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Determinants and Dynamics of Business Aspirations: Evidence from Small-scale Entrepreneurs in an Emerging Market *

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Abstract

Small-scale entrepreneurs are ubiquitous in emerging market economies, yet very few graduate to become larger businesses. We ask whether such entrepreneurs even aspire to grow, and if so, on which dimensions of the business? What factors influence these aspirations, how realistic are they, and do entrepreneurs dynamically update them based on realized outcomes? Using a unique panel data set of small-scale retailers in Indonesia, we show that the average business has strong short- and long-term aspirations for growth in shop size, number of employees, number of customers, and sales. Yet, more than half of the businesses report no aspirations for growth in the next 12 months, and 16 percent fail to imagine an ideal business over the long-term. Entrepreneurs with low profits, business skills, and agency beliefs, as well as those who are older, female, and less educated have significantly lower aspirations. Analysis from a year later shows that most entrepreneurs fail to set realistic aspirations at baseline, but significantly adjust their aspirations to realistic levels with realized outcomes. The analysis also shows baseline aspirations are a strong predictor of measures of business expansion and innovation, as well as performance outcomes a year later.

Keywords: Aspirations, adaptive learning, micro-enterprises, innovation, small business growth, firm performance.

JEL Codes: O12; L26; M20; O17; M50

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I Introduction

Small-scale and informal enterprises are the source of employment for more than half the labor force in emerging market economies (Maloney 2004; Gollin 2008; Nichter and Goldmark 2009; for the Indonesian case, see Ministry of Cooperatives and SMEs Indonesia 2011). A key policy question is whether these firms have the potential to grow, or whether they merely represent a source of subsistence income for individuals unable to find alternative work. Empirical evidence shows that these firms typically tend to remain small or disappear. This creates a right-skewed distribution with disproportionately few mid- and large-size firms (Hsieh and Olken, 2014). A very important question is why this happens? Is it that these entrepreneurs lack the financial, technical, managerial, or informational resources to grow or is it that they do not aspire to grow their businesses? The available evidence is not yet conclusive but it hints at the fact that solely providing external resources such as credit (see, e.g., Banerjee, Duflo, Glennester, and Kinnan, 2015), cash or in-kind capital (de Mel, McKenzie, and Woodruff, 2008), saving instruments (see, e.g., Dupas and Robinson, 2013a,b), or business training do not always lead to business growth (for a review, see McKenzie and Woodruff, 2014). Take-up rates of many such programs are typically low, and even when firms do take advantage of new opportunities they often do not experience significant growth (McKenzie and Woodruff, 2014).

One plausible unexplored factor that could rationalize both low take-up and low business growth is entrepreneurial aspirations. Aspirations motivate greater effort to raise future standards of living (Bogliacino and Ortoleva, 2014; Dalton, Ghosal, and Mani, 2016; Genicot and Ray, 2017). They act as reference points, increasing the marginal net benefit of exerting effort on a costly activity for future benefit. Without aspirations for growth, there may be no reason to have business savings, obtain credit, attend a business training program, introduce product or process innovations, or implement new profitable business practices. Moreover, without aspirations for growth, simply providing ready access to resources may not directly imply that people will take advantage of them (Bandura, 2009). Another aspect highlighted in the literature is that lack of aspirations can become an (internal) psychological constraint, which can perpetuate poverty (Ray, 2006; Bogliacino and Ortoleva, 2014; Dalton, Ghosal, and Mani, 2016; Genicot and Ray, 2017). In turn, poverty can stifle the "capacity to aspire", i.e., the aspirational resources to contest and alter the conditions of one's own poverty (Appadurai, 2004). Indeed, the association between poverty and low aspirations has been empirically documented across a wide range of countries and settings (see The World Bank, 2015, for a review).

Despite its importance in the poverty literature, we know very little (if anything) about the

aspirations of small-scale entrepreneurs in developing countries. Do they aspire to grow their businesses? If so, on which dimensions and how far? Are their aspirations realistic? If not, do they converge to realistic aspirations with time? Is there heterogeneity in aspirations across businesses, and if so, what are the determinants of such heterogeneity? Finally, do aspirations predict sales, profits, and forward-looking behavior tied to firm performance and growth, such as product and process innovation?

These are all important outstanding questions for research and policy. The answers can help create a better understanding of a population that is often the target of policies aimed at releasing external constraints, taking for granted (unobserved) entrepreneurial aspirations. It would help policymakers better target their policies, by distinguishing the type of entrepreneur who has the potential and aspiration to grow; from one who has a business to subsist. It would also help reconcile why some seemingly profitable opportunities are not taken up, and why policies aimed at raising aspirations, for example by changing mental models, can be an effective way to break a poverty trap (Bernard, Dercon, Orkin, and Taffesse, 2014; The World Bank, 2015).

This paper addresses these questions with a unique panel dataset on the aspirations for business growth for a representative sample of 1301 small-scale urban retailers in Jakarta, Indonesia. The panel study involves two waves of data collection, in April 2016 and April 2017 and introduces several novel features. First, it records detailed measures of business performance, practices, and aspirations for growth in four business dimensions: shop size, number of employees, number of customers, and sales. Second, it distinguishes between short-term (in one year) and long-term (in a life time) aspirations. This distinction allows us to a) study the dynamics of entrepreneurial aspirations over a 12 month interval and b) learn about the aspiration horizons entrepreneurs have in mind when they think about the ideal business. Third, it proposes measures for two novel concepts: "imagination failure", the failure to imagine an ideal business in the long-term, and "planning failure", the failure to imagine a time-frame to achieve an ideal business. Both imagination and planning failures aim to capture behavioral biases in setting aspirations, which are important for aspirations-based poverty traps (Dalton, Ghosal, and Mani, 2016). Finally, the panel dimension of the data allows us to compare aspirations for growth at baseline with actual growth at endline, and therefore study the extent to which entrepreneurs achieve their aspirations and whether they adjust them with realized outcomes.

We find that on average entrepreneurs in our sample aspire towards positive business growth on all dimensions. In the long term, the average entrepreneur sees her ideal business 95% larger in size, with 42% of more employees, and 54% more customers. The average time horizon to achieve these

long term aspirations is slightly less than three years, with a high level of perceived agency. Within one year, the average business aspires to grow in size by 23%, to have 17% more employees, 24% more customers, and 160% higher sales. When we contrast these aspirations with business outcomes one year later, we observe that most of the entrepreneurs set unrealistic aspirations. About 84% of the businesses are overly optimistic in the sales they aspire for in one year, and more than 40% fall short in their aspirations for customers and employees growth. Such biased aspirations can be problematic, as according to Ray (2006) and Genicot and Ray (2017), unrealistically high or low aspirations can discourage investment in future betterment and become a source of a poverty trap. However, we also observe in our second wave of data that entrepreneurs dynamically revise their aspirations to more realistic levels. Entrepreneurs who are overly pessimistic at baseline increase their aspirations for the next year, while those who are overly optimistic adjust their aspirations downwards. These findings suggest that rather than being sticky, business aspirations converge to realistic levels with time and experience.

Despite the high average levels of baseline aspirations in our sample, we observe a pronounced heterogeneity. More than half the sample does not aspire to grow beyond current levels in size, employees, or customers in the next 12 months. Moreover, in the long-term, a non-trivial proportion (16%) of entrepreneurs depict imagination failure and 28% show planning failure. In addition, consistent with the literature on poverty and aspirations, we find that businesses with lower profits are more likely to depict imagination failure. In a similar vein, businesses with less employees, low credit use, and low scores on indices of business practices, especially marketing and stocking-up, are significantly more likely to have imagination and planning failure. These findings are in line with the literature on management practices, which finds that marketing skills can spur an expansionary mindset (Anderson, Chandy, and Zia, 2018). On entrepreneur characteristics, we find that older, female, and low perceived agency owners, as per self-efficacy and locus of control measures, have lower aspirations to grow their businesses.

Finally, we find that aspirations are strongly associated with measures of future-oriented behavior such as plans for business expansion and process innovation. Entrepreneurs that depict imagination failure are 7% less likely to expand their business, 15% less likely to improve record-keeping, and 21% less likely to develop a business plan. We find similar significant effects for entrepreneurs with planning failure. These results persist even after controlling for the entrepreneur's business practices and a comprehensive set of firm- and individual-level characteristics. Furthermore, aspirations are strong predictors of actual business performance one year later. The magnitudes of these effects are large: a one standard deviation increase in sales aspirations at baseline is associated with 36%

higher monthly sales and 50% higher monthly profits one year later. Furthermore, each dimension of baseline aspirations has significant predictive power over its associated endline outcome: a one standard deviation increase in size aspirations at baseline is associated with 13% higher shop size at endline, and a one standard deviation higher employee aspirations predict a 5% increase in employees.

Our paper contributes to three main strands of the literature. First, we complement the literature on small business growth in developing countries, by providing an aspirations-based view of entrepreneurial behavior. There is a recent literature showing that better business practices predict higher survival rates and faster sales growth (e.g., McKenzie and Woodruff, 2017). Our paper complements this literature by showing aspirations on their own can become an important predictor of future firm performance and entrepreneurial future-oriented behavior that can eventually lead to firm growth. Our paper also contributes to an emerging literature that aims to identify entrepreneurs with rapid business growth potential (Fafchamps and Quinn, 2016; Fafchamps and Woodruff, 2017). Fafchamps and Woodruff (2017), for instance, construct a proxy for entrepreneurial attitudes to grow by asking the entrepreneur how many employees they expect to have in five years' time, and why they stay in business (e.g., because they make enough to feed their family or because they want to grow to provide employment). From the answers to these two questions, the authors construct an index of attitudes towards growth. They find that the strongest predictor of future growth is entrepreneurial ability, and that the attitudinal measures are not associated with subsequent growth. They acknowledge that this may be due to the inherent difficulties in measuring attitudes. Bjorvatn, Cappelen, Sekei, Sørensen, and Tungodden (2015) measures Tanzanian secondary school students' ambitions to start their own business by asking whether they would like to spend a gift of 1 million Tanzanian shillings on starting a business or not. Our paper complements this strand of literature by providing a comprehensive characterization of entrepreneurial aspirations. We show that, indeed, entrepreneur aspirations do predict behavior oriented towards future business growth, on top of entrepreneurial ability and skills.

