Individual Demand for Building State Effectiveness

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Abstract

Investments in public sector workers' human capital can generate social returns by improving service delivery and state effectiveness. Yet it is unclear whether public workers internalise these broader benefits when making investment decisions. We elicit willingness-to-pay (WTP) for professional development from Ethiopian public servants and embed randomised interventions targeting anticipated benefits. Baseline WTP is positive but well below implementation costs. Explicitly emphasising private benefits modestly raises demand compared to highlighting societal returns. Implicitly increasing the salience of a supportive managerial environment substantially increases WTP, underscoring the role of perceived organisational norms in public service investment decisions.

Keywords: human capital investment, public sector workers, narrative interventions

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1 Introduction

A longstanding question in economics concerns who should bear the cost of investments in human capital [Becker, 1964]. Much of the literature has focused on settings where the benefits of human capital investments accrue to the worker or the firms that hire them [see, e.g., Acemoglu and Pischke, 1999; Leuven, 2005; Maffioli et al., 2023; Cefala et al., 2024; Abebe et al., 2025]. Less attention has been given to studying workplace investment decisions that generate broader social returns – as in public sector contexts, where more capable workers may improve service delivery or organisational performance that generates wider benefits. Whether public servants internalize these broader benefits remains unclear: there is little evidence on how much they are willing to pay for such investments or what drives these decisions. Yet understanding these choices is essential for designing policies that strengthen state capability and to a better understanding of human capital investments.

This paper provides the first experimental evidence on public workers' willingness to invest in their own capacity, showing how individual motivations and organisational context shape these decisions. We exploit two key features of the setting that link to core economic models of human capital investments. First, our analysis investigates the possibility that public sector workers make these decisions partly on the basis of other-regarding preferences [Bénabou and Tirole, 2003; Ashraf et al., 2014]. Second, we exploit the fact that hierarchy plays a dominant role in decision making throughout the public sector, and is theorised to influence learning investments [Aghion and Tirole, 1997; Garicano, 2000; Dessein, 2002].

To examine these issues, we implement a Becker-DeGroot-Marshak (BDM) mechanism measure public servants willingness to pay (WTP) for professional development opportunities in an incentive-compatible way and embed randomized interventions targeting each feature. The first intervention explicitly varies the motivation for investments, highlighting either private or pro-social benefits from training. The second intervention implicitly shifts perceptions of the hierarchical environment by exposing workers to different managerial styles, altering how professional development is applied and recognised, hence shaping the perceived benefits of investments.

Investments in public workers' human capital have important implications for society at large. State capacity fundamentally depends on the competence of public workers, who translate policy into action and also manage personnel and resources for service delivery [Acemoglu et al., 2015; Besley and Persson, 2011, 2009]. Professional development is an effective way to improve public sector performance [Jakobsen et al., 2019; Fornasari et al., 2025; Mehmood et al., 2024], alongside recruitment and incentive policies [Dahis et al., 2025; Ashraf et al.,

2020], especially for long-tenured staff. Unlike private sector workers, whose human capital investments often yield direct private returns, public workers' capacity building can generate positive externalities by improving government effectiveness and service delivery. Governments invest heavily in capacity building – with over half of public workers worldwide reporting recent participation in training programs [Schuster et al., 2023].[1]

For capacity-building initiatives to improve state capabilities, public officials have to devote time, effort, and often personal financial resources (e.g., transport or fees) to acquire and apply new skills. Several constraints may prevent investment from reaching socially optimal levels: officials typically face tight resource limits and earn lower direct returns on such investments compared with private sector workers. These returns are especially limited when skills are not broadly transferable or when opportunities for wage increases and promotion within the public sector are narrow. Understanding how public officials value such investments – and how motivational and organizational factors specific to the public sector influence their willingness to invest – is therefore critical for designing policies that strengthen state capacity [Grindle and Hilderbrand, 1995].

Section 2 introduces the study context, experimental design, and data collection. Our study focuses on mid-career public servants in Ethiopia, drawn from a range of government agencies. In our field experiment, we elicit participants' bids to participate in three types of capacity-building activities – training, coaching, and shadowing – using a BDM mechanism and embed several narrative-based interventions designed to shift participants' perceptions of the benefits to these opportunities. We complement the initial elicitation with a follow-up survey approximately one year later, which gathers additional data on training preferences.[2]

Section 3 presents the estimated demand curves. Baseline demand for professional development is generally low – insufficient to cover the cost of provision – consistent with the idea that public servants may underinvest in training with broader social returns. While the median WTP for training is positive, it is modest – 100 Ethiopian *Birr* (ETB), roughly equivalent to the price of a packet of pens – and only slightly higher than WTP for coaching or shadowing. Demand is heterogeneous but positive for over 90% of participants for at least one professional development course, suggesting that full subsidies may not be required for most public workers. Variation in WTP is partly explained by individual motivations: public servants who express more socially oriented motivations tend to bid more across all training types. We infer these motivations from open-ended reflections provided after the initial elicitation, which we manually

[1]For example, the World Bank is estimated to invest USD 720 million annually in capacity building activities for its clients [Belman Inbal and Chin, 2008].

[2]See Figure A.1 for the timeline of the experiments.

coded and interpret as capturing relatively stable individual types. In the follow-up phone survey, where participants bid on training focused on different skills, training emphasising skills beneficial for career advancement consistently receive the highest bids. WTP declines when training is described as targeting skills that go beyond the individual, towards more socially distant groups (i.e., the organisation, the public sector as a whole, or wider society), suggesting workers' decision to invest in human capital responds strongly to individual-specific benefits – even among those who are more socially motivated.

Section 4 explores mechanisms driving WTP using our experimental interventions. An audio-based narrative that explicitly emphasises career-related benefits increases WTP by roughly 35 percent across all training types, relative to another audio-based narrative that emphasises societal benefits. We find suggestive (though imprecise) evidence that this effect is stronger for individuals with more individualistic motivations. A video-based narrative intervention experimentally varied exposure to the management practices of a senior civil servant, implicitly highlighting the organisational environment that could influence workers' decisions to invest in human capital. The videos featured senior managers exhibiting one of two management approaches: one that emphasized enabling staff; and another that emphasized structured monitoring of staff [Aghion and Tirole, 1997]. Almost one year later, participants exposed to the enabling management style submitted bids that were 87 ETB higher ($p=0.029$) than the control group, who were shown a placebo video about a training institution. By contrast, those exposed to the monitoring management style showed a positive but smaller effect – about one-third the size of the enabling effect – that was not statistically significant, and the difference between the two styles was itself marginally significant ($p=0.10$). We observe no treatment effect immediately after the intervention, potentially because the features highlighted in the video may have become salient once respondents returned to work. Impacts of narrative interventions that target social dynamics, such as the managerial environment at work, may activate later as social reinforcers trigger reflection.[3] These findings suggest that public servants' WTP depends not only on personal motivations or training content, but also on the perceived organisational context for applying new skills. We find no evidence that treatments altered promotion expectations, which were already high, though greater perceived autonomy or other non-financial motivators may have played a role. Since the experiments were designed to test factors shaping demand rather than mechanisms, a fuller account of these pathways is left to future research.[4] Section 5 concludes.

[3]This is consistent with other studies that find that video-based behavioural interventions can have effects after a period of time, or that grow [e.g., Peterman, 2025; Bernard et al., 2023]. By contrast, interventions that target knowledge tend to decay [e.g., Orozco-Olvera et al., 2019].

[4]We find suggestive evidence that work experience amplifies the effect of the videos, and that the enabling video and other-regarding message predict higher WTP at lower years of experience (Appendix Figure A.5).

Our paper makes three contributions to the literature. First, we advance the personnel economics of the state [Finan et al., 2017; Rasul and Rogger, 2018] by providing the first experimental measure of civil servants' demand for professional development. While prior work focuses on the impact of training [Mehmood et al., 2024; Fornasari et al., 2025; Jakobsen et al., 2019; Seidle et al., 2016], we examine individual public workers' willingness to invest their own time and resources in capacity building – highlighting that, even if the state factors broader social returns into capacity-building decisions that increase state effectiveness, it is unclear to what extent workers themselves do so [Besley et al., 2022].

Second, we provide new evidence on the drivers of human capital investment, complementing existing evidence from the private sector [Maffioli et al., 2023; Abebe et al., 2025; Cefala et al., 2024]. Unlike firms, which invest in training when labour market frictions enable them to capture productivity gains [Acemoglu and Pischke, 1998, 1999], public sector workers have distinct – often intrinsic or other-regarding – motivations, and face distinct incentives that influence demand for capacity building – such as tenure-based promotion, weak links between pay and performance, and externalities benefiting society that may not be fully internalised.[5] We provide evidence that private benefits increases demand compared to emphasising other-regarding benefits, even for those with intrinsic motivations that have higher baseline demand.

Third, we contribute to the organisational economics literature by showing that perceptions of the managerial environment shape investment in professional development. Building on theoretical work linking organisational context and managerial autonomy to specific human capital investment [Prendergast, 1993; Aghion and Tirole, 1997; Gailmard and Patty, 2007], we provide new experimental evidence on how exposure to different management styles influences such investments, complementing recent non-experimental evidence [Diaz et al., 2025]. We build on recent field experiments that study the effects of changes in incentives, training, and managerial practices [e.g. Bandiera et al., 2011, 2021; Ashraf et al., 2025; Fornasari et al., 2025] by using a low-cost behavioural intervention [cf. Banerjee et al., 2019*b*; Khan, 2025; Bernard et al., 2023]. We find a significant increase in demand for professional development after the narrative featuring an enabling senior manager.

An additional variation tested for organisational spillovers by varying the (hypothetical) number of colleagues attending the training, but we find little evidence of such effects. Appendix Section B provides details about additional variations we tested.

[5]Research on workplace training in the private sector finds strong effects on productivity and labour market outcomes [e.g., Cusolito et al., 2023; Alfonsi et al., 2020; Blundell et al., 1999].

2 Estimating Demand for Capacity Building

2.1 Capacity Building in Ethiopia's Public Service

Ethiopia's large public sector makes it a valuable setting to better understand the functioning of public administration in low-income countries. It is Africa's second most populous country, with around 100 million people and a public service that employs roughly half of paid workers [Baig et al., 2021]. The public sector wage premium is 12%, placing Ethiopia mid-range globally and suggesting typical patterns of selection into government jobs. While government effectiveness is relatively weak, Ethiopia is not an outlier, ranking 102nd out of 141 countries in the 10-year average Government Effectiveness index [Kaufmann and Kraay, 2023].

