tested for HIV. If you decide not to get HIV tested, you may feel more anxious because you may wonder if you are ill.
Mann et al. (2004)	
Gain frame	Flossing your teeth daily removes particles of food in the mouth, avoiding bacteria, which promotes great breath.
Loss frame	If you do not floss your teeth daily, particles of food remain in the mouth, collecting bacteria, which causes bad breath.

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Figure 1: Examples of gain- and loss-framed statements

The findings from this study suggested that loss-framed appeals were more effective for people who tend to be prevention-oriented or risk averse. According to prospect theory [KT84], people avoid risks when considering the potential gain when choosing the alternative. However, they are willing to take risks when considering the potential losses afforded by their decisions. The framing of outcomes and contingencies can be exploited deliberately to manipulate the relative attractiveness of options without suppressing information [KT79]. Accepting a job that pays a lower wage than the previous job might entail realizing a loss. If a similar approach is applied to the employee assistance service, framing "remaining unemployed" as a risk of perpetuated income loss can influence the reference points around which workers judge alternatives, such as the unemployment benefit that they are inclined to. It incentivizes workers to take the risk of starting a new job, eventually constructing a more positive attitude toward job opportunities and promoting job search.

The labeling of such policy interventions can change how individuals perceive the information and act accordingly. Similar practices were carried out in labeling government transfers. Kooreman [Koo03] found out that an income labeled as "child benefits" in the Dutch Child Benefit System changes parents' preferences toward child goods and creates a moral obligation to spend the money on their children. It increases parents' tendency to buy children's clothing, indicated by a higher marginal propensity to consume. Such results suggest that names attached to the government program can influence the recipient's behavior. Programs that direct resources toward the unemployed workers are referred to as "unemployment insurance" in the United States, which connotes a sense of security and safety that reinforces a recipient's status as the unemployed [Mad14]. Alternatively, these benefits are named the "jobseeker's allowance" in the United Kingdom, in which the word "jobseeker" positions the unemployed on the status of actively engaged in the job search. Furthermore, Australia refers to it as "work for the dole," which stresses the pejorative connotation as a receipt of government benefit. The naming can have implicit meanings that evoke a particular emotion or influence the recipient's perception of their welfare.

## 5.2 Reform the unemployment insurance system

As discussed previously, the overconfidence of one's productivity can result in systematic bias when evaluating employment prospects and establish higher wage expectations. They determine their reservation wage based on previous earnings and may be reluctant to accept alternative objectively reasonable wage offers given prevailing labor market conditions [BCKM12]. This could reinforce high dependence on unemployment benefits as unemployed workers refuse to put in adequate search efforts. The unemployment insurance programs should consider behavioral tendencies, such as loss aversion, to tackle procrastination and provide incentives for active job search.

Several empirical studies indicate that a high relative reservation wage can reduce the chance of reemploy unless the worker reduces his reservation wage below his previous wage. To make the job offers more attractive even though they are below the worker's expected wage, wage-loss insurance can supplement the unemployment insurance system. Wage-loss insurance acts as a safety net for displaced workers, which "insures individuals against future loss of wages by temporarily making up part of their difference in wages earned in their new job and the wages earned in the one they lost." [KT16] Workers can receive a proportion of their wage loss once they become reemployed if their new jobs pay a lower wage than their previous job [Kli06]. For example, a worker whose earning loss is 40 percent relative to his insured wage for ten years after a job loss would partially or entirely receive a payment that covers the wage loss. The impact of biased wage expectation can be reduced by manipulating the realized value of wages. It also mitigates the effect of loss aversion as the total compensation ensures zero loss for workers if the difference in actual and expected wage is fully compensated by wage-loss insurance. It would incentivize

them to accept job offers more rapidly and speed up their return to work. Such a policy reform in the United States had reduced by half the proportion of laid-off workers who experienced significant drops in wages at new jobs from 14 to 7 percent, as Kling (2006) concluded. However, a specific policy design would require further research and experimentation, particularly the insured amount and duration of the wage-loss insurance. The impact on the re-employment rate and job search effort can be limited if the compensation is partial. Canada operated the Earnings Supplement Project (E.S.P.) in the 1990s. It offered to earn supplements that could restore up to 75 per cent of the difference in wages up to a maximum of 250 USD every week for two years [KT16]. Bloom [BSLG<sup>+</sup>01] evaluated the policy and found insignificant impacts on job search behavior and the re-employment rate. One alternative approach could be to structure the wage-loss insurance as full or nearly complete insurance upon re-employment to boost the incentives in the job search.