Second, we contribute to the emerging but rapidly growing literature of aspirations in the context of poverty. Much of the existing empirical literature on aspirations studies the link between household wealth, income, and socio-economic status on occupational and educational aspirations (see, e.g., Serneels and Dercon, 2014; Pasquier-Doumer and Risso Brandon, 2015; Favara, 2017; Mukherjee, 2017). In this paper, rather than focusing on households and parental aspirations for their children, we focus on small-scale entrepreneurs and their aspirations for their businesses. This population is of particular interest, as it constitutes one of the most important sources of employment in the developing world. Bernard, Dercon, Orkin, and Taffesse (2014) also studies the aspirations of

self-employed households in rural Ethiopia. However, rather than measuring aspirations for income-generating activities directly, they focus on the aspirations of these households for their general wealth, social status, and children's education.

A third contribution of this paper is methodological. We provide a unique and novel dataset on entrepreneurial aspirations that combines insights from different literatures. We study both aspirations for a fixed and an open time horizon, and in four key business dimensions. We elicit the time estimated by the entrepreneur to realize their aspired business (adapted from Laajaj, 2017). In addition, we introduce two new measures for imagination and planning failure (in the spirit of Dalton, Ghosal, and Mani, 2016), distinguish aspirations from hope (in the spirit of Lybbert and Wydick, 2017), measure the extend of realism of aspirations and how they are revised with time (Selten, 1998). Using this comprehensive framework, we provide first and comprehensive evidence of the growth aspirations of small-scale entrepreneurs in a developing country setting.

The remainder of the paper is organized as follows. Section II introduces the conceptual framework and hypotheses. Section III describes the methodology and data. Section IV presents the results and Section V concludes.

II Framework and Hypotheses

Since Simon (1955) and Selten (1998) and more recently Bogliacino and Ortoleva (2014); Dalton, Ghosal, and Mani (2016); Genicot and Ray (2017), aspirations have been conceptualized as reference points. Thus, losses and gains relative to the initial level of aspirations are what determine effort.[1] Understanding the determinants of reference points, in this case of entrepreneurial aspirations, has both research and policy relevance. This section lays out hypotheses for both, the static and dynamic determinants of business aspirations of entrepreneurs. We also study the type of entrepreneurial future-oriented behavior that can be predicted by aspirations and the business outcomes that can be influenced by aspirations. Since the literature on entrepreneurial aspirations is still in its infancy, the hypotheses tested in this paper are inspired by several strands of the existing empirical and theoretical literature on household aspirations, and by insights from research in psychology.

[1] This literature builds on the contribution of Köszegi and Rabin (2006) who model reference dependent preferences with reference points endogenous to the economic environment.

A The Formation of Business Growth Aspirations

A.1 Static Determinants of Aspirations

According to the nascent literature in this field, the main factor determining individuals' aspirations is poverty. As Ray (2006, p.1) argues "Poverty stifles dreams, or at least the process of attaining dreams." Poorer individuals are more likely to suffer from aspiration levels below their potential, either due to a lack of positive role models (Ray, 2006) or because poverty exacerbates the consequence of a behavioral bias in setting aspirations (Dalton, Ghosal, and Mani, 2016). It is empirically well documented that lower socio-economic status, income, and overall wealth are associated with lower educational and occupational aspirations (see, e.g., Serneels and Dercon, 2014; Bernard, Dercon, Orkin, and Taffesse, 2014; Pasquier-Doumer and Risso Brandon, 2015; Favara, 2017; Mukherjee, 2017; Janzen, Magnan, Sharma, and Thompson, 2017). However, we are not aware of any study that explores the link between wealth and entrepreneurial aspirations.

We proxy the wealth of entrepreneurs with measures of shop size, number of employees, number of customers, profits, and formality (i.e. registration for taxes and the formal separation of private residence and business premises). If the formation of household and business aspirations follow a similar process, we should expect that the smaller (i.e. the poorer) the business, the lower the aspirations of the entrepreneur. However, the formation of business aspirations for entrepreneurs may follow a completely different process. It may be that, unlike poor households, small entrepreneurs are particularly motivated individuals who choose to have a retail shop to make it grow, and precisely those poor entrepreneurs are the ones with higher aspirations to grow. This is an open empirical question.

A second key determinant of aspirations is gender. Dercon and Singh (2013) find a gender gap in the educational aspirations of parents for their children and of children for themselves. Parental aspirations at an early age are biased towards boys in India and Ethiopia, while in Vietnam they are in favor of girls. In a sample of rural Ethiopians, Bernard, Dercon, Orkin, and Taffesse (2014) report that men aspire to higher income, education, and social status than women. Bloem, Boughton, Htoo, Hein, and Payongayong (2017) find that women have lower levels of aspirations for agricultural land and income in a cross-section from rural Myanmar. In an experimental setting in India, Mukherjee (2017) shows that women's educational aspirations deteriorate after being primed with gender cues. In our sample of small-scale entrepreneurs, differential returns to capital may give rise to gender differences in aspiration levels. Experimental evidence from Sri Lanka and Ghana shows that the returns to capital investments in micro-enterprises are significantly lower for female firm owners

compared to male entrepreneurs (de Mel, McKenzie, and Woodruff, 2009; Fafchamps, McKenzie, Quinn, and Woodruff, 2014). Accordingly, we expect that aspirations of female entrepreneurs to be lower than the aspirations of their male counterparts.

Third, we hypothesize that aspirations change over the life cycle of an entrepreneur. Since aspirations adapt to the outcomes realized (Dalton, Ghosal, and Mani (2016)), we expect aspiration gaps to be higher for younger entrepreneurs. However, previous literature on the relationship between age and individual aspirations is inconclusive. In a study set in rural Myanmar, Bloem, Boughton, Htoo, Hein, and Payongayong (2017) find that aspirations generally show no association with age. Older respondents do, however, express higher aspirations for remittances. This finding ties into results of a study using household-level data from rural China. Measuring income aspirations as the *minimum income need* for the household to be sustained for a year, Knight and Gunatilaka (2012) find households with older members to have greater requirements for minimum income. The opposite association may also be true, as consistent with increased risk-aversion, older individuals may not aspire to more change but to more resources to sustain the current state.

A fourth important determinant of aspirations is educational attainment. The existing literature today concerns itself largely with educational aspirations. It shows that mothers with higher educational attainment have higher educational aspirations for their children (Serneels and Dercon, 2014; Bloem, Boughton, Htoo, Hein, and Payongayong, 2017). Closest to our study, Bernard, Dercon, Orkin, and Taffesse (2014) find aspirations to be higher for individuals with more formal education in a cross-section from rural Ethiopia. On a related note, Knight and Gunatilaka (2012) show that the minimum income needs of rural Chinese households increase as a positive function of education. Building on this, we expect entrepreneurs with more formal education to aspire to higher minimum income and measurably demonstrate higher aspirations for business growth.

Fifth, we investigate the relationship between aspirations and the entrepreneur's business ability as measured by the set of best practices as per McKenzie and Woodruff (2017). Although this paper provides first evidence on this relationship, we build on previous research on business practices and management. As per McKenzie and Woodruff (2017), beyond changes in productivity, business practices may engender further effects. While marketing practices can affect the demand faced by the firm, the use of record-keeping may be better suited to hone in on more efficient procedures and to bring down costs in order to streamline the production process. Consistent with this mechanism, Anderson, Chandy, and Zia (2018) find that, in a sample of small-scale businesses in South Africa, firms treated with marketing training adopt a growth focus on higher sales while those treated with finance training adopt an efficiency focus on lower costs. Therefore, in our sample of small-scale

retail businesses, we expect marketing practices to be positively associated with growth aspirations.

Finally, according to the literature of social psychology, goals and aspirations are determined by the perception people have about their capacity to achieve the outcomes they care about with their own effort. As ethnographer MacLeod (1995, p.15) points out "aspirations reflect an individual's view of his or her own chances for getting ahead". These beliefs are measured in two well-known psychological constructs: self-efficacy (Bandura, 1993) and locus of control (Rotter, 1966, 1990). We elicit both beliefs in our sample of entrepreneurs, and hypothesize that they are positively associated with business aspirations.[2]

A.2 Dynamic Updating of Aspirations

Besides the static determinants described above, there is an adaptive dynamic aspect of the aspirations formation process. Aspirations are determined in part by past experience and adapt with the outcomes realized until aspirations and outcomes reach a steady state (Dalton, Ghosal, and Mani, 2016). Aspirations which are unrealized or are below own potential may otherwise adversely affect utility. This aspirations adaptation theory was introduced by Selten (1998) and Karandikar, Mookherjee, Ray, and Vega-Redondo (1998) in a game theoretic framework, where each player sets an aspirations level at each date, and takes an action. The action is switched at the subsequent period only if the achieved payoff falls below the aspirations level, with a probability that depends on the shortfall. Aspirations are thus updated in each period, depending on the divergence of achieved payoffs from aspirations in the previous period. Karandikar, Mookherjee, Ray, and Vega-Redondo (1998) shows that the untrembled joint process of aspirations and actions always converges to a pure strategy state, and the trembled process is ergodic and converges to a unique invariant distribution. We hypothesize that the retailers in our sample follow a similar aspirations adaptation process, updating aspirations upwards when they fall short, and downwards when they overshoot their aspirations.

B Aspirations as Predictor of Future-Oriented Behavior and Business Outcomes

In addition to studying how entrepreneurial aspirations are formed and change, we explore how aspirations affect future-oriented decisions of entrepreneurs and the outcomes they attain one year

[2]The literature establishes that individuals' aspirations are determined by both personal characteristics and the characteristics of their reference groups (Ray, 2006). While our analysis directly include a comprehensive set of personal characteristics, we consider indirectly the effect of reference groups as being encompassed in the proxies of wealth and education.

later. To study the link with future-oriented behavior, rather than focus on contemporaneous performance measures where causality is difficult to establish, we analyze behaviors that are indicative of how businesses will perform in the future, such as plans for business enhancement and expansion. We also measure attainment directly and study how baseline aspirations predict actual business outcomes at endline.