Capacity building in Ethiopia's public sector often takes the form of in-service training and is a core component of public administration. A 2024 survey of Ethiopian public sector workers finds that 43 percent of public servants received training in the past year, primarily on public service laws and regulations (73 percent), administrative processes (32 percent), ethics (29 percent), and ministry-specific subjects (27 percent). This focus reflects the rationale of aligning staff around procedures to improve overall effectiveness. In-service training is viewed positively: 74 percent of officials rate it as highly relevant, and 92 percent report that it improves their productivity.[6]

Incentives to invest in capacity building may differ in distinctive and important ways between the public and private sectors. In the private sector, skill acquisition is commonly rewarded through performance-based promotions and wage gains. While similar mechanisms could operate in the public sector, recent work shows that civil servants often face promotion systems driven more by tenure or political connections than by demonstrated ability [Deserranno et al., 2025; Bertrand et al., 2020; Colonnelli et al., 2020], and that training tends to focus on system-wide improvements in service delivery rather than individual productivity. In such settings, public servants may have low willingness to invest in skills. In the same 2024 survey, 56 percent of respondents believed they would be promoted for strong performance, and formal qualifications were rated as a far more important predictor of advancement than skill upgrading.

Yet even when private returns are limited, civil servants may value capacity building more when they internalise its social benefits (unlike private sector workers) and in an environment where management supports human capital investments. Intrinsic motivation, norms of service, or other-regarding preferences, which civil servants often self-select on [Ashraf et al., 2020], may lead some individuals to invest in capacity building with modest private returns. The balance between these private incentives and internalised social returns remains theoretically

[6] Details on this survey of public servants are in Appendix Section D.

ambiguous. This ambiguity motivates our investigation into how public servants value training and whether willingness to invest can be influenced by framings that emphasize private returns, social impact, or the broader institutional environment.

2.2 A Framed Field Experiment to Measure Demand

We measure individual demand for professional development among Ethiopian public servants through a 'framed' field experiment [Harrison and List, 2004]. The participants of the experiment were public servants enrolled at the Civil Service University (CSU) in Addis Ababa, with about half employed in a *woreda*-level government office.[7] They are predominantly male, in their mid-thirties, have nearly a decade of public service experience, and were pursuing postgraduate degrees at CSU. As shown in Appendix Table A.3, their characteristics closely match those of the broader Ethiopian public service, based on a nationally representative 2016 survey.

We adapt a Becker-DeGroot-Marshak (BDM) mechanism to our setting to elicit willingness to pay (WTP) for three widely offered capacity-building activities – executive training, professional coaching, and work shadowing – building on recent applications of the method in similar contexts [e.g., Berry et al., 2020; Cole et al., 2020; Burchardi et al., 2021; Maffioli et al., 2023]. First, participants stated their maximum WTP for each activity, with the order randomized. If a participant reported a WTP equal to zero, we asked for the minimum they would require to participate in the activity. Second, each participant was assigned one activity and a price, drawn from a mixed uniform distribution ranging from -500 to 3,000 Birr (with 80% of prices below 1,500 Birr), and randomly selected an activity for each participant. Activities were assigned with unequal probabilities (shadowing: 1/9, training: 1/3, coaching: 5/9) to simplify logistics. Assignments and prices were pre-randomized but concealed from both participants and enumerators until bidding was complete. Third, if the drawn price for the selected activity was below the participant's bid, they purchased the activity at that price; otherwise not. Finally, participants wrote a 150-character reflection explaining the reasoning behind their bids and the motivations, which we later coded to classify participants' bidding motives as either self-regarding or pro-social.

We took several steps to ensure participants understood the mechanism and that responses reflected true valuations. First, we designed both the capacity-building activities and their presentation based on feedback from focus groups, to ensure they appealed to participants. We presented the activities being delivered by the country's leading management institute, in partnership with international organisations, and informed participants they would take place at a convenient time and location (approximately two weeks later). Second, we verified that participants had the means to pay before elicitation. Thirteen of the 513 sampled individuals were

[7] *Woredas* are local administrative units comparable to United States counties.

excluded for lacking a payment method, yielding a final sample of 500. Third, participants completed a practice BDM round involving a benchmark item (a pen); 86% bid at or below market price, indicating strong comprehension of the mechanism. Finally, to maintain incentive compatibility, we emphasised that payment would occur on the same day, and nearly all participants who were required to pay did so (with only four exceptions). Appendix E provides further implementation details and fidelity checks; our pre-analysis plan contains the full elicitation scripts.

2.3 Examining Motivations Through a Follow-up Survey

To gain deeper insight into the motivations shaping demand for professional development, we conducted a follow-up phone survey roughly one year after the initial experiment. This timing enabled participants to reflect on the capacity-building intervention in light of a complete annual cycle of public service, grounding their responses in concrete experience.

We successfully re-contacted 88% of the original sample (438 out of 500), with no evidence of differential attrition by age, gender, government tier, location, tenure, organisational experience, or income (Appendix Tables A.4 and A.5, Panel A). During the survey, participants were reminded of the original process, told their initial bids for the training activity, and informed about a potential new round of training. We then elicited their willingness to pay (WTP) for four versions of the training, each framed to highlight a different objective. Participants were told that their responses would help determine the focus of the future training, and that – although this was not a BDM elicitation – they would be expected to pay an amount at least as large as their bid if the training were to proceed, consistent with their earlier experience.[8]

The follow-up survey varied the framing of the training offered to identify how different types of perceived benefits change demand. The four framings, presented in random order, emphasised: (i) *Career* – skills to support the respondent's own career advancement in the public or private sector; (ii) *Organisation* – skills specific to improve the productivity within the respondent's organisation; (iii) *Civil Service* – skills to enhance coordination and performance across the public sector as a whole; and (iv) *Society* – skills to increase the respondent's impact on citizens. These framings span motivational targets from personal benefit to broader social value. By comparing WTP across these framings, we later examine whether civil servants are more responsive to framings of private benefits or collective prosocial goals.

[8]The phone-survey responses are not influenced by prior attendance at a professional development activity offered in the experiment: using the random price as an instrument, we find that attendance has only a small, not statistically significant effect on WTP in the phone survey (results available upon request).

2.4 Narrative Interventions to Vary Perceived Returns

We implemented two narrative-based experimental interventions. Narrative interventions aim to shape beliefs and preferences by encouraging individuals to identify with characters and situations that feel personally or professionally relevant [Banerjee et al., 2019*a*; Berg and Zia, 2017]. Both interventions were designed to prime different considerations that may influence workers' perceptions of the returns to invest in training, either by explicitly varying motivational factors that could shape perceived returns or by implicitly making more salient different features of their work environment. Appendix Tables A.4 and A.5 (Panel B) confirm balance in respondent characteristics, including income, across treatment groups.[9]

2.4.1 Explicit Narrative on Private versus Social Payoffs

In the follow-up survey, we conducted a simple narrative experiment that explicitly varied the motivations associated with capacity development. Respondents were randomly assigned to listen to a recorded message from the organisation overseeing public sector workers, the Civil Service Commission, that emphasised the benefits of training either in terms of career advancement or its impact on citizens. In the career-focused version, the message explained how professional development could enhance personal growth and progression across government and non-government roles. In the social-focused version, the same narrator emphasised the social returns to training, highlighting its potential to improve outcomes for the public.[10] The messages were framed as official communications and introduced by the enumerator as coming from the Commission, represented by a former senior female civil servant.

2.4.2 Implicit Narrative on the Managerial Environment

The second intervention sought to implicitly make salient a key feature of the organisational environment: how individuals are managed, which has been theoretically linked to behaviour in hierarchy [e.g., Aghion and Tirole, 1997; Dessein, 2002], including the development of bureaucratic expertise [Gailmard and Patty, 2007]. Before the initial exercise, participants watched one of three short fictional movies set in the Ethiopian public service, featuring the same cast and plot. Two videos subtly highlighted either an enabling or a monitoring managerial environment through specific scenes, involving interactions between a middle manager, their senior manager, and their team. These scenes were designed to trigger reflection on the participant's own professional setting, including how supported or constrained they feel by their superiors. Enabling managers support autonomy through trust and informal

[9] We achieved full compliance in delivering the treatments since they were brief (under 15 minutes) and integrated into our data collection.

[10] Appendix Section B provides the full script of the message.

feedback; monitoring managers emphasize oversight and formal accountability.[11] The third video introduced the history of the training institute and its services and was designed to be a placebo with no reference to management practices.[12]

3 The Demand for Capacity Building

This section presents our baseline estimates of public sector workers' demand for capacity building using BDM. We first document how demand varies across training, coaching, and shadowing opportunities (Section 3.1) and explore individual characteristics and stated motivations that correlate with willingness to pay (Section 3.2). Next, using data from our follow-up phone survey, we examine how demand for training varies with the type of skills emphasised (Section 3.3).

3.1 Low but Mostly Positive Demand for Capacity Building

Our estimated demand for professional development is low – insufficient to cover the costs of provision – and economically similar across activities. Figure 1 shows the inverse demand curve resulting from the BDM exercise. The figure indicates the share of subjects that have a WTP less than p, for $p \in [-300,700]$, with each of coaching, shadowing, and training. Median bids were modest: 100 Birr for training, 90 for shadowing, and 80 for coaching – roughly equivalent to the value of 3-4 pens, and about 1% of median monthly income.[13] Only 2% of participants were willing to pay more than 10% of their monthly income for any activity. Although the training was designed as a half-day course, a full day of training at the main public sector centre costs 1,000 ETB (17 USD). Demand for training was slightly higher than for coaching or shadowing, though all three curves show broadly similar patterns. Differences between training and the other two activities are statistically significant (Kolmogorov-Smirnov test $p = 0.00$), but economically small – approximately the value of a pen. Correlations in individual bids across activities are moderate to high (0.65–0.7).

Despite substantial heterogeneity in demand, over 90% of bids were above zero.At the top of the distribution, the highest 10% of bids exceed 450 ETB – enough to cover at least half the training cost – and show relatively inelastic demand. These respondents are more experienced

[11] The two styles depicted – enabling and monitoring – were identified through factor analysis of survey data from Ethiopia's public sector based on questions derived from the World Management Survey for bureaucracies. Moreover, these characterisations have been empirically linked to bureaucratic behaviour [e.g., Rasul and Rogger, 2018; Rasul et al., 2021; Bandiera et al., 2021].

[12] The videos were developed for a separate experiment testing a multimedia campaign aimed at improving public sector management and performance [Dienes et al., 2024]. They were developed with local partners, an experienced local production company, and international advisers.

[13] The nominal exchange rate was 60 Ethiopian Birr (ETB) = 1 USD, with bids for professional development equivalent to 1.40 USD, 1.60 USD and 1.80 USD respectively. At the time of the study, the market value of a pen was 29 Birr.

(10.7 vs. 8.9 years, $p=0.031$), earn higher monthly salaries (roughly 9,000 vs. 7,700 ETB, $p=0.040$), and are older (34 vs. 32.2 years, $p=0.029$) than the rest of the sample. At the other end, only 6% were unwilling to pay anything, indicating full subsidies may be needed only for a small group of public sector workers. This group does not differ significantly in characteristics such as age, gender, wage, or government tier. A distinct kink in the demand curve at zero reflects a sharp drop in demand at even minimal costs, consistent with findings from other settings where socially beneficial goods face low demand at small positive prices [Cohen and Dupas, 2010; Mobarak et al., 2012].