Of course, the actual feasibility of such a reform can be questioned. Raising the rate at which losses are replaced requires more government funding, which ultimately burdens the budget. The number of financial resources necessary would exceed those currently used in the traditional unemployment insurance system. The United States proposed federal legislation for wage insurance at a relatively larger scope in 2007. Two million workers are eligible for the wage insurance, and the estimated cost for this large-scale program ranged approximately from 3 billion USD to 20 billion USD per year [Wan18]. Also, some economists have argued that wage insurance creates a “moral hazard” for employers as they would be paying less since the government would partially cover the labor cost. One way of overcoming this could be to gradually reduce the insurance over time according to the wage growth pattern on new jobs. This ensures that employers are obliged to give the right amount of salary while lowering the worker’s dependence on wage insurance and alleviating the financial burden on the government.

### 5.3 Job training

Public support for job training is crucial in overcoming the imperfection in labor skills. Such a workforce investment system has a similar effect as general education, enabling the labor force to acquire the skills demanded by firms. It also develops interest and improves the workers’ understanding of the market for a particular industry or sector. The Workforce Investment Act (WIA) is responsible for offering occupational skills training programs in the United States through the One-Stop Career Centers [JG01]. Such training programs serve as a medium that establishes the affiliation between workers and a job that they may be unfamiliar with. Over time, it can arouse interest in workers and construct familiarity towards the new job that their newly equipped skills can be applied. Unemployed workers would have developed a better understanding of the market rate, which could become the new arbitrary benchmark figure that they are inclined to. Both familiarity and understanding of the market rate would potentially counteract the anchoring effect on previous wages, working

environments, or occupations as these are replaced by new anchors throughout the training process. However, the effectiveness of job training programs in such a case may be undermined by the complex presentation of information. Over the past decades, WIA had spent most efforts streamlining its services to increase administrative efficiency but neglecting the user experience. Imperfectly rational workers face a complex sequence of choices when deciding a field to pursue and be trained. A proliferation of options has been proved to create confusion, especially when there is no proper or prompt guidance [BM04]. In contrast to standard economic assumptions, increasing the number of available alternatives results in decisional conflict and reduces the likelihood of take-up. Also, such mental processing would require cognitive effort, which enhances heuristics like status quo bias, creating a hurdle to program entry as workers would have a higher tendency to remain the status quo (remain unemployed). Thus, reducing the complexity in the workforce investment system to ensure smooth operation should be the prioritized goal.

The access and navigation of job training programs by individuals themselves can be challenging. The State's training policy in the United States had shifted to a model of providing individuals access to the competing job service providers in recent decades. Although it increases the efficiency of the market operation, it burdens the beneficiaries as they may be ill-equipped to manage such processes and face difficulties obtaining the benefit of training due to choice overload. Hence, it can create more barriers to take-up and weaken the effectiveness of the policy [BCKM12]. Program requirements can sometimes be onerous for most training-in-need individuals due to the complexity of information perceived by workers. A possible approach could be to develop appropriate default options by implementing opt-out policies to direct the ultimate decision. Johnson and Goldstein's [JG03] study on organ donation reveals a higher percentage of organ donors in countries with "organ donors" as the default organ compared to the opt-in countries. The job training system could take a similar approach. For instance, I.T. skills can be applied in many sectors and are relatively general and basic, yet some manufacturing workers may lack this skill set. Job services can default people into this field of training once they sign up for unemployment insurance. This, in turn, reduces the decisional conflicts between numerous alternatives and prevents people from procrastinating their decisions or executing behaviors.

## 6 Conclusion

As discussed above, pervasive heuristics such as status quo bias, anchoring, insufficient adjustments, and implicit discrimination can unintentionally affect employers' and employees' decisions in the labor market, eventually contributing to a long unemployment spell and high unemployment rate. However, by applying insights from behavioral economics, such as framing and default options, the impact of these biases can be reversed and mitigated. The confronting discrepancies of decision-making in the behavioral and traditional economics

framework should be considered to enhance existing policies and regulations in combating unemployment and put forward the optimal design of new policies.