One commonality of the relevant theoretical literature is that aspirations affect the level of costly investment (see, e.g., Dalton, Ghosal, and Mani, 2016; Genicot and Ray, 2017; Lybbert and Wydick, 2017). The empirical literature by and large corroborates this prediction. For example, in a cross-section of rural households in Nepal, Janzen, Magnan, Sharma, and Thompson (2017) find aspirations to positively predict investment in education, loan usage for investment purposes, and saving behavior. Likewise, in an experiment in rural Ethiopia, Bernard, Dercon, Orkin, and Taffesse (2014) show that watching an inspirational movie increases loan usage and total savings. Kosec and Mo (2017) find that higher levels of aspirations are positively associated with the total volume of cash loans outstanding in a cross-section from rural Pakistan. Bernard, Dercon, and Taffesse (2012) complement this finding with cross-sectional data on households from rural Ethiopia. The authors show that narrow aspirations gaps correlate with both lower demand for credit and smaller loan sizes. Consistent with these established studies, we expect our aspirations measures to have predictive power on future-oriented behaviors such plans for business innovation, and consequently, on business indicators such as sales, profits, employees, customers and shop size.

III Empirical Method and Data

A Study Location and Sample

This study was conducted in urban Jakarta, Indonesia. For logistical reasons, we limited the area of study to the urban core of Jakarta ("DKI Jakarta"), home to approximately 10.1 million inhabitants. Our sample comprises businesses in the traditional retail sector (called *Warung* or *Toko Kelontong*), which employs about 35% of the working population of Jakarta (Statistics Indonesia, 2016).

We randomly selected 29 districts (*Kelurahans*) out of the 112 districts in all of Jakarta. We then applied a series of inclusion criteria to cull down to a list of 2,042 eligible businesses. The inclusion criteria were as follows: (i) the business is a multi-product retail store, (ii) the size of the business is at least 4 square meters, (iii) the shop is an independent store and not part of any large retail chain, and (iv) there is a linear distance of at least 30 meters between each shop. This last criterion

was necessary to avoid spillovers as the baseline survey was part of a larger field experiment study.

Within each district, the sampling procedure started with our team of enumerators contacting the local authority to request a map of *community-level* boundaries. Locally known as 'Rukun Warga', these are non-official but well-established administrative zones which separate each district into ten community-level zones on average. Conditional on the inclusion criteria, the enumerators then listed the entirety of businesses within each zone until the final count surpassed 2000 firms.

In January 2016 we listed 2042 establishments through this protocol. We then randomly selected 1301 to form our panel of retailers.[3] The study consisted of two waves of data collection, in April 2016 (hereafter the baseline) and then in April 2017 (hereafter the endline). The data were collected as part of a complementary field experiment on business growth of retailers. In between the two waves, a subset of these firms were exposed to experimental interventions, and we control for all treatment indicators throughout the paper in the analysis using endline data.[4]

B Data

B.1 Measurement of Variables

The detailed business survey used in both waves included questions on both entrepreneur and business characteristics. Questions on demographics, cognitive skills, attitudes, and preferences, as well as business assets, management practices, and business performance were asked. Finally, the survey included detailed question on entrepreneurial aspirations.

Business and Entrepreneurial Measures

Regarding business characteristics, we consider the age of the establishment as well as whether the firm is formally registered for taxes. Since formalization levels tend to be low in traditional sectors of emerging economies, we additionally proxy formality by whether the firm address is different from the owner's home address. We also collect data on the size of the business premises in square meters, the number of full-time employees working in the business, the total number of customers visiting the shop on a typical day, and the firm's typical daily sales and profits. Relevant to our study, we collect information on entrepreneurs' future-oriented behaviors leading to firm growth and innovation. For instance, we ask about plans to start or improve book-keeping habits, and any plans

[3] We allocated the remaining 741 business to a back-up list. Business from this list were used to replace observations lost to refusals or aborted interviews, in random order.

[4] The interested reader is referred to Dalton, Ruschenpohler, Burak, and Zia (2018) for a companion paper on the field experiment. Note that the results in this paper are robust to limiting the sample only to the control group.

to expand the business and develop a business plan.

In terms of entrepreneur demographics, we gather data on the age and gender of the entrepreneur as well as formal education. We collect detailed data on individual business practices implemented by the entrepreneur and construct sub-scores for marketing, stocking-up, record-keeping, and financial planning as proposed in McKenzie and Woodruff (2017).

Regarding time and risk preferences, we make use of simple self-reported measures. Respondents are asked whether they "usually want things now rather than later or whether they are generally willing to wait" in i) financial matters, ii) business decisions, and iii) in general. On a 10-point scale, respondents are then asked to indicate how patient they are in each of the three categories. For the final analysis, we use the aggregate of the three answers. Risk attitudes are measured analogously. Here, respondents are asked whether they usually "avoid taking any risk" or whether they are "fully prepared to take risks" in each of the three categories and indicate their answers on a 10-point scale. Again, we use the aggregate of all three scores.

As a proxy for the entrepreneur's intelligence, we administer a standard digit span task. Digit span tasks are thought to be a measure of several related intellectual capabilities and are thus commonly used in the psychometric literature to proxy for intelligence independent of acquired knowledge and skills (see, e.g., Engle, Laughlin, Tuholski, and Conway, 1999; Hale, Hoeppner, and Fiorello, 2002; Colom, Abad, Rebollo, and Shih, 2005; Kane, Hambrick, and Conway, 2005). Sequences of digits of increasing length are read out one by one and the respondent is asked to repeat the respective sequence. The final score is equal to the number of digits of the longest sequence repeated without mistake. Following the literature, we conduct the exercise in two different ways asking the respondent to repeat the sequence i) in the order of presentation and ii) in reverse order. We aggregate the two scores and use this composite for the final analysis.

The cognitive style of the entrepreneur is measured according to the 10-item questionnaire by Sagiv, Arieli, Goldenberg, and Goldschmidt (2010). This includes five statements measuring an intuitive approach to working and thinking (e.g., "I often follow my instincts.") and five statements measuring a systematic approach (e.g., "Before I do something important, I plan carefully."). Respondents indicate on a 5-point rating scale how much each statement describes their own approach. Following (Sagiv, Arieli, Goldenberg, and Goldschmidt, 2010; Sagiv, Amit, Ein-Gar, and Arieli, 2014), we create one unified measure for which we invert the score on the items measuring an intuitive approach and subsequently aggregate the answers of all questions to one composite characterizing the systematic cognitive style of the entrepreneur.

The perceived agency of the entrepreneur is measured in relation to their sales aspirations. We

adapt the concepts of self-efficacy (Bandura, 1993) and locus of control (Rotter, 1966, 1990) from the psychological literature on motivation and agency beliefs. These concepts enjoy common usage in economics (see, e.g., Bernard, Dercon, Orkin, and Taffesse, 2014; Heckman, Stixrud, and Urzua, 2006; Heckman and Kautz, 2012). Specifically, we ask how confident respondents are in their capabilities for achieving their sales aspirations (self-efficacy) and how important they believe their own effort is in contrast to the role of "destiny, good or bad luck, or other people" (locus of control). In each case, respondents answer on a 6-point scale, and we construct the "Perceived Agency" variable as the aggregate score of the two answers.

Aspirations Measures

Regarding aspirations, we elicit short-term (in the next 12 months) and long-term (open-ended) aspirations for different dimensions of the business. Responses on each dimension are primed by reminding respondents of their current levels. For example, prior to asking about aspirations for business sales the respondents are reminded of the answer they provided for daily sales earlier in the survey.

For short-term aspirations, we ask: "Please imagine your business a year from now. How large do you imagine your business premises to be? How many people will work there? How many customers will come by on a normal day? What are the daily sales you aspire to have?". Shop owners answer with estimates in square meters, numbers of employees and customers, and amounts of daily sales in Indonesian Rupiah.

Long-term aspirations are measured in a similar fashion: "Please imagine your ideal business. How large is your shop? How many people work there? How many customers come by on a normal day?". Specific to long-term aspirations, we also measure the aspirations horizon, which is elicited by the following question: "How many years do you think it will take for you to achieve your ideal business?"

For each aspirations dimension, we calculate "Aspirations Gap" as the difference between the aspired value and the current value, normalized by the current value. If a denotes an individual's aspired state and s denotes the current state, the aspirations gap g of shop owner i is defined as:

$$g(a_i, s_i) \equiv \frac{a_i - s_i}{s_i} \tag{1}$$

Hence, the aspirations gap is a measure of how far the entrepreneur wants to grow the business.

Zero-gapped entrepreneurs aspire to no further growth, while higher values of the gap indicate greater growth aspirations.[5]

Finally, based on the responses to the aspirations questions, we construct two additional variables that we label "Imagination Failure" and "Planning Failure." Imagination failure is a dummy variable equal to 1 if the entrepreneur has never imagined an ideal business, and likewise planning failure is a dummy equal to 1 if entrepreneurs cannot estimate their aspirations horizon.

B.2 Summary Statistics

Table 1 presents summary statistics at baseline for the variables we use in the analysis. Entrepreneurs in our sample are mostly female (71%) and, on average, 45 years old. Educational backgrounds are mixed: the average educational attainment is nine years of schooling, with 46% of the sample with a high-school diploma but only 4% a college degree. Digit span scores are fairly low, with an average score of 1.71 on a scale of (0-8); while the average perceived agency is quite high, with an average score of 0.83 on a (0-1) scale.

In terms of business characteristics, the average business age is 14 years yet most of the businesses in our sample (81%) operate without tax registration. 79% of the businesses are located in the owner's home, with an average of two employees besides the owner. The average business owner earns USD 497 PPP in monthly profits, which is equivalent to 82% of Jakarta's monthly minimum wage in 2014 (Statistics Indonesia, 2016). Goods on offer include a variety of fast moving consumer goods from toiletries and cleaning products to ready-made food, snacks, and cigarettes. Staples such as nuts, rice, and beans are also on offer. Due to the simple production process and low entry costs, retail businesses of this kind are common not only in Indonesia but across the developing world (see, e.g., McKenzie and Woodruff, 2017).

With respect to business skills, average scores on business practices in our sample are comparably low. In particular, with an average of 16% of the measured marketing practices implemented, advertising and customer service are less prevalent in our sample than in comparable samples from Bangladesh, Sri Lanka, Kenya, Mexico, or Chile (5-country mean = 32%) (see Table 1 in McKenzie and Woodruff, 2017). Stocking-up practices are slightly lower in our sample (46%) than across these countries (56%), while reported record-keeping practices and financial planning skills are about on par (46% vs. 42% and 21% vs. 24%).