3.2 Correlates of Demand and Qualitative Motivations

Among observable characteristics only income is positively correlated with WTP. Other characteristics such as age, education level, and years of experience show no clear relationship (Appendix Figure A.2). These findings suggest higher income individuals are more willing to invest in skill-building opportunities, but other factors typically associated with human capital investment do not significantly covary with demand.

We leverage participants' reflections to shed light on their motivations, finding that most civil servants express self-regarding motives – which are, on average, linked to lower bids. Each participant wrote a short, open-ended reflection on what drove their bids for continuous professional development at the end of the first elicitation. Research assistants coded the reflections into two categories, highlighting either individual benefits (e.g., career concerns) or other-regarding benefits. Eighty percent framed training as primarily benefiting the individual. Respondents with more self-focused reflections had maximum bids that were 28 ETB lower ($p=0.291$), and 34 ETB lower for training specifically $p=0.238$).[14] Specific examples reveal participants thinking along these categories. Career concerns were highlighted in different ways. One respondent stated that training is "for promotion and other performance... to develop my career position" (respondent 1161), while another stated that "training improves my status, so I need it" (1430). Respondents saw training as helping them develop their skills, attitudes, or motivation for their individual careers. As one stated: "continuous professional development is crucial to enhance one's career; one must update himself with knowledge and skills" (1088). Some respondents looked to the private sector, with one emphasising "training is important for working in any company in the future" (1484).[15]

Respondents also reflected on benefits to their team, the civil service, and society. Some emphasized the organisational benefits of training beyond their own individual skills – e.g., training

[14]This gap remains (30 and 34 ETB) after controlling for demographics, including income. We note that 11% of the sample did not report a reflection or could not be coded.

[15]Quotes have been lightly edited. Originals by random respondent IDs are in the replication files.

develops "awareness to fill the gaps that happen during services delivery" (1238); that "training is not only needed for me, but for my team... with cooperative work" (1196); to "communicate wisely with other colleagues" (1395); and that they "share... what [they] get from training" (1136). Professional development was also seen to address organisational problems, such as a "lack of decision making... and problems managing resources" (1082), within organisations that "lack basic skills on how to share duties and responsibilities" (1157). Public sector-wide reflections included "fostering the performance of civil servants" (1246), aiming to "achieve institutions' and government's goal" (1410). A few cited broader societal benefits, such as "social change towards responsibility" (1322) or contributing to "the development plan of my country" (1256).

3.3 Higher Demand for Career-focused Trainings

Since training was the most in-demand capacity-building activity in the initial experiment, and building on the qualitative response, we use the follow-up phone survey to examine how respondents' bids would vary when they are offered new training that emphasises one of four types of skills: career generic skills, organisational-specific, civil service-wide, or those benefiting society at large. Appendix Figure A.3 plots the inverse demand curves for the different trainings, alongside the original demand curve from the incentive-compatible experiment. While emphasising the career benefits of the offered training increases the share of respondents reporting high WTP, about a quarter of follow-up respondents report negative price.[16]

As shown in the top half of Figure 2, respondents are willing to pay 23–27 ETB more for trainings emphasising career benefits – nearly double the average – than for any other emphasis. There are no significant differences among the three public-service-oriented framings. About 75% of the variation in (predicted) mean bids across emphasis types comes from differences within the same respondent, and including individual fixed effects greatly improves precision. The bottom of Figure 2 further splits these means by respondents' stated motivations from the reflections, coded as either "individual" or "social" (or other-regarding). Three patterns emerge. First, individuals with other-regarding motivations are willing to pay more for all trainings – including those emphasising career benefits. Second, across all groups, WTP declines as training emphasises skills that benefit a wider group of people; beyond the career-focused training, respondents value more trainings that build skills with more proximate social benefits (e.g., organisational) rather than more distant ones (e.g., society).[17] Third, even the highest WTP – among individuals coded

[16]These responses are based on ex-post direct survey bids, unlike the incentive-compatible elicitation in the original experiment, though framed ex-ante as real bids should the training go ahead. Recent evidence suggests that incentivised and hypothetical WTP distributions are broadly similar [Dizon-Ross and Jayachandran, 2022].

[17]We note that these patterns are consistent with different interpretations of "other-regarding preferences". The first, that they have a lower valuation of benefits that are farther removed from them. The second that

as socially-oriented for the training emphasising career-generic skills – falls short of covering training costs. Based on these bids training would not be privately funded without subsidies.

4 Experimental Evidence on Drivers of Demand

Having descriptively characterised demand for capacity-building, we next present evidence from two experiments that use narratives to vary the perceived benefits to training. The first *explicitly* framed training as either advancing careers or benefiting society, with treatment implemented during the phone-based follow-up. The second experiment that we present *implicitly* shifted perceived benefits by varying the organisational environment through videos portraying different managerial styles. The treatment was implemented during the initial elicitation at CSU. Our analysis follows pre-analysis plans registered before data collection ended; Appendix C details minor deviations and other pre-registered analyses.

4.1 Explicitly Highlighting Private Benefits Modestly Increases Demand

A narrative that explicitly highlights career benefits increases willingness to pay relative to one that emphasises societal impact. We estimate variations of the following regression:

$$Y_{post,i} = \alpha_2 Y_{pre,i} + \beta T_i + \mathbf{S}\boldsymbol{\delta_2} + \varepsilon_i \tag{1}$$

where $Y_{post,i}$ is the post-treatment WTP for a training with a specific emphasis, $Y_{pre,i}$ denotes the initial WTP elicited for the corresponding training emphasis, T_i is an indicator for the nature of the treatment (1=career emphasis, 0=citizen impact emphasis), and $\mathbf{S}$ is a vector of fixed effects for training emphasis. Column 1 in Table 1 shows that priming public servants with a career-focused narrative increases WTP by 7 birr, relative to a social-impact narrative. Compared to the baseline median WTP of 100 birr, this suggests a modest but economically small effect. Compared to the control group mean of 20 Birr, this represents a 35 percent increase, though economically small relative to costs (1000 Birr). Column 2 tests whether the effect of the career-focused narrative is specific to the trainings that emphasised career-skils or reflects a general increase in demand. The small and not statistically significant interaction suggests that the narrative raises WTP regardless of the emphasis.

We find suggestive evidence that the career-focused narrative has a larger effect among respondents who expressed more individualistic motivations. Column 3 examines heterogeneity based on whether respondents' open-ended reflections were coded as primarily individualistic

the benefits of training on social groups less proximate to the self are more ambiguous. Both imply that public servants are less likely to invest in public service capacity building for the benefit of less proximate social groups, but for distinct reasons.

or socially motivated ("social reflections"). Among those with individualistic motivations, the treatment effect remains positive and statistically significant. Among socially motivated respondents, the effect is smaller and not statistically significant, though imprecise estimates mean this evidence remains suggestive. Restricting to bids for career-focused training yields similar results: no significant interaction of the treatment and socially-oriented individuals (Column 4).

4.2 Implicitly Highlighting an Enabling Organisational Environment Substantially Increases Demand

We next examine whether features of the organisational environment influence demand, by varying exposure to different managerial styles. As described in Section 2.4.2, respondents were randomly assigned to watch one of three video treatments prior to submitting their first bid. The videos presented a narrative of a public sector manager adopting either an enabling, supportive management style; a monitoring, directive approach; or a neutral placebo with no reference to management style. Because managers shape organisational incentives through their routine practices, making this aspect of the environment salient may influence public sector workers' willingness to invest in their own skills, as they weigh how those skills will be recognised and rewarded within the organisation.[18] To estimate the impact of the narrative intervention over time, we estimate variations of the following regression:

$$Y_{t,i} = \mathbf{T_i}\boldsymbol{\beta} + \mathbf{S}\boldsymbol{\delta_1} + \varepsilon_i \quad \{t = CSU, pre, post\} \tag{2}$$

where $Y_{t,i}$ is the WTP for a training with a specific emphasis elicited at round t. $Y_{CSU,i}$ is the WTP as elicited in the initial in-person bid, $Y_{pre,i}$ denotes the first bid elicited during the follow-up phone survey (before the audio-based narrative), and $Y_{post,i}$ is the post-phone treatment WTP. $\mathbf{T_i}$ is an indicator vector for the nature of the video treatment (video with enabling manager, video with monitoring manager, and the placebo movie). $\mathbf{S}$ is a vector of fixed effects for training emphasis, which is not included for the CSU-elicited WTP. An additional control for the audio-based narrative treatment is included for $Y_{post,i}$.[19]

While the implicit narrative had no immediate effect on bids in the initial elicitation, we find a substantial impact of the enabling manager narrative nearly one year later. Table 2 presents

[18] Managerial practices that can shape organisational incentives include setting expectations and priorities, delivering feedback and performance reviews, delegating authority, recognising effort, and facilitating access to resources or training.

[19] As robustness checks, we include additional controls such as income – which, though balanced across groups, significantly predicts bids (Appendix Table A.10). Following Dizon-Ross and Jayachandran [2022], we also control for the practice-round (pen) bid as a benchmark good. Full disaggregated results in Appendix Table A.8 are also consistent.

results across elicitation rounds: CSU baseline (Column 1), pre-treatment phone survey (Column 2), and post-treatment phone survey (Columns 3 and 4). The coefficients on "Manager Monitors Movie" and "Manager Enables Movie" capture the effect of each video relative to the control. We find no significant immediate effect during the initial elicitation in-person of either narrative. However, during the phone survey elicitation, exposure to the enabling manager narrative substantially raises WTP by approximately 90 ETB. This result suggests that framing management as enabling increases the perceived value of capacity-building. In contrast, the monitoring manager narrative consistently has smaller and not statistically significant effect, compared to the placebo video.

The lack of an immediate effect in the initial elicitation suggests that respondents continued to reflect on the video afterwards. They may draw on existing work experience, or embed capacity building in a new narrative of their management environment on returning to work. In Section B.2.1, we find suggestive evidence that the impact of the monitoring video increases with length work experience, though the enabling video increases WTP across experience levels. Column 4 tests heterogeneity by respondent motivation, interacting treatments with a "social reflection" indicator. While statistical power is limited, there is suggestive evidence that socially motivated respondents respond less to these narratives, possibly due to their already higher baseline WTP.