This paper gathered and discussed experimental results and ideas from various literature and empirical studies. Together they demonstrated how decision-makers had pervasively exploited heuristics. However, their external validities need further consideration due to the in-lab experimental setup and using undergraduate students as the subjects. This paper proposed potential reforms and adjustments in unemployment compensations, employment services, and job training. Although there are only a few selected applications mentioned in this review, there could be many other potential behavioral approaches to modify and improve labor market policy. Evaluating existing policies and potential solutions to reduce unemployment establishes a goal for future research and requires further experimentation to test their validity and feasibility. In addition, the implementation of policies such as wage-loss insurance and streamlining employment services will need to consider the country's labor market dynamics and conditions. Evaluating existing policies in other countries can guide the country that plans to tackle the unemployment issue. Yet, they are not one-size-fits-all and will require some modification of the policy tools from the implementing country.

## References

- [Aji20] Olugbenga Ajilore. On the persistence of the black-white unemployment gap, Feb 2020.
- [BCKM12] Linda Babcock, William J Congdon, Lawrence F Katz, and Sendhil Mullaninathan. Notes on behavioral economics and labor market policy. *IZA Journal of Labor Policy*, Oct 2012.
- [BCM05] Marianne Bertrand, Dolly Chugh, and Sendhil Mullaninathan. Implicit discrimination. *American Economic Review*, 95(2):94–98, May 2005.
- [BD16] Marianne Bertrand and Esther Duflo. Field experiments on discrimination. *New Economics Papers*, Feb 2016.
- [BKM18] Michele Belot, Philip Kircher, and Paul Muller. Article navigation providing advice to jobseekers at low cost: An experimental study on online advice. *The Review of Economic Studies*, 86(4):1411–1447, Oct 2018.
- [BLI98] Linda Babcock, George Loewenstein, and Samuel Issacharoff. Creating convergence: Debiasing biased litigants. *Law and Social Inquiry*, 1998.
- [BM04] Marianne Bertrand and Sendhil Mullaninathan. Are emily and greg more employable than lakisha and jamal: A field experiment

- on labor market discrimination. *The American economic review*, 94(4):991–1013, Sep 2004.
- [BM06] Marianne Bertrand and Sendhil Mullainathan. Behavioral economics and marketing in aid of decision making among the poor. *Journal of Public Policy Marketing* 25(1), Mar 2006.
- [Bru14] Claire Brunel. What determines the "reservation wage" of unemployed workers? *NBER Working Paper*, (6), Jun 2014.
- [BSLG<sup>+</sup>01] Howard S. Bloom, Saul Schuwartz, Sussan Lui-Gurr, Suk-Won Lee, Jason Peng, and Wendy Bancroft. Testing a financial incentive to promote re-employment among displaced workers: The canadian earnings supplement project (esp). *Journal of Policy Analysis and Management*, 20(3):505–523, 2001.
- [BT09] Sarah Brown and Karl Taylor. Reservation wages, expected wages and the duration of unemployment: Evidence from british panel data. *IZA Discussion Paper No. 3981*, Mar 2009.
- [Cas20] Ben Casselman. A collapse that wiped out 5 years of growth, with no bounce in sight, Jul 2020.
- [EG06] Nicholas Epley and Thomas Gilovich. The anchoring-and-adjustment heuristic: Why the adjustments are insufficient. *SAGE journals*, Apr 2006.
- [FHS06] Armin Falk, David Huffman, and Uwe Sunde. Do i have what it takes? equilibrium search with type uncertainty and non-participation. *IZA Discussion Paper No. 2531*, Dec 2006.
- [GGR13] Edoardo Gallo, Thomas Grund, and J James Reade. Punishing the foreigner: Implicit discrimination in the premier league based on oppositional identity. *Oxford Bulletin of Economics Statistics*, page 136–156, Feb 2013.
- [GME<sup>+</sup>98] Greenwald Anthony G., McGhee, Debbie E, Schwartz, and Jordan L. K. Measuring individual differences in implicit cognition: The implicit association test. *Journal of Personality and Social Psychology*, page 1464–1480, 1998.
- [GR00] Claudia Glodin and Cecilia Rouse. Orchestrating impartiality: The impact of "blind" auditions on female musicians. *American Economic Review*, 90(4), Sep 2000.
- [HSJ11] Geoffrey C. Ho, Margaret Shih, and Daniel J. The stigma of unemployment: When joblessness leads to being jobless. *IRLE Working Papers*, Aug 2011.