Table 2 summarizes the measured variables on aspirations and shows that on average, en-

[5]For sales aspirations gap, we restrict the set of possible values to be non-negative. While we allow for zero-gapped entrepreneurs, negative gaps are indicative of a gradual withdrawal from business.

trepreneurs aspire to considerable growth. Within the next 12 months, the average entrepreneur aspires to increase daily sales by 160% over current levels, operate on 23% larger premises, to have 24% more daily customers, and to employ 17% more employees. Yet, there is considerable heterogeneity as can be observed in the median values, which are 0 for aspirations gaps related to business size, employees, and customers. Hence, more than half the sample does not aspire to grow beyond current levels in the next 12 months.

Long-term aspirations for an ideal business are in general higher, as would be expected and the median values are positive for all but the aspirations gap for employees. The average shop owner aspires to an ideal business 95% larger in size, with a 54% greater customer base, and 42% more labor. The aspirations horizon to achieve one's ideal business likewise shows great heterogeneity: the average entrepreneur sees their ideal business realized in nearly three years time, but responses range between a minimum of 1 and a maximum of 40 years. The heterogeneity in the data is further reflected in our computed measures of aspiration failures, where we find an imagination failure rate of 16% and a planning failure rate of 28%.

C Estimation strategy

As a first step, we characterize the determinants of entrepreneurial aspirations at baseline. We use baseline data to estimate simple ordinary least-squares (OLS) regression models of aspirations on a number of firm- and individual-level characteristics as well as business practices of the entrepreneur. We further use fixed effects at the district level to absorb geographic differences.

As the main outcomes of interest, we consider absolute aspirations and aspirations gaps, both for the short- and long-term, on four different dimensions of the business: the size of the firm's premises, the number of employees, the number of daily customers, and daily sales.[6] Beyond direct aspirations measures, we consider the entrepreneur's estimated time horizon to achieve their long-term aspirations, which we use to construct measures of imagination and planning failure.

We estimate the following linear OLS specification:

$$Y_i = \alpha + \beta \mathrm{F}_i + \gamma \mathrm{I}_i + \zeta \mathrm{P}_i + \theta + \epsilon_i \tag{2}$$

where Y_i is the outcome of interest of entrepreneur i, F_i is a vector of firm-level controls and I_i is a vector of individual-level controls. P_i contains the four business-practices sub-scores according to

[6] Regarding sales aspirations, only data for the short-term are available.

McKenzie and Woodruff (2017). θ represents district-level fixed effects and ϵ is the error term. For analysis using endline data, we further include all treatment indicators from Dalton, Ruschenpohler, Burak, and Zia (2018) to absorb experimentally induced variation in outcomes.

IV Results

A Determinants of Aspirations

Tables 3 to 6 report the results of OLS regressions of entrepreneurial aspirations for business size (Table 3), number of employees (Table 4), number of customers (Table 5), and sales (Table 6). For each dimension, we present regressions of short-term aspirations in the first four columns and aspirations gap in the fifth column. Columns (6)-(10) repeat the same pattern for long-term aspirations.

Several key findings emerge. For business size, Table 3 shows that younger firms and those with higher marketing sub-scores are significantly more likely to report higher short- and long-term aspirations. Aspirations gaps are strongly positive and significant for businesses with higher marketing subscores, with 23% higher short-term and 51% higher long-term aspirations for shop size. These findings are consistent with an expansionary entrepreneurial mindset. Indeed, we find corroborating evidence in entrepreneur characteristics where higher systematic thinking style and perceived agency are associated with higher aspirations gaps. Other entrepreneur characteristics, such as being younger and male also predict higher aspiration levels as well as higher aspirations gaps in the long-term. These results on entrepreneur's age and gender hold true for all other dimensions of business aspirations as well. More educated entrepreneurs, however, have lower aspirations gaps which is indicative that these shop owners are already significantly closer to their ideal business size.

For employee aspirations, Table 4 shows that business factors play an important role in determining aspirations gaps. Specifically, entrepreneurs who run businesses on premises outside their household have significantly higher short- and long-term aspirations gaps for their number of employees. Similar to shop size, entrepreneurs with higher perceived agency aspire for more employees and have higher aspirations gaps. On business characteristics, we find that business age is again a significant determinant of employee aspirations, with younger businesses having higher aspiration levels. This association holds true for aspirations for number of customers (Table 5) and sales (Table 6) as well.

Turning to aspirations for customers and sales, proxies for the level of formality, specifically whether the business has a tax ID and whether the business premises is separate from the en-

trepreneur's residence, are significant and positive determinants of sales aspirations in Table 6, though aspirations gaps are not significantly different on either variable.

Table 7 reports our findings on imagination and planning failure, two variables that encapsulate all business dimensions of aspirations. On business characteristics, we find that businesses with more employees, higher past profits, higher incidence of credit, and that are younger, are significantly less likely to depict imagination failure. All subscores on business practices are negatively associated with imagination failure, with marketing and stocking-up scores remaining statistically significant in the combined regression in column (4). These coefficients suggest that businesses that score higher on business practice scores are less likely to depict imagination failure, which is consistent with the literature on business practices which argues that successful adoption of business practices is a key pathway to achieving improvements in performance. Entrepreneur characteristics also matter, in particular younger, more educated entrepreneurs, and those with higher perceived agency are less likely to depict imagination failure. These results are consistent with the earlier findings on individual business dimensions of aspirations.

Much of the same patterns hold for planning failure in columns (5) to (8) of Table 7. We additionally find that businesses that are registered with tax IDs and have separate premises from the owner's residence are significantly less likely to depict planning failure. On practices, financial planning subscores are strongly negative and significant, which reassuringly indicates that business that employ more financial planning practices are significantly less likely to suffer from planning failure.

B How Realistic are Businesses Aspirations?

Whether aspirations are realistic or not is an important question for research and policy that is yet unexplored in the literature, plausibly due to lack of available data. The answer would allow us to identify, at the individual level, whether retailers are biased when setting their aspirations at baseline and map the dynamics of the aspirations formation process.

In this sub-section, we take advantage of the panel structure of our data, and define biased aspirations as aspiring significantly below or above actual attainment. We operationalize this definition by contrasting aspirations for business growth in 12 months at baseline to actual business outcomes attained one year later. We then characterize three types of entrepreneurs: a) realistic entrepreneurs, who set aspirations in line with their actual attainments (within a 10% error margin), b) overly-optimistic entrepreneurs, who cannot fulfill their aspirations one year later and c) overly-pessimistic

entrepreneurs, who set aspirations significantly below their attainments.

Figure 1 depicts the distribution of the types of entrepreneurs for each dimension and shows that most entrepreneurs in our sample set unrealistic aspirations. Overall, we observe significant over-shooting in sales aspirations and a relatively high under-shooting in the other business dimensions. The majority of businesses (85%) are overly optimistic in the sales they aspire to have in one year. However, almost half of the business hold overly pessimistic aspirations about the number of customers they will have in one year. Likewise, a large proportion of businesses (35%) aspire to have significant lower shop size and number of employees than what they actually end up having in one year. The highest level of realism in aspirations is in the number of employees.

Figure 1 here

We then ask which businesses are more likely to hold realistic and biased aspirations. With the exception that poorer businesses Dalton, Ghosal, and Mani (2016) and businesses run by women (Bernard, Dercon, Orkin, and Taffesse, 2014) are more likely to hold downward biased aspirations, there are no other clear cut predictions derived from the literature on the determinants of aspirations biases.

Tables 8a and 8b show results of OLS regressions of the determinants of realistic or biased aspirations for each business dimension. We observe the determinants of the type of entrepreneur varies with the business dimension. Entrepreneurs with smaller shops and who are better at record keeping and financial planning are more likely to hold overly optimistic aspirations regarding their sales. However, the determinants predicting overly pessimistic aspirations in sales are different. Businesses with lower sales, more customers, with male owners, who have lower systematic thinking style, and are worse at financial planning are more likely to aspire to have sales below to what they actually achieve. Regarding biased aspirations for customers, we find that businesses with lower sales, more customers, who are formalized and younger, which have a female owner, are worse at record keeping, and better at financial practices are more likely to overshoot their customers aspirations. In contrast, older businesses with male owners and fewer customers are more likely to be pessimistic about the number of customers they aspire to have in one year. Smaller shops are more likely to hold overly optimistic aspirations to grow in size, and older entrepreneurs are more optimistic about their aspirations for employee growth. Interestingly, neither cognitive ability (proxied by the years of education and digit span test) nor time or risk preferences appear as systematic predictors of aspirations biases.

Overall, these results provide first evidence of the substantial heterogeneity of factors determining

aspirations biases. Several results are consistent with our hypotheses, for instance, that shops with fewer customers hold more pessimistic aspirations for customers' growth. However, some others provide contrasting evidence, in particular, the results on gender differences. Specifically, the finding that men are overly pessimistic in their aspirations for sales and customers while women are overly optimistic, is surprising in light of our baseline results where we find that women tend to aspire lower than men. These findings indicate gender differences not only in levels of aspirations at baseline, but also the dynamics of how successful men and women are in achieving set aspirations.

C Dynamics of Aspirations

The previous sub-section shows that most businesses set unrealistic aspirations for their businesses. In reality, they either overestimate or underestimate what they can achieve in a year. According to Ray (2006) and Genicot and Ray (2017), unrealistically high or low aspirations can discourage productive investments and become a source of a poverty trap. An important question, therefore, is whether businesses adjust their aspirations once they realize outcomes a year later. Specifically, do overly pessimistic entrepreneurs revise their aspirations upwards, and do overly optimistic revise their aspirations downwards?

To answer these questions, we use the aspirations measures at endline to construct the growth rate of aspirations, defined as the difference between the log of aspirations at endline and the log of aspirations at baseline. We do this for the four dimensions of aspirations: sales, customers, shop size, and employees. We then regress the growth rate of aspirations in each dimension on a dummy indicating whether the businesses were overly optimistic at baseline or not, and on a dummy indicating whether the businesses were overly pessimistic. In this specification, the benchmark comparison group is then the group of realistic businesses. We control for all individual- and firm-level controls as per previous analysis.

Table 9 presents the results. We find strong evidence for adjustment of aspirations in all four dimensions toward more realistic levels. Compared to those businesses who had realistic aspirations at baseline, businesses who had overly optimistic aspirations at baseline reduce their aspirations at end line, and those who were overly pessimistic increase their aspirations. These changes are substantial in magnitude and highly statistical significant: businesses with pessimistic baseline aspirations of sales increase their aspirations at endline by 58% and those with optimistic aspirations lower their aspirations by 81%. The table shows similar effects for aspirations of customers, size, and employees.