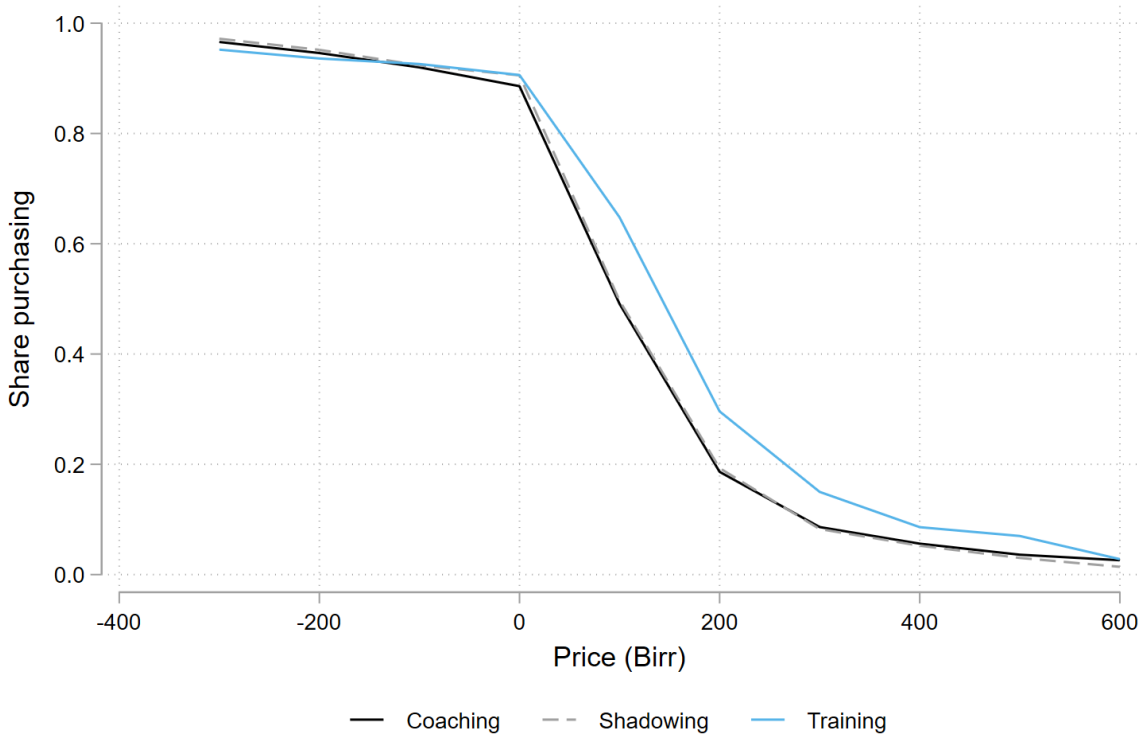
The video treatments may operate through increasing the perceived promotion returns to capacity building, though we do not find evidence for this channel. Table A.11 finds no impact of the treatments on the expected impact of training on promotion chances. Non-monetary motivators such as meaning in work, mission, or intrinsic motivation may lead the enabling video treatment to increase WTP by reinforcing the idea that workers can apply their skills with more autonomy. Further work may fruitfully explore this question.

A tentative comparison with the explicit narrative effects in Table 1 suggests that the enabling manager narrative may have an impact an order of magnitude larger. This could indicate that organisational factors in public administration – such as managerial style – play a stronger role in shaping public servants' WTP for training than explicitly varying perceived benefits. However, this comparison should be treated with caution, given the different modality (audio rather than video) and the absence of a placebo group in the first intervention. Overall, aspects of the bureaucratic environment appear to influence investment in state capacity, with some evidence that enabling management styles may increase willingness to engage in capacity development. These findings are broadly consistent with literature connecting enabling management practices to improved bureaucratic performance [Rasul and Rogger, 2018; Bandiera et al., 2021], as well as related results observed in private sector contexts [Diaz et al., 2025].

5 Conclusion

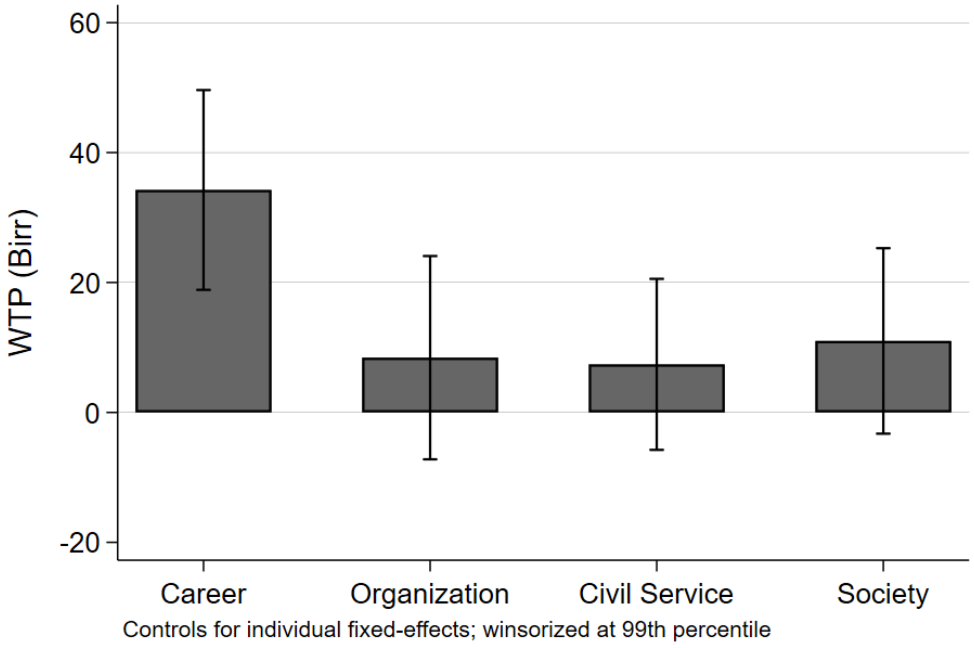
Building human capital within the public sector is essential for strengthening state capacity, as the productivity of public institutions relies on the skills of individual workers. Consequently, the benefits of improved capabilities often extend beyond the individual to society as a whole. In this paper we empirically tested whether messaging the external benefits of human capital changed the demand of workers using a framed field experiment among Ethiopian public servants. The results reveal limited willingness among public servants to invest in capabilities, even with external interventions encouraging investment with both career and other-regarding messages. While career messages increased WTP relatively more, individual investments would still fall short of covering the marginal cost of training. Subsidies by central actors therefore continue to be necessary. Yet this creates risks of institutional failures that could perpetuate low capacity: in a global survey of public servants, only 60% of public workers report that central training offerings meet their needs [Schuster et al., 2023]. Our findings suggest the responsiveness of individual decision-making to organizational context can be important to state strengthening. We provide experimental evidence that making salient a supportive managerial environment substantially increased demand. As countries seek to modernize their public sectors, understanding and addressing the microfoundations of bureaucratic investment decisions will be central to any effective capacity-building agenda.

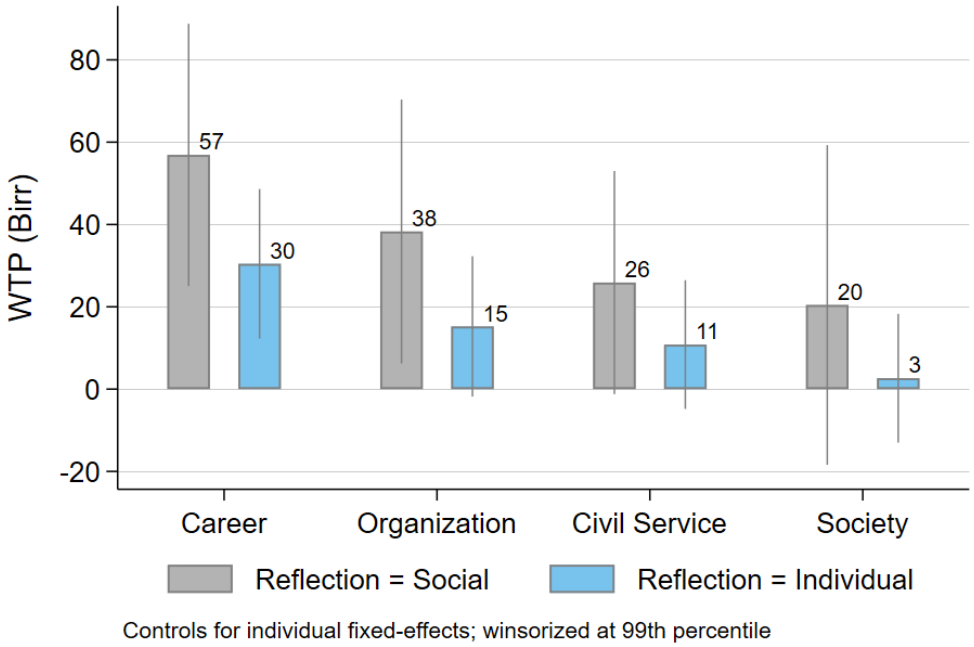
Figures



Notes: Estimates of Willingness to Pay (WTP) in Ethiopia Birr (ETB) and share of the sample purchasing at different elicited prices. Demand curves estimated with $N = 438$. Bids winsorized at 1 percent.

Figure 1: Inverse Demand Curve for Coaching, Shadowing and Training





Notes: Predicted means of Willingness-to-Pay for training by emphasis and motivation, after controlling for individual fixed-effects, 95% confidence intervals are reported and constructed from robust standard errors. Elicited demands are winsorized at the 99th percentile. Motivations coded from reflections on rationale for initial bids. The top panel is estimated using 438 respondents, while the bottom panel is estimated using the 385 respondents for which we have measures of other-regarding motivations.

Figure 2: Average WTP for Training by Emphasis and Motivation

Tables

Table 1: Relative Treatment Effects of Career Message

Dependent variable: Willingness-to-pay for training type				
	(1)	(2)	(3)	(4)
Treatment: "Training is good for your career"	6.994*	8.264**	9.600**	7.012
	(3.771)	(4.089)	(4.310)	(4.504)
Other-Regarding Training	2.163	3.013	2.172	
	(2.260)	(2.608)	(2.264)	
Treatment x Other-Regarding Training		-1.692		
		(4.513)		
Social Reflection			4.807	-6.677*
			(6.235)	(3.524)
Treatment x Social Reflection			-13.84	3.987
			(9.535)	(9.483)
Clusters	438	438	438	438
Observations	1752	1752	1752	438
Predicted Control Mean	19.695	19.695	19.588	36.819
Training Type Sample	All	All	All	Career

Notes: Regressions control for the pre-treatment WTP elicited during the in-person elicitation in 2023 and the phone-survey elicitation conducted before the treatment. "Treatment" is an indicator for whether participants received a message emphasizing career advancement benefits before stating their final WTP bids. "Other-Regarding Training" is an indicator for whether the training content emphasized benefits to the team, organisation, or society at large. "Social Reflection" is an indicator for whether the participant, in an open-ended response explaining their WTP, focused on benefits to the team, organisation, or society (rather than individualistic benefits). Interaction terms are combinations of these indicators. Where social reflection is missing, the value is imputed with the median and an indicator of missingness included. Standard errors in parentheses are clustered across bids at the individual-level. Bids winsorized at 99th percentile. * $p<0.10$, ** $p<0.05$, *** $p<0.01$.