- [IL00] Sheena S. Iyengar and Mark R. Leeper. When choice is demotivating: Can one desire too much of a good thing? *Journal of Personality and Social Psychology*, 79(6):995–1006, 2000.
- [Ins] The Norwegian Nobel Institute. The nobel peace prize 1936.
- [JG01] Robert Jahier and Jennifer Graf. Analysis of the workforce investment act: Implications for persons with disabilities, postsecondary education and life-long learning opportunities. *Disability Studies Quarterly Journal*, 21(1), 2001.
- [JG03] Eric J. Johnson and Daniel Goldstein. Do defaults save lives? *SCIENCE*, 302:1338–1339, Nov 2003.
- [Kah03] Daniel Kahneman. Maps of bounded rationality: Psychology for behavioral economics. *The American Economic Review*, 93(5):1449–1475, Dec 2003.
- [KKT91] Daneil Kahneman, Jack L. Knetsch, and Richard H. Thaler. Anomalies: The endowment effect, loss aversion, and status quo bias. *JOURNAL OF ECONOMIC PERSPECTIVES*, 5(1):193–206, 1991.
- [Kli06] Jeffrey R. Kling. Fundamental restructuring of unemployment insurance: Wage-loss insurance and temporary earnings replacement accounts. *Brookings Report*, Sep 2006.
- [KM16] Alan B. Krueger and Andreas I. Mueller. A contribution to the empirics of reservation wages. *American Economic Review*, 8(1):142–179, Feb 2016.
- [Koo03] Peter Kooreman. The labeling effect of a child benefit system. *American Economic Review*, 90(3):571–583, Jun 2003.
- [KT79] Daniel Kahneman and Amos Tversky. Prospect theory: An analysis of decision under risk. *Econometrica*, 47(2):263–292, Mar 1979.
- [KT84] Daniel Kahneman and Amos Tversky. Choices, values, and frames. *American Psychologist*, 39(4):341–350, Apr 1984.
- [KT16] Christorpher T. King and Kristie Tingle. Wage insurance and wage supplements: Review of the literature and supporting data. *RMC Report*, Jan 2016.
- [Lic16] Andreas Lichter. Benefit duration and job search effort: Evidence from a natural experiment. *IZA Discussion Paper*, 2016.
- [Mad14] Brigitte C. Madrian. Applying insights from behavioral economics to policy design. *NBER Working Paper*, Jul 2014.

- [Mon95] Cynthia A. Montgomery. *Resource-based and evolutionary theories of the firm: towards a synthesis*. Kluwer, 1995.
- [MR20] Susan Hogan Meredith Royster. Unemployment stigma? majority of unemployed believe it exists, Oct 2020.
- [OS08] Chihyung Ok and Carol W. Shanklin. Generalizing survey results from student samples: Implications from service recovery research. *Journal of Quality Assurance in Hospitality Tourism*, 8(4), Jun 2008.
- [Ped18] David S. Pedulla. How race and unemployment shape labor market opportunities: Additive, amplified, or muted effects? *O.U.P. Academic*, 96(4):1477–1506, Mar 2018.
- [PK12] Greta L. Polites and Elena Karahanna. Shackled to the status quo: The inhibiting effects of incumbent system habit, switching costs, and inertia on new system acceptance. *MIS Quarterly*, 36(1):21–42, Mar 2012.
- [Pop21] Ben Popken. There are now more jobs available than before the pandemic. so why aren't people signing up?, Apr 2021.
- [PP16] Devah Pager and David S. Pedulla. Race, self-selection, and the job search process. *HHS Author Manuscripts*, page 1005–1054, Jan 2016.
- [RBWS06] Alexander J. Rothman, Roger D. Bartels, Jhon Wlaschin, and Peter Salovey. The strategic use of gain- and loss-framed messages to promote healthy behavior: How theory can inform practice. *Journal of Communication*, 2006.
- [Rho13] James Rhodes. Youngstown's 'ghost'? memory, identity, and deindustrialization. *International Labor and Working-Class History*, (84):55–77, 2013.
- [SZ88] William Samuelson and Richard Zeckhauser. *Journal of Risk and Uncertainty*, 1(1):7–59, Mar 1988.
- [Thi20] Lex Thijssen. Taste-based versus statistical discrimination: Placing the debate into context. *GEMM project*, 2020.
- [TS92] Amos Tversky and Eldar Shafir. Choice under conflict: The dynamics of deferred decision. *SAGE journals*, Nov 1992.
- [Wan18] Stephen A. Wandner. Wage insurance as a policy option in the united states. *Upjohn Institute working paper*, Jan 2018.
- [Wel19] Christian E. Weller. African americans face systematic obstacles to getting good jobs, Dec 2019.

- [WKH98] Brian Wansink, Robert J Kent, and Stephen J. Hoch. An anchoring and adjustment model of purchase quantity decisions. *Journal of Marketing Research*, Feb 1998.