This evidence of adjustment of aspirations is in line with theoretical models that show aspi-

rations are updated based on an adaptive learning process (Karandikar, Mookherjee, Ray, and Vega-Redondo, 1998; Selten, 1998). The main thesis of these models is that unrealized aspirations may adversely affect utility, so they are adapted to what it is learned to be achievable: they remain constant if they can easily be fulfilled, they are increased if they can be satisfied, and lowered when they are difficult to realize.

To the best of our knowledge, Galiani, Gertler, and Undurraga (2018) is the only other paper examining aspiration adaptation in a developing country setting. They show that housing aspirations of non-beneficiary neighbors of a slum-housing intervention increase right after the intervention to their neighbors, but they are adjusted downwards when they realize they do not have access to the material means required to satisfy their aspirations. We show evidence of a similar adjustment process among small-scale retailers in an emerging market. We complement the results of Galiani, Gertler, and Undurraga (2018) by not only observing entrepreneurs over shooting their aspirations and then adjusting downwards, but also observing entrepreneurs undershooting their aspirations and then adjusting upwards.

D Predicting Forward Looking Behavior with Aspirations

A final important question we address in this paper is whether our measures of business aspirations at baseline have predictive power over forward looking behavior (measured at baseline) and actual outcomes one year later.

Table 10 first studies future-oriented business behaviors at baseline, specifically, we analyze process innovation with a measure for plans to develop a business plan (Column 1 and 2), plans to start or improve book-keeping (Columns 3 and 4), and plans to expand the business (Column 5 and 6).

We find our measures for aspiration failures, especially imagination failure are very strong negative predictors of these future-oriented behaviors, even after controlling for our complete set of entrepreneur and enterprise level characteristics, scores for all management practices, and district fixed effects. Entrepreneurs who depict imagination failure are 7% less likely to plan to expand their business, 15% less likely to plan to improve their book-keeping, and 21% less likely to develop a business plan. Similarly, entrepreneurs who depict planning failure are 9% less likely to plan to improve record-keeping and 11% less likely to develop a business plan in the next 12 months.

Combined, these results show that our aspirations measures have strong predictive and explanatory power for future business process innovation beyond traditional business and entrepreneur

characteristics, or even management practices. These findings are in line with the literature on household aspirations, which shows aspirations are closely tied to forward-looking behaviors on the household- and individual-level, such as savings, investment, and the use of credit (Bernard, Dercon, Orkin, and Taffesse, 2014; Janzen, Magnan, Sharma, and Thompson, 2017).

E Predicting Business Outcomes with Aspirations

Table 11 presents results of the association between the z-score of each aspirations dimension at baseline on end-line sales and profits. As per previous analysis, all regressions control for the businesses practice scores used by McKenzie and Woodruff (2017), firm and individual controls, and district fixed effects. The analysis shows that aspirations for customer and sales growth at baseline have strong and statistically significant explanatory power for endline sales and profits. The magnitude of the association is large: a one standard deviation (s.d) increase in sales aspirations at baseline is associated with 36% higher monthly sales and 50% higher monthly profits one year later, whereas a one standard deviation increase in customer aspirations at baseline is associated with 8% higher monthly sales and 23% higher monthly profits one year later.

Table 12 repeats this analysis for business size, employees, and customers. The results show each dimension of baseline aspirations has significant predictive power over its associated endline outcome: a one standard deviation increase in size aspirations at baseline is associated with 13% higher shop size at endline, and a one standard deviation higher employee aspirations predict a 5% increase in employees. The coefficient for customer aspirations is positive but not statistically significant, however, baseline customer aspirations do significantly predict endline sales and profits as shown in Table 11.

These results provides strong evidence of a positive link between aspirations and business growth, and are consistent with the theoretical literature on aspirations as reference points that induce higher investment effort and higher attainment. Within this framework, our analysis suggests that aspirations for business growth in specific business dimensions act as reference points inducing higher business attainment. These results are also consistent with empirical evidence on household aspirations showing the association between aspirations and forward-looking behavior (Bernard, Dercon, Orkin, and Taffesse, 2014; Beaman, Duflo, Pande, and Topalova, 2012).

V Conclusion

This paper extends the research on aspirations and poverty to the field of small-scale entrepreneurship in developing countries. We find that these entrepreneurs do indeed aspire to grow their business, however, there is considerable heterogeneity with more than half the businesses reporting no aspirations in the short-term and several depicting imagination and planning failures in the long-term. Our analysis sheds light on which entrepreneur and business characteristics are associated with higher aspirations. In addition, we find that very few businesses set realistic aspirations, with the majority either over- or under-estimating their potential for sales, customers, shop size, and employees. At the same time we find that these businesses do update their aspirations a year later based on how successful they were in achieving baseline aspirations. Finally, we show that baseline business aspirations have strong explanatory power over firm performance indicators at endline even after controlling for individual and firm characteristics and management practices.

These findings have important implications for policy and future research. In terms of policy, these findings can help reconcile why policies aimed at alleviating physical and human capital constraints are often unsuccessful at spurring business growth. The heterogeneity in our findings make a strong case for better targeting of business aid programs based on aspirations for growth. Given that aspirations are a strong predictor of future behavior, they are likely to complement policies targeting business investment, savings, credit use, and business innovation. We expect that these policies will be more effective for entrepreneurs with higher aspirations for growing their businesses.

In terms of future research, our findings motivate further work on the causal implications of entrepreneurial aspirations. In particular, research on understanding what kinds of policies and programs boost aspirations, and mapping the causal channel that leads to successful impacts on business growth, would be a valuable extension of this work.

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Figures

Figure 1

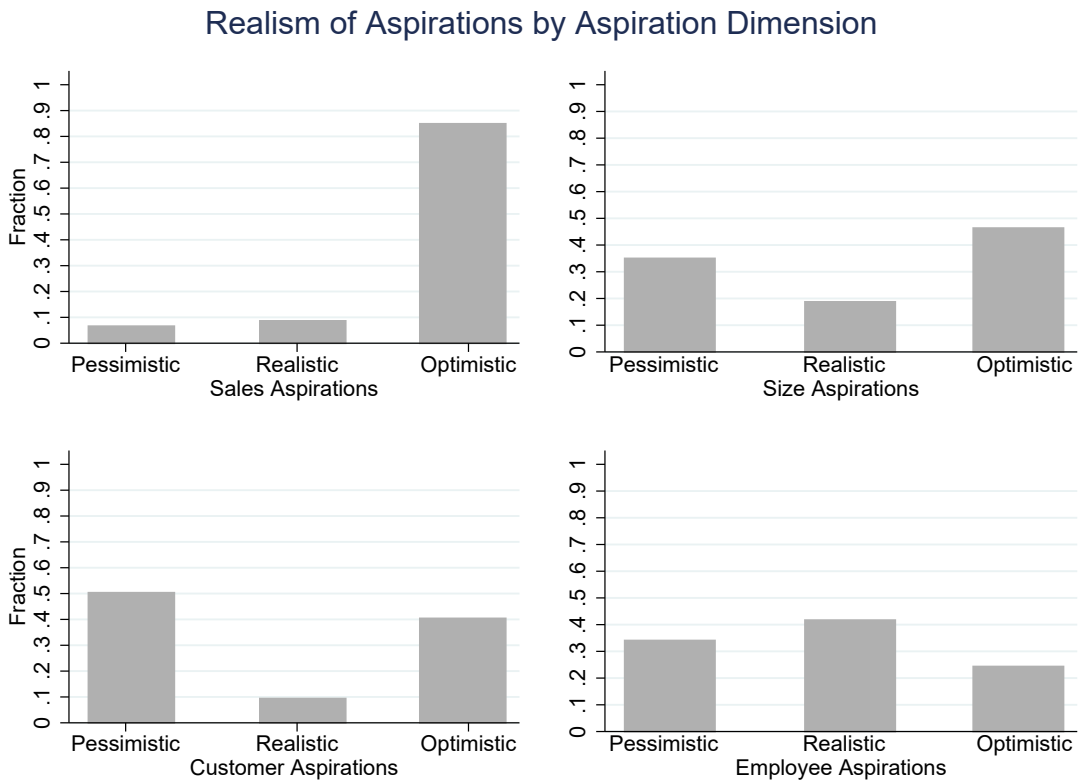

Table 1: Summary Statistics

	Mean *N = 1301*	SD	Median
Entrepreneur Characteristics			
Gender (Male=1)	0.29		
Age (Years)	45.27	(11.31)	45.00
Formal Education (Years)	9.39	(3.78)	9.00
Time Preference (0-10 Scale)	5.18	(2.26)	5.33
Risk Preference (0-10 Scale)	3.73	(2.09)	3.67
Digit Span (0-8 Scale)	1.71	(0.83)	1.5
Systematic Thinking Style (0-1 Scale)	0.68	(0.09)	0.68
Perceived Agency (0-1 Scale)	0.83	(0.13)	0.83
Business Characteristics			
Business Age (Years)	13.60	(11.79)	10.00
Business Has Tax ID	0.19		
Business Separate From Residence	0.21		
Business Size (Square Meters)	13.22	(12.34)	10.00
Total Number of Employees	2.00	(1.22)	2.00
Business Has Outstanding Loan	0.16		
Total Daily Customers	49.33	(43.32)	40.00
Total Daily Sales (USD PPP)	239.83	(585.97)	123.39
Total Profits Last Month (USD PPP)	496.66	(6452.28)	139.76
Business Practices			
Marketing Subscore	0.16	(0.19)	0.17
Stocking-up Subscore	0.46	(0.3)	0.33
Record-keeping Subscore	0.46	(0.19)	0.44
Financial Planning Subscore	0.21	(0.17)	0.13

This table presents summary statistics for entrepreneur and business characteristics. Columns (1) and (2) present the mean and standard deviation, and Column (3) presents the median.