Table 2: Treatment Effects of Narrative Intervention on Public Official's Management

Dependent variable: Willingness-to-pay for training				
	(1)	(2)	(3)	(4)
	CSU	Pre	Post	Post
Treatment: Manager Monitors Movie	27.16	33.27	34.03	26.35
	(33.09)	(38.01)	(39.24)	(44.48)
Treatment: Manager Enables Movie	-5.40	87.18**	91.52**	103.32**
	(33.98)	(39.72)	(41.85)	(47.93)
Social Reflection	31.38	20.07	17.61	21.40
	(31.44)	(40.53)	(42.15)	(63.34)
Manager Monitors x Social Reflection				47.53
				(93.73)
Manager Enables x Social Reflection				-62.51
				(96.15)
Clusters		438	438	438
Observations	438	1752	1752	1752
Predicted Control Mean	103.44	-31.64	-25.64	-25.81
Monitor vs. Enable p-value	0.21	0.11	0.10	0.04

Notes: "Treatment: Manager Monitors Movie" indicates the respondent was shown a movie during the CSU framed field experiment that provided a narrative of a monitoring and directive senior manager. "Treatment: Manager Enables Movie" indicates they were shown a movie that showed an enabling senior manager. "Social Reflection" is a binary that takes the value 1 when the respondent provided a socially-oriented reflection. Models (2), (3) and (4) control for training type. Models (3) and (4) control for "Career Treatment", an indicator for whether participants received a message emphasizing career advancement benefits before stating their final WTP bids. Where social reflection is missing, the value is imputed with the median and an indicator of missingness included. Standard errors in parentheses are clustered across bids at the individual-level. For model (1) standard errors are robust. Bids winsorized at 99th percentile. Monitor vs. Enable p-value displays the test statistics comparing the coefficient for Monitor Treatment against Enable treatment. Model (4) shows this for individual reflections.
* $p<0.10$, ** $p<0.05$, *** $p<0.01$.

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Online Appendix

In this Online Appendix, we provide details of several aspects of the study. Appendix Section A provides details on our WTP elicitation method. Appendix Section B gives details about the follow-up phone-survey. Appendix Section C describes any changes relative to our pre-analysis plan. Appendix Section D describes secondary sources of data. Finally, Appendix Section E provides additional tables and figures.

A Willingness-To-Pay Elicitation Procedure

We used a Becker-DeGroot-Marschak (BDM) mechanism to elicit participants' willingness to pay (WTP) for three professional development opportunities: training, coaching, and shadowing. Participants stated their maximum WTP for each opportunity, in a randomised order. One of the three was then randomly selected, and a price was randomly drawn for that particular opportunity. If a participant's bid met or exceeded the random price, they purchased the opportunity at the drawn price; otherwise, no transaction occurred. Participants were reminded that bidding truthfully was in their best interest, as the price would not be influenced by their bid. To reinforce understanding and promote accurate valuation, respondents completed a practice round using a pen, answered comprehension checks, and were required to confirm their ability to pay the amount they bid, either via the most common mobile money platform (*TeleBirr*) or in cash on the same day. The full script that enumerators used in the elicitation procedure are reported in our pre-analysis plan (`https://www.socialscienceregistry.org/trials/12407`).

Non-payment

Non-payment can distort revealed preferences, particularly if participants anticipate that payment will not be enforced. Messaging the need to pay may itself reduce expectations that opting out is acceptable. While existing studies vary in rates of non-payment, our experience compares favourably. Maffioli et al. [2023], for example, report that over half of selected participants refused to pay the full amount. In contrast, studies that request payment immediately after bidding tend to see much lower default rates [Berry et al., 2020; Burchardi et al., 2021]. A review by Maffioli et al. [2023] finds that most such studies report single-digit non-payment rates.

To mitigate non-payment and ensure bids reflect true demand, we followed best practices in implementing the willingness-to-pay mechanism. Participants were required to pay upfront if they drew a randomised price below their stated bid. To reinforce this, they received two follow-up prompts after submitting their bids: first, whether they would still pay a slightly higher price; and second, a reminder that payment would be required if the random draw fell below their bid. They then reviewed and confirmed all three bids side by side. Our implementation

method was effective – only 4 out of 111 selected buyers ultimately declined to pay.

Coding of Reflections of Rationale for Bids

As part of the initial elicitation of bids, we asked each participant to write a short reflection on what drove their pricing decisions. 89% of respondents provided a reflection that could be analysed. Two research assistants independently coded each reflection by identifying its primary focus—the 'unit of analysis'—as individual, team, organization, or society. They then reconciled any differences. For analysis, we grouped the latter three into a single category reflecting other-regarding motives.

B Eliciting Demand Through a Follow-up Phone Survey

We undertook follow-up phone-based surveys with respondents between November 5, 2024 and February 4, 2025. To ensure as small an attrition rate as possible, we used the following procedure: participants are called and invited to conduct the 15-minute survey at that point, or else reschedule for a more convenient time. Secondly, in case they cannot be reached, the enumerator will call them up to three times. We provided respondents with a 50ETB (0.50USD) in airtime credit to thank them for their time. The order in which respondents were contact was randomized conditional on the above procedure. Assignment to treatment in the survey experiments (described in detail below and in the paper) was based on a pre-assigned randomization. Participants were linked to this randomization with their survey ID.

B.1 Training focus

For the follow-up phone survey, we mimiced the BDM mechanism employed in the first part of our study in November 2023, while stating that we will not collect money on that day. We stated that if we were to go ahead with the proposed training, the amounts they stated will be the amounts they have to pay. This allows us to measure WtP in a way that is consistent with our first experiment in November 2023, while allowing us to investigate many more variations in the characteristics of training in the finite interview time. We find no impact on bids on the follow-up survey from the random price drawn in the initial experiment, or whether respondents attended an activity offerred. Though, those who paid, or were paid, to attend subsequently bid higher (60 ETB, p=0.074), controlling for initial training bid. We presented four kinds of training emphases to our professional student sample, enabling us to discriminate between demand for each. The prompts were read in case the subject asked for further information.

B.2 Survey experiments

After assessing demand for training with different emphases, we then undertook two randomised survey experiments:

Testing emphasis: We prime the participant towards a private career intention for training, or public contribution intention, by having them listen to a recording from the Civil Service Commission that describes why training is important. The text of these recordings is reported below. Which of the two recordings is played to the participant is randomised. The audio recording is introduced by the enumerator as from the Civil Service Commission, with whom we have collaborated. These are read by a female ex-senior civil servant to contrast with the male enumerator, differentiating the message from the interview. Note that all participants received one of the two messages.

Treatment	Description
Private—Career	"The Civil Service Commission wants to support the careers of civil servants, and so are implementing a competency framework to make clear the steps needed for career advancement. Training is a central part of our reform process to help all civil servants reach these standards. We want civil servants to perform and progress in their own personal careers."
Public—Other-regarding	"I've seen first-hand how training can make a difference in the work civil servants do. I recently visited a team in the service, and saw how by implementing the new practices they learnt at a training course, they made their processes much more efficient, and were able to serve more members of the public. Citizens I spoke to were very happy about their experience of the team, which is the feedback I love to hear. Improving skills and ways of working through training can make a difference for Ethiopia."

Testing saturation: We measure the extent to which individuals change their WtP conditional on the fact that other members of their unit are being trained. Specifically, we randomised the number of individuals that we state will be trained with the participant. The question line is as follows:

> Thank you. We are interested in whether the fact that from your department, [*RANDOMIZED: 1 other; 2 others; 3 others; the rest of your department*] going to a training affects your willingness to participate.
>
> Imagine that from your unit, [*RANDOMIZED: 1 other; 2 others; 3 others; the rest of your department*] registered to attend the training that emphasizes [`RANDOMLY CHOOSE ONE: skills to strengthen your career prospects across any kind of organization; skills that are identified by your team as crucial for your organization's productivity; skills that make the public ser-`

vice as a whole work more effectively together; skills that make your direct impact on citizens larger].

Without that consideration, you had bid [X] Birr. How much are you willing to pay now that [*RANDOMIZED: 1 other; 2 others; 3 others; the rest of your department*] are attending?

Civil servants' demand may potentially be internalizing some of the externalities that attending training can have on their productivity, on the productivity of the organization, or on the government's capacity to serve the public as a whole. Given the prevalence of teamwork in public service, the decisions of a respondent's colleagues to invest in capacity building, and the externalities this generates, may influence individual-demands. For example, we may expect free-riding to occur if individuals weigh their private costs against team performance gains, potentially reducing WTP when more colleagues attend. Conversely, complementarities in team skills may increase WTP if training returns improve with team-wide participation (Lerva [2023] explores the potential for such externalities in WTP in the context of agricultural pest-control technology and finds evidence of large spillovers). To test these ideas, estimate the following equation:

$$Y_{post,i} = \alpha_1 Y_{pre,i} + \mathbf{C}\boldsymbol{\gamma} + \mathbf{S}\boldsymbol{\delta_1} + \varepsilon_i \tag{3}$$

where elements are defined as in equation 1 and $\mathbf{C}$ is a vector of indicators for group sizes ("1 other", "2 others", "3 others", or "department-wide"), with "1 other" as the omitted category.

Appendix Figure A.4 illustrates the results. We find limited evidence of differential demand by group size. We find suggestive evidence consistent with complementarities, rather than free-riding, as WTP is higher when the entire department is expected to attend (34 ETB) versus 3 other colleagues (15 ETB), significant at the 10% level. This overall result, of limited spillovers or the influence of saturation, implies our core results are not heavily influenced by the perception of colleagues' actions.

B.2.1 Interaction with Work Experience

As expected from a lifecycle perspective, WTP declines by years of experience in the control group. To assess how career stage interacts with the video-based treatment, we interact the treatment arms with years of experience and display the linear interaction model (Figure A.5). In general, the impact of the videos increases with years of experience. While enabling predicts higher WTP across most experience levels, there is a stronger positive interaction between monitoring and years of experience.

B.3 Perceived returns

We present treatment effects of the experimental interventions on the perceived impact of training on promotion in Appendix Table A.11.

B.4 Details on the Implicit Narrative Intervention

Before eliciting the original set of bids for capacity building activities, we had public officials watch a fictional movie about a team in the Ethiopian public service trying to solve a problem. We developed two sets of treatment videos (as well as a control) that emphasised different features of management practice prevalent in the public service. This section begins by outlining how we identified the major approaches to management in Ethiopia's public administration, and then how we developed the movies related to those themes.

B.4.1 Factor Decomposition of Management Practices in Ethiopia

We capitalised on pre-existing measures of management practice in Ethiopia's Government based on survey data from 2016, described in Section D. We undertook a factor analysis of these measures and found that they dominantly clustered onto two factor loadings in the sense that they were the only two with an eigenvalue greater than 1. These two factors jointly explain 58 percent of the variation before rotation. A summary of results is presented as Table A.2. We interpret these dimensions of management as follows: the extent to which managers pay close attention to measuring performance and utilising accountability mechanisms to ensure performance (which we label 'monitoring'); and the extent to which managers focus on providing enabling and supportive management practices to support their team to undertake tasks independently, based on trust and informal managerial training and feedback (which we label 'enabling').