Table 2: Business Aspirations

	Mean *N = 1301*	SD	Median
Short-term Aspirations (in Next 12 Months)			
Aspirations for Business Size (Square Meters)	15.56	(15.13)	12.00
Aspirations Gap for Business Size	0.23	(0.66)	0.00
Aspirations for Number of Employees	1.72	(1.33)	2.00
Aspirations Gap for Employees	0.17	(1.24)	0.00
Aspirations for Number of Customers	56.85	(68.24)	40.00
Aspirations Gap for Customers	0.24	(1.01)	0.00
Aspirations for Daily Sales (USD PPP)	500.26	(643.85)	246.78
Aspirations Gap for Daily Sales	1.60	(1.44)	1.00
Long-term Aspirations (Open-ended)			
Aspirations Horizon for Ideal Business (Years)	2.76	(2.84)	2.00
Aspirations for Ideal Business Size (Square Meters)	24.19	(26.69)	16.00
Aspirations Gap for Ideal Business Size	0.95	(1.32)	0.50
Aspirations for Ideal Number of Employees	2.09	(1.62)	2.00
Aspirations Gap for Ideal Employees	0.42	(1.35)	0.00
Aspirations for Ideal Number of Customers	73.35	(100.22)	50.00
Aspirations Gap for Ideal Customers	0.54	(1.19)	0.20
Aspiration Failures			
Imagination Failure (Yes/No)	0.16		
Planning Failure (Yes/No)	0.28		
Innovation and Expansion			
At Least One New Product in Last 12 Months (Yes/No)	0.50		
Plans to Expand Business in Next 12 Months (Yes/No)	0.38		
Plans to Develop Business Plan for Next 12 Months (Yes/No)	0.63		
Plans to Start/Improve Book-keeping in Next 12 Months (Yes/No)	0.53		

This table presents summary statistics for all baseline aspiration variables used in the paper. Columns (1) and (2) present the mean and standard deviation, and Column (3) presents the median.

Table 3: Determinants of Aspirations for Business Size

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Short-term Aspirations				Short-term Aspirations Gap	Long-term Aspirations				Long-term Aspirations Gap
Aspirations Horizon for Ideal Business (Years)						1.579***	1.355***	1.624***	1.411***	0.096***
						(0.391)	(0.405)	(0.405)	(0.403)	(0.018)
Business Size (Square Meters)	0.981***	0.982***	0.986***	0.977***		1.281***	1.300***	1.346***	1.229***	
	(0.076)	(0.074)	(0.070)	(0.078)		(0.134)	(0.186)	(0.190)	(0.130)	
Total Number of Employees	0.146			0.103	0.004	2.132**			2.368**	0.040
	(0.244)			(0.254)	(0.014)	(0.966)			(0.992)	(0.030)
Total Daily Customers	0.009*			0.004	-0.000	0.054***			0.032**	0.001
	(0.005)			(0.005)	(0.000)	(0.016)			(0.015)	(0.001)
Total Profits Last Month (IHS)	0.056			0.054	0.002	0.160*			0.141	0.001
	(0.035)			(0.034)	(0.003)	(0.094)			(0.096)	(0.005)
Business Has Tax ID	1.841*			1.461	0.038	4.523***			2.632	0.020
	(1.004)			(0.899)	(0.055)	(1.689)			(1.819)	(0.104)
Business Separate From Residence	-0.367			-0.503	-0.063	-0.163			-0.281	-0.065
	(0.581)			(0.589)	(0.044)	(1.261)			(1.230)	(0.088)
Total Loans Outstanding (IHS)	-0.086			-0.106	-0.005	0.141			0.038	0.009
	(0.067)			(0.065)	(0.005)	(0.162)			(0.160)	(0.011)
Business Age (Years)	-0.042***			-0.027*	-0.002	-0.152***			-0.104*	-0.010***
	(0.015)			(0.016)	(0.002)	(0.053)			(0.055)	(0.003)
Gender (Male=1)		0.627		0.418	0.006		7.093***		6.618***	0.434***
		(0.634)		(0.616)	(0.043)		(1.615)		(1.433)	(0.088)
Age (Years)		-0.033**		-0.012	-0.002		-0.219***		-0.145***	-0.008*
		(0.016)		(0.020)	(0.002)		(0.053)		(0.050)	(0.004)
Formal Education (Years)		0.061		0.008	-0.011*		0.230*		0.162	0.017*
		(0.079)		(0.071)	(0.006)		(0.131)		(0.136)	(0.010)
Time Preference (0-10 Scale)		-0.152		-0.145	-0.010		0.288		0.272	-0.002
		(0.108)		(0.112)	(0.009)		(0.324)		(0.243)	(0.016)
Risk Preference (0-10 Scale)		0.026		0.021	0.004		0.433		0.212	0.003
		(0.114)		(0.117)	(0.010)		(0.473)		(0.300)	(0.017)
Digit Span (0-8 Scale)		-0.136		-0.137	-0.008		-0.012		-0.009	0.012
		(0.282)		(0.276)	(0.020)		(0.753)		(0.756)	(0.047)
Systematic Thinking Style (0-1 Scale)		4.802		4.163	0.447*		7.524		5.645	0.321
		(2.988)		(3.024)	(0.250)		(5.702)		(5.488)	(0.395)
Perceived Agency (0-1 Scale)		1.612		0.376	0.320*		10.081***		7.467*	0.516*
		(2.642)		(2.622)	(0.177)		(3.700)		(4.082)	(0.269)
Marketing Subscore			2.965**	2.392*	0.234**			6.907**	4.075	0.513**
			(1.347)	(1.315)	(0.116)			(3.495)	(3.721)	(0.226)
Stocking-up Subscore			-0.240	-0.351	-0.043			1.629	0.996	-0.073
			(0.848)	(0.848)	(0.074)			(1.932)	(1.850)	(0.142)
Record-keeping Subscore			1.523	0.882	-0.066			5.910	3.641	0.122
			(1.660)	(1.663)	(0.127)			(3.652)	(3.846)	(0.258)
Financial Planning Subscore			2.019	1.355	0.240			1.534	-3.103	0.064
			(1.829)	(1.888)	(0.162)			(3.962)	(3.966)	(0.265)
R-squared	0.684	0.683	0.683	0.688	0.060	0.512	0.476	0.455	0.532	0.175
Sample Size	1301	1301	1301	1301	1301	1301	1301	1301	1301	1301

This table presents results from regressions of aspirations and aspirations gaps for business size (in square meters) on firm - and individual-level characteristics, as well as managerial practices. Columns (1) to (4) present results for short -term aspirations and column (5) for aspirations gaps (i.e. in the next 12 months). Columns (6) to (10) present the same analysis for long -term aspirations and aspirations gaps (i.e. open-ended). An aspirations gap is defined as the difference between aspirations and current level, normalized by current level. All regressions include district fixed effects. Robust standard errors are reported in parentheses. Statistically significant p -values are highlighted by: * (10% significance level), ** (5% significance level), and *** (1% significance level).

Table 4: Determinants of Aspirations for Employees

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Short-term Aspirations				Short-term Aspirations Gap	Long-term Aspirations				Long-term Aspirations Gap
Aspirations Horizon for Ideal Business (Years)						0.053***	0.045**	0.056***	0.045**	0.022
						(0.020)	(0.020)	(0.020)	(0.020)	(0.023)
Business Size (Square Meters)	-0.002			-0.002	-0.004	0.004			0.003	-0.003
	(0.002)			(0.003)	(0.002)	(0.004)			(0.003)	(0.003)
Total Number of Employees	0.683***	0.676***	0.670***	0.685***		0.680***	0.696***	0.683***	0.693***	
	(0.034)	(0.038)	(0.038)	(0.034)		(0.042)	(0.043)	(0.043)	(0.042)	
Total Daily Customers	0.001			0.001	-0.000	0.004***			0.003***	0.000
	(0.001)			(0.001)	(0.001)	(0.001)			(0.001)	(0.001)
Total Profits Last Month (IHS)	-0.000			-0.000	0.002	-0.002			-0.003	-0.001
	(0.004)			(0.004)	(0.005)	(0.006)			(0.006)	(0.005)
Business Has Tax ID	-0.077			-0.123	-0.178*	-0.006			-0.098	-0.169
	(0.082)			(0.085)	(0.093)	(0.118)			(0.126)	(0.110)
Business Separate From Residence	0.043			0.058	0.274***	-0.008			0.007	0.240**
	(0.075)			(0.076)	(0.103)	(0.092)			(0.095)	(0.106)
Total Loans Outstanding (IHS)	-0.008			-0.008	0.002	0.019			0.018	0.012
	(0.008)			(0.009)	(0.010)	(0.013)			(0.013)	(0.012)
Business Age (Years)	-0.005**			-0.006**	0.002	-0.011***			-0.013***	-0.003
	(0.002)			(0.002)	(0.004)	(0.003)			(0.003)	(0.004)
Gender (Male=1)		0.073		0.068	0.113		0.381***		0.304***	0.344***
		(0.069)		(0.071)	(0.089)		(0.097)		(0.104)	(0.098)
Age (Years)		0.003		0.006**	0.004		-0.003		0.003	0.001
		(0.003)		(0.003)	(0.004)		(0.004)		(0.004)	(0.004)
Formal Education (Years)		0.011		0.015*	0.004		0.017		0.022*	0.011
		(0.008)		(0.008)	(0.011)		(0.011)		(0.011)	(0.012)
Time Preference (0-10 Scale)		0.013		0.015	0.027		0.021		0.023	0.030*
		(0.013)		(0.012)	(0.016)		(0.017)		(0.017)	(0.018)
Risk Preference (0-10 Scale)		0.019		0.021	-0.003		0.014		0.008	-0.005
		(0.016)		(0.015)	(0.016)		(0.020)		(0.021)	(0.018)
Digit Span (0-8 Scale)		-0.032		-0.031	-0.003		-0.034		-0.029	0.003
		(0.037)		(0.038)	(0.043)		(0.052)		(0.052)	(0.046)
Systematic Thinking Style (0-1 Scale)		-0.139		-0.163	-0.601		0.364		0.290	-0.309
		(0.310)		(0.315)	(0.418)		(0.441)		(0.444)	(0.450)
Perceived Agency (0-1 Scale)		0.348		0.315	0.487**		0.831***		0.760**	0.785***
		(0.232)		(0.242)	(0.245)		(0.307)		(0.316)	(0.271)
Marketing Subscore			0.109	0.067	-0.087			0.224	0.129	-0.138
			(0.171)	(0.172)	(0.181)			(0.269)	(0.277)	(0.197)
Stocking-up Subscore			-0.053	-0.077	-0.082			0.208	0.113	0.028
			(0.101)	(0.103)	(0.131)			(0.138)	(0.138)	(0.142)
Record-keeping Subscore			-0.392**	-0.398**	0.008			-0.446*	-0.654***	-0.102
			(0.181)	(0.186)	(0.259)			(0.242)	(0.247)	(0.273)
Financial Planning Subscore			0.593***	0.510**	0.107			0.475*	0.230	0.051
			(0.209)	(0.209)	(0.274)			(0.281)	(0.287)	(0.295)
R-squared	0.452	0.451	0.450	0.463	0.063	0.324	0.325	0.310	0.343	0.067
Sample Size	1301	1301	1301	1301	1301	1301	1301	1301	1301	1301

This table presents results from regressions of aspirations and aspirations gaps for the number of employees on firm - and individual-level characteristics, as well as managerial practices. Columns (1) to (4) present results for short-term aspirations and column (5) for aspirations gaps (i.e. in the next 12 months). Columns (6) to (10) present the same analysis for long-term aspirations and aspirations gaps (i.e. open-ended). An aspirations gap is defined as the difference between aspirations and current level, normalized by current level. All regressions include district fixed effects. Robust standard errors are reported in parentheses. Statistically significant p -values are highlighted by: * (10% significance level), ** (5% significance level), and *** (1% significance level).

Table 5: Determinants of Aspirations for Customers

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Short-term Aspirations				Short-term Aspirations Gap	Long-term Aspirations				Long-term Aspirations Gap
Aspirations Horizon for Ideal Business (Years)						3.519***	2.880**	3.623***	2.851**	0.041**
						(1.328)	(1.314)	(1.365)	(1.326)	(0.020)
Business Size (Square Meters)	0.224			0.192	0.006	0.246			0.119	0.001
	(0.153)			(0.161)	(0.004)	(0.193)			(0.190)	(0.003)
Total Number of Employees	0.054			-0.034	-0.002	0.912			1.366	0.013
	(1.321)			(1.354)	(0.029)	(1.944)			(1.986)	(0.031)
Total Daily Customers	1.040***	1.029***	1.036***	1.018***		1.444***	1.389***	1.449***	1.379***	
	(0.104)	(0.100)	(0.102)	(0.103)		(0.189)	(0.180)	(0.183)	(0.181)	
Total Profits Last Month (IHS)	-0.009			-0.037	0.002	0.275			0.203	0.008*
	(0.210)			(0.212)	(0.004)	(0.320)			(0.322)	(0.005)
Business Has Tax ID	-5.596			-8.041*	-0.117	-0.398			-4.196	-0.027
	(4.329)			(4.615)	(0.097)	(6.488)			(7.343)	(0.102)
Business Separate From Residence	1.082			1.325	0.002	4.804			4.421	0.004
	(4.337)			(4.359)	(0.069)	(6.597)			(6.456)	(0.084)
Total Loans Outstanding (IHS)	0.306			0.169	0.002	0.880			0.568	0.007
	(0.397)			(0.412)	(0.008)	(0.736)			(0.727)	(0.010)
Business Age (Years)	-0.417***			-0.313**	-0.008***	-0.564***			-0.391*	-0.008***
	(0.105)			(0.123)	(0.002)	(0.181)			(0.204)	(0.003)
Gender (Male=1)		2.380		2.991	-0.094		19.783***		19.117***	0.173**
		(3.087)		(3.260)	(0.063)		(5.308)		(5.578)	(0.085)
Age (Years)		-0.309**		-0.177	-0.002		-0.702***		-0.559**	-0.007**
		(0.147)		(0.165)	(0.003)		(0.207)		(0.232)	(0.003)
Formal Education (Years)		0.478		0.543	0.008		-0.169		-0.131	-0.001
		(0.419)		(0.454)	(0.009)		(0.592)		(0.605)	(0.010)
Time Preference (0-10 Scale)		0.558		0.686	0.028**		-0.240		-0.010	0.009
		(0.539)		(0.557)	(0.012)		(0.875)		(0.938)	(0.015)
Risk Preference (0-10 Scale)		1.129		1.217*	0.022		2.621**		2.567**	0.010
		(0.703)		(0.705)	(0.015)		(1.076)		(1.062)	(0.017)
Digit Span (0-8 Scale)		1.238		1.600	-0.027		7.253**		7.185**	0.056
		(2.020)		(1.983)	(0.037)		(3.336)		(3.331)	(0.042)
Systematic Thinking Style (0-1 Scale)		-21.864		-17.544	-0.283		10.543		12.380	0.141
		(18.480)		(18.761)	(0.349)		(29.705)		(30.455)	(0.398)
Perceived Agency (0-1 Scale)		15.587		13.501	0.078		8.857		7.229	-0.063
		(11.287)		(11.552)	(0.265)		(20.181)		(20.680)	(0.280)
Marketing Subscore			6.597	5.683	-0.130			18.389	17.905	0.134
			(9.270)	(9.143)	(0.149)			(18.351)	(18.158)	(0.198)
Stocking-up Subscore			4.991	1.723	0.023			12.310	4.699	0.141
			(5.357)	(5.229)	(0.105)			(8.450)	(8.508)	(0.130)
Record-keeping Subscore			-4.345	-9.007	-0.431**			4.716	-9.552	-0.536**
			(8.130)	(8.540)	(0.181)			(14.623)	(14.750)	(0.225)
Financial Planning Subscore			13.556	11.337	0.184			-2.265	-8.032	-0.065
			(10.629)	(10.610)	(0.186)			(15.099)	(14.769)	(0.224)
R-squared	0.477	0.469	0.463	0.485	0.094	0.447	0.461	0.444	0.466	0.085
Sample Size	1297	1297	1297	1297	1301	1297	1297	1297	1297	1301

This table presents results from regressions of aspirations and aspirations gaps for the number of customers on firm - and individual-level characteristics, as well as managerial practices. Columns (1) to (4) present results for short-term aspirations and column (5) for aspirations gaps (i.e. in the next 12 months). Columns (6) to (10) present the same analysis for long-term aspirations and aspirations gaps (i.e. open-ended). An aspirations gap is defined as the difference between aspirations and current level, normalized by current level. All regressions include district fixed effects. Robust standard errors are reported in parentheses. Statistically significant p-values are highlighted by: * (10% significance level), ** (5% significance level), and *** (1% significance level).

Table 6: Determinants of Aspirations for Sales

	(1)	(2)	(3)	(4)	(5)
	Short-term Aspirations				Short-term Aspirations Gap
Business Size (Square Meters)	16.919***			16.266***	-0.007*
	(3.871)			(3.600)	(0.004)
Total Number of Employees	29.777*			31.661**	0.016
	(15.968)			(15.973)	(0.035)
Total Daily Customers	4.326***			3.597***	-0.004***
	(0.885)			(0.840)	(0.001)
Total Profits Last Month (IHS)	3.567	5.335*	6.561**	3.173	-0.017***
	(2.800)	(3.085)	(3.192)	(2.777)	(0.006)
Business Has Tax ID	125.659**			107.422*	-0.047
	(63.202)			(64.265)	(0.133)
Business Separate From Residence	104.457**			98.416**	-0.055
	(47.391)			(47.654)	(0.100)
Total Loans Outstanding (IHS)	12.278***			7.317	0.023*
	(4.737)			(4.817)	(0.012)
Business Age (Years)	-3.236**			0.342	-0.011***
	(1.325)			(1.504)	(0.004)
Gender (Male=1)		338.370***		200.855***	0.173*
		(47.394)		(40.319)	(0.095)
Age (Years)		-12.960***		-11.181***	-0.005
		(1.570)		(1.704)	(0.004)
Formal Education (Years)		-8.678*		-16.562***	-0.003
		(4.523)		(4.548)	(0.012)
Time Preference (0-10 Scale)		2.512		3.416	-0.005
		(8.570)		(7.607)	(0.018)
Risk Preference (0-10 Scale)		7.869		10.967	-0.028
		(8.274)		(7.943)	(0.020)
Digit Span (0-8 Scale)		30.070		18.028	0.133**
		(24.703)		(20.847)	(0.052)
Systematic Thinking Style (0-1 Scale)		615.997***		365.698*	0.665
		(209.365)		(189.799)	(0.459)
Perceived Agency (0-1 Scale)		72.464		-83.901	-0.241
		(180.496)		(164.082)	(0.349)
Marketing Subscore			83.816	14.775	0.366
			(101.457)	(86.470)	(0.229)
Stocking-up Subscore			136.349*	17.926	0.089
			(75.709)	(63.670)	(0.156)
Record-keeping Subscore			294.738**	23.977	-0.781***
			(132.632)	(108.880)	(0.272)
Financial Planning Subscore			179.192	54.434	0.192
			(156.892)	(139.201)	(0.287)
R-squared	0.261	0.158	0.082	0.307	0.098
Sample Size	1280	1280	1280	1280	1277

This table presents results from regressions of aspirations and aspirations gaps for daily sales (in USD PPP) on firm and individual-level characteristics, as well as managerial practices. Columns (1) to (4) present results for short-term aspirations and column (5) for aspirations gaps (i.e. in the next 12 months). Columns (6) to (10) present the same analysis for long-term aspirations and aspirations gaps (i.e. open-ended). An aspirations gap is defined as the difference between aspirations and current level, normalized by current level. All regressions include district fixed effects. Robust standard errors are reported in parentheses. Statistically significant p-values are highlighted by: * (10% significance level), ** (5% significance level), and *** (1% significance level).