B.4.2 Development of Management Movies with Randomised Components

We developed movies that had both common components (broad storyline, setting, actors) and varied the emphasised on enabling or monitoring approach to management. In order to develop the content of the movies, we developed a script based on core elements of the Ethiopian public administration such as the Ethiopia Civil Service Code, the new competency framework being drafted by the Civil Service University, existing training material used by the Ethiopian Management Institute, and so on. Third, we conducted interviews and focus group discussions with middle-mangers in the civil service to collect anecdotes and professional stories to determine an engaging and relatable narrative of the script. Fourth, we developed the video intervention with an experienced local production company (Synergy Habesha) in partnership with the Ethiopian Management Institute, the Civil Service Commission and with support by a media expert at an international firm that develops videos for behaviour change (ImpactEd) to stimulate

engagement in the training sessions. Finally, we piloted the different movie-based interventions and refined them based on feedback from viewers before starting the full-scale rollout.

C Deviations from Pre-Analysis Plan

Our core design and primary outcomes were pre-specified in two pre-analysis plans (AEARCTR-0012407): an initial plan for the (November 14, 2023), and an addendum for the follow-up survey data (December 7, 2024). Both plans were lodged before data collection concluded.

Table A.1: Pre-Analysis Plan (PAP) Specifications and Where Results Are Reported

Specification / Deviation	**Results Reported In**
Original PAP specified a single video treatment. Coding error led to randomisation across five videos (four treatment, one placebo). Placebo shown to 1/5 instead of 1/2. Main analysis in Table 2 pools treatments into two groups.	Disaggregated video effects: Appendix Table A.8 Panel A. Binary video effects: Appendix Table A.8 Panel B.
Difference-in-differences (DID) estimator was specified in addendum, conditional on high autocorrelation. ANCOVA is reported in the main results in Table 1.	Appendix Table A.6.
Post-double LASSO estimation for robustness.	Motivation experiment: Appendix Table A.6. Management experiment: Appendix Table A.7.
Impact of video treatments on willingness to pay for coaching, shadowing, training, and an index of bids.	Appendix Table A.9 Panel A.
Effects of management video treatments on the probability of a positive bid.	Appendix Tables A.9 Panel B and Panel C.
Comparison of bids across training type.	Addendum did not specify individual fixed effects in within-respondent comparisons at follow-up. We include them for precision; conclusions unchanged without them.

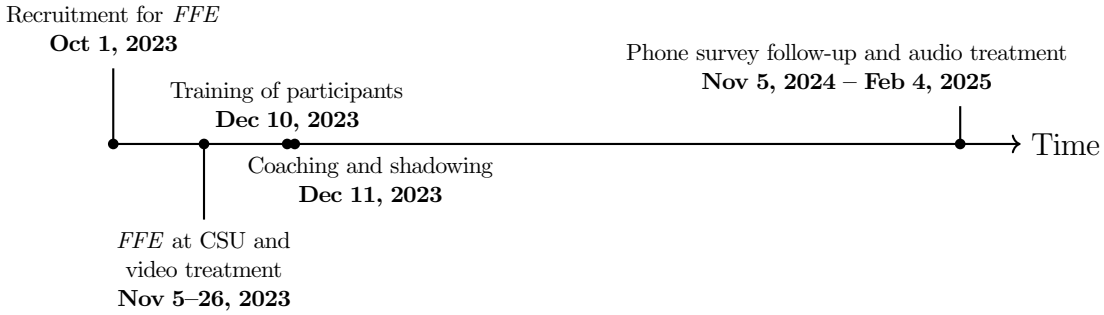
D Additional Data

Besides the data collected during the in-person elicitation at CSU and the follow-up phone-survey, additional data is drawn from two sources: i) the Ethiopian Survey of Public Servants 2016, and ii) the Ethiopian Survey of Public Servants 2024.

Ethiopia Survey of Public Servants 2016 This data was used to form the baseline representative group to compare our willingness to pay sample to in Section 2. A survey of $N = 2{,}164$ face to face interviews was implemented in 2016. The survey utilized random sampling techniques at all levels of sample selection to gain a representative sample of officials across the government sectors studied. Interviews were carried out in June to September 2016 across the three tiers of Ethiopian government; at the federal level, in all 11 regions existing at that time, and in a selection of 66 woredas. Civil servants in non-managerial positions (employee-level track), civil servants in managerial positions (director-level track), and organization heads (political appointee-level track) were included. Frontline service delivery staff such as teachers or nurses were not included.

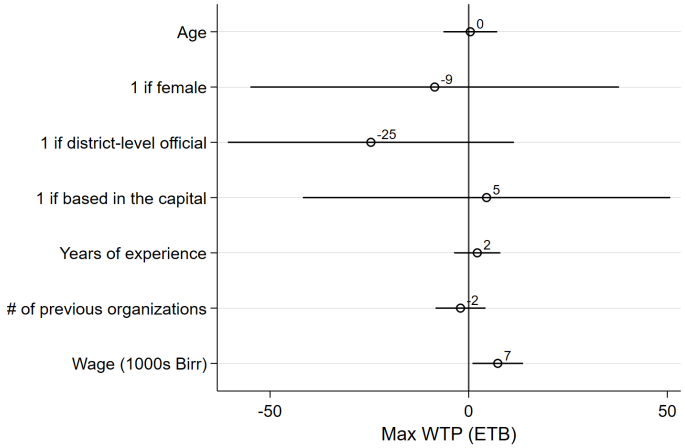
Ethiopia Survey of Public Servants 2024 This data was used for information on current Ethiopian civil servants perspectives on and experience of professional development in Section 2.1. A survey of $N = 3{,}321$ face to face interviews was implemented in February to April 2024 across the three tiers of Ethiopian government. Civil servants in non-managerial positions (employee-level track), civil servants in managerial positions (director-level track), and organization heads (political appointee-level track) were included. Frontline service delivery staff such as teachers or nurses were not included. The survey especially sampled civil servants in the sectors of Finance, Revenue, Labor and Skill, Health, Education, Agriculture, and the Civil Service itself.

E Additional Figures and Tables



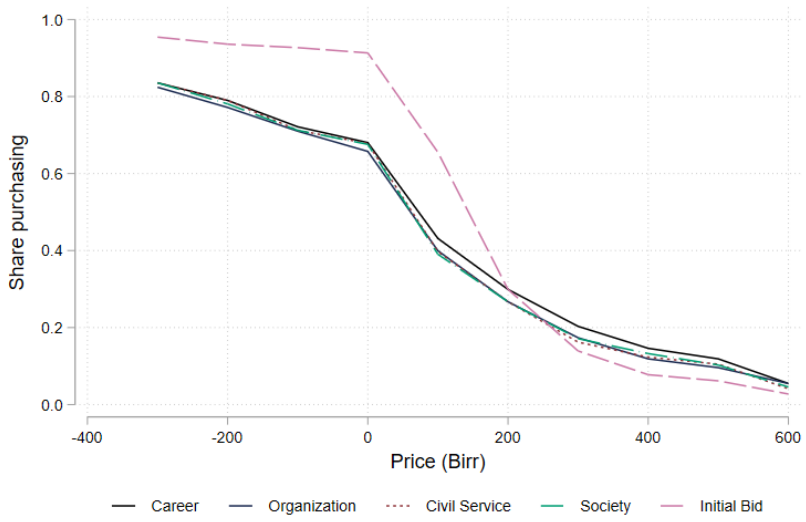
Note: Timeline of the framed field experiment (FFE) at Civil Service University (CSU). Before the final elicitation at CSU, participants were randomly exposed to the different video treatments. In the phone-survey follow-up, participants were also randomized into different conditions that varied the messaging with an audio treatment (Career-oriented vs. Other-regarding) and number of participants from the respondents' organization.

Figure A.1: Study Timeline



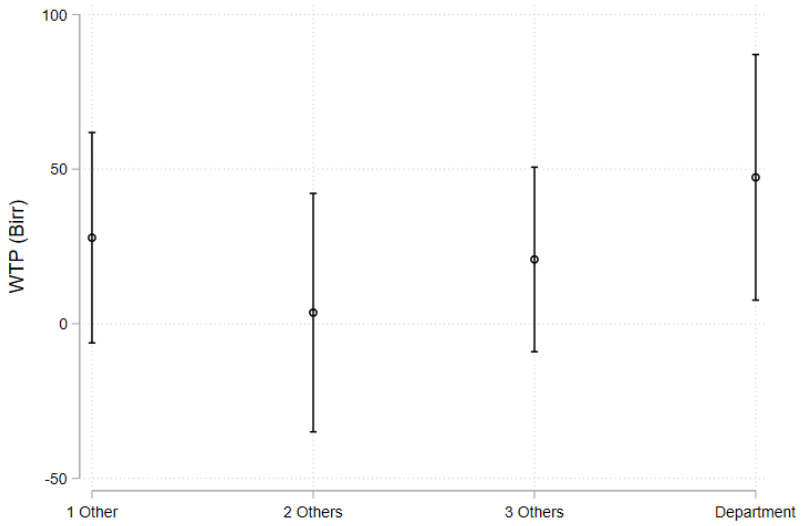
Note: Coefficients from a linear regression of various covariates on the maximum willingness to pay (WTP) among the three incentivised bids elicited at Civil Service University as part of the in-person field experiment. Bars display 95% confidence intervals. $N = 437$, results are the same when imputing for missing control variables.

Figure A.2: Relationship between individual characteristics and willingness-to-pay



Note: Willingness-to-Pay for training, including the initial bid in November 2023 and follow up bids by emphasis in November 2024-February 2025. Demand curves estimated with $N = 438$. Bids winsorized at 1 percent.

Figure A.3: Inverse Demand: Training by Emphasis



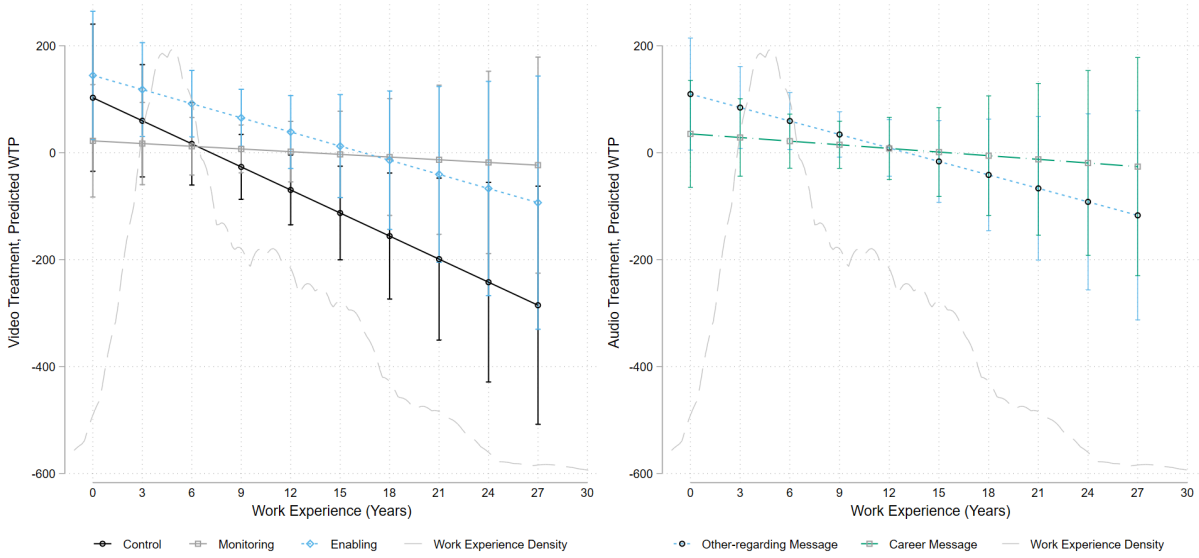
Note: Willingness to Pay for training, by number of colleagues stated in question as also attending the course. The number was randomized (1, 2, 3, or all other members of the department). The survey wording was: "We are interested in whether the fact that from your department, [RANDOMIZED: 1 other; 2 others; 3 others; the rest of your department] are going to a training affects your willingness to participate." Variation is between-subjects, phone survey sample, $N = 438$. Predicted values from a linear regression on WTP (winsorized at 1 percent) on the randomized number of colleagues controlling for previous bids, training emphasis. Reported 95% confidence interval are robust.

Figure A.4: Relationship Between the Hypothetical Number of Colleagues Attending and WTP

Table A.2: Management Style Factor Loadings from Principal Component Analysis

	Monitoring	Enabling
Clarity of roles and responsibilities	.6710113	.1453058
Directorate targets guide work schedule	.8190121	.0232894
Communication of targets and measures	.8975451	-.1163584
Tracking of service delivery	.8842074	-.0814437
Follow-up on meeting plans	.5914227	.2126669
Tolerance of underperformance	.6232459	.0978324
Staff discretion in assignments	.5907584	.2780989
Staff contribution to policy	.2149784	.6343335
Right staff for right job	.3385354	.2833133
Flexibility in work practices	.0735017	.7499799
Responsiveness to stakeholder needs	-.10624	.8419977
Attraction and retention of talent	.0238238	.7108054

Note: Table reports the factor loadings from principal component analysis (PCA) conducted on survey measures of management practices in Ethiopian Government directorates (2016). Each number in the table indicates the correlation or the relative contribution of a given management practice statement with each of the two principal factors identified: "Monitoring" and "Enabling.", which jointly explain 58% of the variance in management practices across directorates prior to rotation.



Notes: Predicted Willingness to Pay (WTP) by video treatment (left) and audio treatment (right), interacted with years of work experience. Line displays density of work experience. Controls not shown: Constant, trial item (pen) bid, training emphasis, age, gender, whether office is in Addis Ababa, number of organizations, wage bracket indicators, and governmental tier indicators. 95 percent confidence intervals use robust standard errors. Bids winsorized at 1 percent.

Figure A.5: Predicted WTP by video and audio treatment, interacted with years of experience

Table A.3: Descriptive Statistics

	Benchmark (2016) (N=2,164)	Sample (2023) (N=500)
Female	0.178 (0.383)	0.180 (0.385)
Age	35.178 (8.553)	32.360 (5.467)
Wage (Birr per month)		
0-2,000	0 (.%)	10 (2.2%)
2,001-5000	0 (.%)	83 (17.9%)
5,001-10,000	0 (.%)	308 (66.5%)
10,001-20,000	0 (.%)	58 (12.5%)
20,001-50,000	0 (.%)	4 (0.9%)
Work Experience (years)	13.063 (8.549)	9.057 (5.768)
Education		
Grade 8 completion	2 (0.1%)	0 (0.0%)
Grade 10 completion	4 (0.2%)	0 (0.0%)
Grade 12 completion	2 (0.1%)	5 (1.0%)
Diploma / TVET / Post-high school	376 (17.7%)	4 (0.8%)
Undergraduate degree	1,533 (72.2%)	445 (89.0%)
Masters degree	201 (9.5%)	46 (9.2%)
PhD	4 (0.2%)	0 (0.0%)
Program Engaged		
Bachelor Degree	0 (.%)	34 (6.9%)
Masters	0 (.%)	456 (91.9%)
Ph.D.	0 (.%)	6 (1.2%)
Administrative Tier		
Federal	285 (13.2%)	68 (13.7%)
Regional	443 (20.5%)	132 (26.6%)
Zone	0 (0.0%)	61 (12.3%)
Woreda	1,436 (66.4%)	232 (46.8%)
Other	0 (.%)	3 (0.6%)
Office in Addis Ababa	0 (.)	0.246 (0.431)

Note: The 2016 Benchmark is based on the Ethiopian Civil Service Survey (CSS), a representative sample of the Ethiopian Civil Service described in Appendix Section D. The 2023 sample are respondents in field experiment, who attended Civil Service University (CSU), and took part in the first incentivised willingness-to-pay elicitation. Standard deviation or percentage of category (%), for categorical variables, shown in parentheses.

Table A.4: Audio-based Treatment Experimental Balance Table (within Follow-up Sample)

	Audio-based Treatment			
	(1)	(2)	(3)	(4)
	Career	Other-regarding	Total	p-value
CSU Training Bid	99.045 (255.045)	118.610 (472.188)	108.783 (378.695)	0.589
Age	32.201 (5.481)	32.588 (5.533)	32.393 (5.504)	0.464
Female	0.156 (0.364)	0.202 (0.402)	0.179 (0.384)	0.225
Admin tier				
Federal	34 (15.6%)	28 (13.0%)	62 (14.3%)	0.156
Regional	54 (24.8%)	59 (27.3%)	113 (26.0%)	
Zone	33 (15.1%)	18 (8.3%)	51 (11.8%)	
Woreda	95 (43.6%)	110 (50.9%)	205 (47.2%)	
Other	2 (0.9%)	1 (0.5%)	3 (0.7%)	
Location Addis Ababa	0.258 (0.439)	0.258 (0.439)	0.258 (0.438)	1.000
Work Experience (years)	8.806 (5.795)	9.340 (5.796)	9.072 (5.795)	0.340
Number Orgs	2.083 (1.500)	2.284 (2.046)	2.182 (1.793)	0.244
Wage (Birr)				
0-2,000	5 (2.4%)	4 (2.0%)	9 (2.2%)	0.827
2,001-5000	37 (17.8%)	33 (16.5%)	70 (17.2%)	
5,001-10,000	143 (68.8%)	135 (67.5%)	278 (68.1%)	
10,001-20,000	21 (10.1%)	27 (13.5%)	48 (11.8%)	
20,001-50,000	2 (1.0%)	1 (0.5%)	3 (0.7%)	
N	220 (50.2%)	218 (49.8%)	438 (100.0%)	

Note: The table displays means for baseline variables among the sample that responded to the follow-up phone survey, by audio experiment assignment. The fourth column shows p-values for equal means in the first two columns, evaluating balanced attrition. Standard deviation, or percentage of category (%) for categorical variables, shown in parentheses. Number of observations reported in the bottom row.

Table A.5: Experimental Balance Table (Video, Realised Sample and CSU Sample)

	(1) Control	(2) Monitoring	(3) Enabling	(4) Total	(5) Test
Panel A: Realised Sample					
Age	32.000 (5.150)	32.948 (5.759)	31.938 (5.341)	32.393 (5.504)	0.177
Female	0.198 (0.401)	0.175 (0.381)	0.174 (0.381)	0.179 (0.384)	0.890
Admin tier					
Federal	10 (12.2%)	32 (16.7%)	20 (12.5%)	62 (14.3%)	0.891
Regional	20 (24.4%)	50 (26.0%)	43 (26.9%)	113 (26.0%)	
Zone	11 (13.4%)	20 (10.4%)	20 (12.5%)	51 (11.8%)	
Woreda	41 (50.0%)	89 (46.4%)	75 (46.9%)	205 (47.2%)	
Other	0 (0.0%)	1 (0.5%)	2 (1.2%)	3 (0.7%)	
Location Addis Ababa	0.205 (0.406)	0.298 (0.459)	0.237 (0.427)	0.258 (0.438)	0.202
Work Experience (years)	8.778 (5.050)	9.458 (6.254)	8.755 (5.577)	9.072 (5.795)	0.464
Number Orgs	2.220 (1.750)	2.171 (1.660)	2.177 (1.973)	2.182 (1.793)	0.978
Wage (Birr)					
0-2,000	0 (0.0%)	3 (1.7%)	6 (3.9%)	9 (2.2%)	0.223
2,001-5000	15 (19.5%)	23 (12.8%)	32 (21.1%)	70 (17.2%)	
5,001-10,000	52 (67.5%)	127 (70.9%)	99 (65.1%)	278 (68.1%)	
10,001-20,000	9 (11.7%)	24 (13.4%)	15 (9.9%)	48 (11.8%)	
20,001-50,000	1 (1.3%)	2 (1.1%)	0 (0.0%)	3 (0.7%)	
N	83 (18.9%)	193 (44.1%)	162 (37.0%)	438 (100.0%)	
Panel B: CSU Sample					
Age	31.895 (5.003)	32.943 (5.850)	31.959 (5.219)	32.360 (5.467)	0.129
Female	0.183 (0.389)	0.181 (0.386)	0.178 (0.384)	0.180 (0.385)	0.996
Admin tier					
Federal	12 (12.6%)	33 (15.7%)	23 (12.0%)	68 (13.7%)	0.923
Regional	25 (26.3%)	55 (26.2%)	52 (27.2%)	132 (26.6%)	
Zone	14 (14.7%)	23 (11.0%)	24 (12.6%)	61 (12.3%)	
Woreda	44 (46.3%)	98 (46.7%)	90 (47.1%)	232 (46.8%)	
Other	0 (0.0%)	1 (0.5%)	2 (1.0%)	3 (0.6%)	
Location Addis Ababa	0.198 (0.401)	0.278 (0.449)	0.236 (0.425)	0.246 (0.431)	0.298
Work Experience (years)	8.766 (4.896)	9.571 (6.224)	8.632 (5.625)	9.057 (5.768)	0.230
Number Orgs	2.211 (1.688)	2.175 (1.645)	2.296 (2.948)	2.228 (2.237)	0.862
Wage (Birr)					
0-2,000	0 (0.0%)	3 (1.5%)	7 (3.9%)	10 (2.2%)	0.208
2,001-5000	18 (20.2%)	26 (13.3%)	39 (21.9%)	83 (17.9%)	
5,001-10,000	60 (67.4%)	138 (70.4%)	110 (61.8%)	308 (66.5%)	
10,001-20,000	10 (11.2%)	27 (13.8%)	21 (11.8%)	58 (12.5%)	
20,001-50,000	1 (1.1%)	2 (1.0%)	1 (0.6%)	4 (0.9%)	
N	96 (19.2%)	211 (42.2%)	193 (38.6%)	500 (100.0%)	

Note: The table displays means for baseline variables for the sample that responded to the follow-up phone survey (Panel A), and for the full sample that was originally sampled for the WTP elicitation at Civil Service University (Panel B), by assignment to the video experiment. The fourth column shows p-values for equal means in the first two columns, evaluating balanced attrition. Standard deviation, or percentage of category (%) for categorical variables, shown in parentheses. Number of observations reported in the bottom rows of each panel.

Table A.6: Relative Treatment Effects of Career Message

	(1) OLS	(2) OLS	(3) LASSO	(4) DiD
Treatment: "Training is good for your career"	6.994*	7.036*	6.816*	
	(3.773)	(3.786)	(3.772)	
Other-regarding Training: Organisation	4.799	4.797	4.821	-25.82*
	(3.367)	(3.368)	(3.367)	(13.30)
Other-regarding Training: Civil Service	-0.959	-0.962	-0.936	-26.85**
	(2.332)	(2.333)	(2.341)	(12.00)
Other-regarding Training: Society	2.648	2.645	2.668	-23.24*
	(3.345)	(3.345)	(3.351)	(12.21)
Post				3.088
				(2.135)
Post × Treatment				6.675*
				(3.811)
Post × Organization				4.632
				(3.308)
Post × Civil Service				-1.132
				(2.255)
Post × Society				2.498
				(3.351)
Clusters	438	438	438	438
Observations	1752	1752	1752	3504

Notes: Dependent variable is post-treatment WTP. Models (1)-(4) control for the phone-survey elicitation conducted before the treatment. Model (2) controls for the benchmark item (pen) bid. Models (3) uses the LASSO via plugin and double selection to chose control variables, using imputed values where missing, and indicators for missingness are included in the group of control variables for selection. Model (4) is a two-period Difference-in-Differences specification. Period 1 is the phone survey elicitation before the treatment, Period 2 is after treatment. "Treatment: Training is good for your career" is an indicator for whether participants received a message emphasizing career advancement benefits before stating their final WTP bids. The other-regarding trainings "Organization", "Civil Service" and "Society" are indicators for the training content emphasis.

For LASSO specifications, the phone-survey pre-treatment WTP is always included as a control. Control variables for selection include: pre-treatment WTP elicited during the in-person elicitation in 2023, age, gender, whether office is in Addis Ababa, years of work, number of organizations, wage bracket, governmental tier, and (in model 3) missingness indicators. Standard errors are clustered at the individual level. * $p<0.10$, ** $p<0.05$, *** $p<0.01$.

Table A.7: Treatment Effects of Manager Style, LASSO

Dependent variable: Willingness-to-pay for training	(1) CSU	(2) Pre	(3) Post
Treatment: Manager Monitors Movie	-0.109	31.28	31.75
	(0.308)	(37.85)	(38.90)
Treatment: Manager Enables Movie	-0.126	84.82**	89.40**
	(0.294)	(39.28)	(41.24)
Clusters	438	438	438
Observations	1752	1752	1752
Monitor vs. Enable p-value	0.94	0.12	0.10

Notes: All models use the LASSO via plugin and double selection to chose control variables. An indicator for training type is always included as a control in models (2)-(4). "Treatment: Manager Monitors Movie" indicates the respondent was shown a movie during the CSU framed field experiment that provided a narrative of a monitoring and directive senior manager. "Treatment: Manager Enables Movie" indicates they were shown a movie that showed an enabling senior manager. Control variables for selection in LASSO specifications include: pre-treatment WTP elicited during the in-person elicitation in 2023, trial item (pen) bid, age, gender, whether office is in Addis Ababa, years of work, number of organizations, wage bracket, governmental tier, and missingness indicators. Variables with coefficients displayed in the table were included as variables of interest. Standard errors in parentheses are robust. * $p<0.10$, ** $p<0.05$, *** $p<0.01$.

Table A.8: Disaggregated and Pooled Treatment Effects of Manager Videos

Dependent variable: Willingness-to-pay for training				
	CSU	CSU (Phone Sample)	Pre	Post
Panel A: Disaggregated Effects				
Video 1	15.51	0.481	17.14	16.86
	(38.45)	(37.68)	(43.53)	(44.54)
Video 2	-26.90	-54.07	77.96*	80.65*
	(41.23)	(43.44)	(44.82)	(46.97)
Video 3	22.19	34.42	91.16*	96.92*
	(35.13)	(34.56)	(48.32)	(50.76)
Video 4	39.82	49.69	45.69	47.70
	(38.61)	(36.94)	(44.48)	(45.47)
Panel B: Pooled Effects				
Shown Treatment Video	13.48	10.08	55.78	58.20
	(31.86)	(30.81)	(34.53)	(35.90)
Clusters			438	438
Observations	500	438	1752	1752

Notes: In Panel A, Video 2 and 3 indicates the respondent was shown a movie during the CSU framed field experiment that provided a narrative of an enabling senior manager. In addition, Video 2 had a monitoring main character, Video 3 had a enabling main character. Video 1 and Video 4 indicates they were shown a movie that showed a monitoring and directive senior manager. Video 1 had an enabling main character, Video 4 had a monitoring main character. In Panel B, all treatment video assignments are pooled. The placebo video is the reference category. Constant and training emphasis (for Pre and Post models) not shown. Standard errors in parentheses are robust (models 1-2) or clustered at individual level (models 3-4). * $p<0.10$, ** $p<0.05$, *** $p<0.01$.

Table A.9: Treatment Effects of Manager Style by Professional Development Opportunity

	(1) Coaching	(2) Shadowing	(3) Training	(4) Index
Panel A: Pooled Effects on WTP				
Shown Treatment Video	5.660	28.03	13.48	13.20
	(29.64)	(25.32)	(31.86)	(28.32)
Panel B: Disaggregated Effects				
Video 1	0.006	0.035	0.041	0.038
	(0.052)	(0.051)	(0.045)	(0.040)
Video 2	-0.002	-0.002	-0.012	0.073**
	(0.054)	(0.054)	(0.051)	(0.036)
Video 3	0.024	0.034	-0.007	0.053
	(0.052)	(0.051)	(0.050)	(0.038)
Video 4	0.052	0.071	0.050	0.057
	(0.049)	(0.048)	(0.045)	(0.038)
Panel C: Pooled Effects on Making a Positive Bid				
Shown Treatment Video	0.0206	0.0355	0.0191	0.0547*
	(0.0420)	(0.0417)	(0.0385)	(0.0331)
Observations	500	500	500	500

Notes: In Panel A and C, all treatment video assignments are pooled. In Panel A, the outcome is the raw WTP in ETB. Index is a simple mean of WTP. In Panel B and C, estimates come from a linear probability models on whether the respondent made a positive bid for the professional development opportunities. Video 2 and 3 indicates the respondent was shown a movie during the CSU framed field experiment that provided a narrative of an enabling senior manager. In addition, Video 2 had a monitoring main character, Video 3 had a enabling main character. Video 1 and Video 4 indicates they were shown a movie that showed a monitoring and directive senior manager. Video 1 had an enabling main character, Video 4 had a monitoring main character. The placebo video is the reference category. The Index is an indicator for whether at least opportunity bid is positive. Constant not shown.
Standard errors in parentheses are robust.
* $p<0.10$, ** $p<0.05$, *** $p<0.01$.

Table A.10: Treatment Effects of Manager Style (with controls including pen bid)

Dependent variable: Willingness-to-pay for training						
	(1)	(2)	(3)	(4)	(5)	(6)
	CSU	CSU	CSU	Pre	Post	Post
Treatment: Manager Monitors Movie	27.61	28.80	26.79	39.04	35.34	28.35
	(34.24)	(33.94)	(31.73)	(36.67)	(38.90)	(43.98)
Treatment: Manager Enables Movie	-1.97	3.49	4.55	85.11**	90.67**	101.18**
	(34.10)	(34.34)	(32.56)	(38.10)	(42.36)	(48.78)
Social Reflection		42.36	41.93	26.00	33.81	36.02
		(28.07)	(30.77)	(40.14)	(42.59)	(64.73)
Manager Monitors × Social Reflection						42.16
						(96.47)
Manager Enables × Social Reflection						-54.75
						(98.47)
Clusters				438	438	438
Observations	500	500	438	1752	1752	1752
Predicted Control Mean	102.61	100.00	99.92	-33.41	-25.90	-26.04
Monitor vs. Enable p-value	0.23	0.31	0.40	0.17	0.13	0.06
Sample	CSU	CSU	Phone	Phone	Phone	Phone

Notes: "Treatment: Manager Monitors Movie" indicates the respondent was shown a movie during the CSU framed field experiment that provided a narrative of a monitoring and directive senior manager. "Treatment: Manager Enables Movie" indicates they were shown a movie that showed an enabling senior manager. "Social Reflection" is a binary that takes the value 1 when the respondent provided a socially-oriented reflection. Models (1) and (2) use the full sample to analyse data from CSU elicitation, model (3) uses the restricted phone sample to analyse the CSU elicitation. Models (4), (5) and (6) control for training type. Models (5) and (6) control for "Career Treatment", an indicator for whether participants received a message emphasizing career advancement benefits before stating their final WTP bids. Where social reflection is missing, the value is imputed with the median and an indicator of missingness included.
Controls not shown: Constant, trial item (pen) bid, training emphasis, age, gender, whether office is in Addis Ababa, years of work, number of organizations, wage bracket indicators, and governmental tier indicators. Standard errors in parentheses are clustered at individual level. For model (1) standard errors are robust. * $p<0.10$, ** $p<0.05$, *** $p<0.01$.

Table A.11: Treatment Effects of Manager Style on Perceived Returns

Dependent variable: Perceived promotion return from training	(1) No Controls	(2) Controls	(3) Promoted
Panel A: Audio Treatment			
Treatment: Career Message	0.62	0.11	2.86
	(2.80)	(2.93)	(3.90)
Not Promoted			-1.89
			(5.87)
Promoted			3.34
			(4.88)
Career Treatment x Not Promoted			-7.04
			(8.58)
Career Treatment x Promoted			-6.49
			(6.71)
Panel B: Video Treatment			
Treatment: Manager Monitors Movie	-4.61	-3.87	-3.24
	(3.78)	(3.90)	(5.05)
Treatment: Manager Enables Movie	0.44	1.29	1.36
	(3.87)	(4.03)	(5.25)
Not Promoted			0.81
			(10.80)
Promoted			-2.46
			(7.49)
Manager Monitors x Not Promoted			-7.80
			(12.31)
Manager Monitors x Promoted			2.55
			(9.14)
Manager Enables x Not Promoted			-5.61
			(12.80)
Manager Enables x Promoted			2.97
			(9.10)
Observations	438	438	438

Notes: Panel A: "Treatment: Career Message" is an indicator for whether participants received a message emphasizing career advancement benefits before stating their final WTP bids. Panel B: "Treatment: Manager Monitors Movie" indicates the respondent was shown a movie during the CSU framed field experiment that provided a narrative of a monitoring and directive senior manager. "Treatment: Manager Enables Movie" indicates they were shown a movie that showed an enabling senior manager. All models control for randomly selected training type used for this outcome. Controls not shown for models (2) and (3): Constant, social reflection, age, gender, whether office is in Addis Ababa, years of work, number of organizations, wage bracket indicators, and governmental tier indicators, and whether they have been promoted since baseline. Standard errors in parentheses are robust. * $p<0.10$, ** $p<0.05$, *** $p<0.01$.