Table 7: Determinants of Imagination and Planning Failure

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Imagination Failure				Planning Failure			
Business Size (Square Meters)	0.001			0.001	0.003**			0.003**
	(0.001)			(0.001)	(0.001)			(0.001)
Total Number of Employees	-0.045***			-0.038***	-0.031***			-0.018**
	(0.007)			(0.007)	(0.009)			(0.009)
Total Daily Customers	-0.001***			-0.000	-0.000			0.000
	(0.000)			(0.000)	(0.000)			(0.000)
Total Profits Last Month (IHS)	-0.003**			-0.003**	-0.001			-0.001
	(0.002)			(0.001)	(0.002)			(0.002)
Business Has Tax ID	-0.041			-0.009	-0.102***			-0.058*
	(0.031)			(0.030)	(0.036)			(0.035)
Business Separate From Residence	-0.014			-0.003	-0.069***			-0.054**
	(0.023)			(0.023)	(0.026)			(0.025)
Total Loans Outstanding (IHS)	-0.008***			-0.005**	-0.011***			-0.008***
	(0.002)			(0.002)	(0.003)			(0.003)
Business Age (Years)	0.005***			0.004***	0.005***			0.001
	(0.001)			(0.001)	(0.001)			(0.001)
Gender (Male=1)		-0.031		-0.017		0.008		0.023
		(0.021)		(0.022)		(0.025)		(0.026)
Age (Years)		0.003***		0.000		0.008***		0.005***
		(0.001)		(0.001)		(0.001)		(0.001)
Formal Education (Years)		-0.005*		-0.004		-0.005		-0.003
		(0.003)		(0.003)		(0.003)		(0.003)
Time Preference (0-10 Scale)		0.003		0.000		0.001		-0.001
		(0.005)		(0.004)		(0.005)		(0.005)
Risk Preference (0-10 Scale)		-0.001		0.001		0.003		0.004
		(0.005)		(0.005)		(0.006)		(0.005)
Digit Span (0-8 Scale)		0.012		0.014		0.010		0.010
		(0.012)		(0.012)		(0.014)		(0.014)
Systematic Thinking Style (0-1 Scale)		0.004		0.039		0.044		0.064
		(0.122)		(0.119)		(0.137)		(0.135)
Perceived Agency (0-1 Scale)		-0.275***		-0.188**		-0.454***		-0.336***
		(0.084)		(0.083)		(0.097)		(0.097)
Marketing Subscore			-0.133***	-0.094*			-0.259***	-0.207***
			(0.050)	(0.050)			(0.058)	(0.058)
Stocking-up Subscore			-0.141***	-0.107***			-0.121***	-0.070*
			(0.038)	(0.037)			(0.043)	(0.042)
Record-keeping Subscore			-0.133*	-0.066			-0.150*	-0.042
			(0.070)	(0.070)			(0.079)	(0.079)
Financial Planning Subscore			-0.215***	-0.098			-0.374***	-0.236***
			(0.071)	(0.069)			(0.078)	(0.077)
R-squared	0.112	0.125	0.099	0.188	0.178	0.236	0.204	0.285
Sample Size	1301	1301	1301	1301	1301	1301	1301	1301

This table presents results from regressions of imagination and planning failure on firm- and individual-level characteristics, as well as managerial practices. Imagination failure represents entrepreneurs who have not previously imagined their ideal business. Planning failure describes the absence of a time horizon for the achievement of an ideal business.Columns (1) to (4) present results for imagination failure, and columns (5) to (8) planning failure. All regressions include district fixed effects. Robust standard errors are reported in parentheses. Statistically significant pvalues are highlighted by: * (10% significance level), ** (5% significance level), and *** (1% significance level).

Table 8a: Determinants of Aspirations Biases for Business Sales and Customers

	(1)	(2)	(3)	(4)	(5)	(6)
	Realistic Aspirations for Sales	Optimistic Aspirations for Sales	Pessimistic Aspirations for Sales	Realistic Aspirations for Customers	Optimistic Aspirations for Customers	Pessimistc Aspirations for Customers
Log of Total Sales Last Month	0.012	0.007	-0.019**	0.001	-0.022*	0.021
	(0.007)	(0.010)	(0.008)	(0.008)	(0.012)	(0.013)
Business Size (Square Meters)	0.002	-0.003**	0.001	-0.000	-0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
Total Daily Customers	-0.000	-0.000	0.001**	-0.000	0.003***	-0.003***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Total Number of Employees	0.003	-0.001	-0.003	-0.006	0.015	-0.009
	(0.007)	(0.008)	(0.006)	(0.008)	(0.013)	(0.013)
Business Has Tax ID	-0.009	0.037	-0.028	-0.015	0.077*	-0.062
	(0.024)	(0.032)	(0.024)	(0.026)	(0.045)	(0.046)
Business Age (Years)	0.001	-0.001	-0.000	-0.000	-0.004***	0.004***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Gender (Male=1)	-0.011	-0.032	0.043**	-0.015	-0.116***	0.131***
	(0.019)	(0.025)	(0.019)	(0.021)	(0.033)	(0.033)
Age (Years)	-0.001	0.001	-0.000	-0.001	-0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
Formal Education (Years)	-0.002	0.001	0.001	0.003	0.000	-0.003
	(0.002)	(0.003)	(0.003)	(0.003)	(0.005)	(0.005)
Time Preference (0-10 Scale)	-0.002	-0.003	0.005	0.003	0.003	-0.006
	(0.004)	(0.005)	(0.003)	(0.004)	(0.007)	(0.007)
Risk Preference (0-10 Scale)	0.000	0.003	-0.003	-0.003	0.010	-0.008
	(0.004)	(0.005)	(0.004)	(0.004)	(0.007)	(0.007)
Digit Span (0-8 Scale)	-0.005	0.007	-0.002	0.000	-0.022	0.022
	(0.011)	(0.014)	(0.010)	(0.010)	(0.018)	(0.019)
Systematic Thinking Style (0-1 Scale)	0.073	0.099	-0.172*	-0.065	-0.095	0.160
	(0.096)	(0.129)	(0.098)	(0.110)	(0.164)	(0.172)
Marketing Subscore	0.012	0.016	-0.028	0.015	0.031	-0.045
	(0.053)	(0.065)	(0.043)	(0.053)	(0.087)	(0.089)
Stocking-up Subscore	-0.058*	0.048	0.010	-0.067**	0.068	-0.001
	(0.031)	(0.039)	(0.026)	(0.032)	(0.055)	(0.055)
Record-keeping Subscore	-0.079	0.142**	-0.063	0.091	-0.253**	0.161
	(0.051)	(0.066)	(0.047)	(0.060)	(0.098)	(0.101)
Financial Planning Subscore	-0.012	0.148**	-0.135***	-0.100*	0.243**	-0.143
	(0.057)	(0.072)	(0.049)	(0.057)	(0.106)	(0.107)
R-squared	1140	1140	1140	1156	1156	1156
Sample Size	0.088	0.845	0.067	0.116	0.401	0.483
Dependent Variable Mean	0.088	0.845	0.067	0.116	0.401	0.483

This table presents results from regressions of aspirations biases. Realistic aspirations is a dummy equal to 1 if baseline aspirations are within a 10% range of the endline outcome. Optimistic aspirations is a dummy equal to 1 if baseline aspirations are above 10% of the endline outcome; and pessimistic aspirations is a dummy equal to 1 if baseline aspirations are below 10% of the endline outcome. Columns (1) to (3) present results for business sales, and columns (4) to (6) present results for business customers. All regressions include district fixed effects and treatment indicators to absorb all experimentally induced variation at endline. Robust standard errors are reported in parentheses. Statistically significant p-values are highlighted by: * (10% significance level), ** (5% significance level), and *** (1% significance level).

Table 8b: Determinants of Aspirations Biases for Business Size and Employees

	(1)	(2)	(3)	(4)	(5)	(6)
	Realistic Aspirations for Size	Optimistic Aspirations for Size	Pessimistic Aspirations for Size	Realistic Aspirations for Employees	Optimistic Aspirations for Employees	Pessimistic Aspirations for Employees
Log of Total Sales Last Month	0.020**	-0.041***	0.021*	-0.012	-0.001	0.013
	(0.010)	(0.012)	(0.012)	(0.014)	(0.012)	(0.014)
Business Size (Square Meters)	-0.001	0.014***	-0.013***	0.002	-0.001	-0.001
	(0.001)	(0.002)	(0.001)	(0.002)	(0.002)	(0.002)
Total Daily Customers	-0.000	0.000	0.000	-0.000	0.001	-0.001
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)
Total Number of Employees	0.008	-0.014	0.006	-0.095***	0.104***	-0.009
	(0.010)	(0.013)	(0.013)	(0.012)	(0.013)	(0.014)
Business Has Tax ID	0.011	0.031	-0.042	-0.055	-0.071*	0.126***
	(0.035)	(0.045)	(0.042)	(0.046)	(0.039)	(0.047)
Business Age (Years)	-0.001	-0.001	0.002	0.002	-0.003**	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Gender (Male=1)	0.060**	-0.026	-0.033	0.028	-0.006	-0.022
	(0.028)	(0.034)	(0.033)	(0.038)	(0.032)	(0.036)
Age (Years)	0.002*	-0.001	-0.001	0.002	0.003**	-0.005***
	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)	(0.002)
Formal Education (Years)	-0.004	0.001	0.004	0.005	-0.002	-0.003
	(0.004)	(0.004)	(0.004)	(0.005)	(0.004)	(0.005)
Time Preference (0-10 Scale)	-0.000	0.004	-0.004	0.011	-0.003	-0.008
	(0.005)	(0.006)	(0.006)	(0.007)	(0.006)	(0.007)
Risk Preference (0-10 Scale)	-0.003	-0.001	0.004	-0.006	-0.004	0.010
	(0.006)	(0.007)	(0.007)	(0.008)	(0.007)	(0.008)
Digit Span (0-8 Scale)	0.019	-0.007	-0.012	0.025	-0.004	-0.021
	(0.016)	(0.018)	(0.017)	(0.020)	(0.017)	(0.020)
Systematic Thinking Style (0-1 Scale)	0.128	0.031	-0.158	0.167	-0.064	-0.103
	(0.144)	(0.176)	(0.163)	(0.182)	(0.153)	(0.183)
Marketing Subscore	-0.159**	0.129	0.030	-0.107	-0.026	0.133
	(0.066)	(0.086)	(0.083)	(0.088)	(0.081)	(0.092)
Stocking-up Subscore	0.034	-0.095*	0.061	0.031	-0.004	-0.028
	(0.046)	(0.054)	(0.050)	(0.059)	(0.051)	(0.060)
Record-keeping Subscore	0.155*	-0.085	-0.070	-0.115	0.043	0.072
	(0.081)	(0.097)	(0.092)	(0.111)	(0.094)	(0.109)
Financial Planning Subscore	-0.143*	0.164	-0.022	-0.074	0.144	-0.070
	(0.079)	(0.103)	(0.101)	(0.114)	(0.102)	(0.114)
R-squared	1156	1156	1156	992	992	992
Sample Size	0.227	0.430	0.343	0.350	0.267	0.383
Dependent Variable Mean	0.227	0.430	0.343	0.350	0.267	0.383

This table presents results from regressions of aspirations biases. Realistic aspirations is a dummy equal to 1 if baseline aspirations are within a 10% range of the endline outcome. Optimistic aspirations is a dummy equal to 1 if baseline aspirations are above 10% of the endline outcome; and pessimistic aspirations is a dummy equal to 1 if baseline aspirations are below 10% of the endline outcome. Columns (1) to (3) present results for business size, and columns (4) to (6) present results for business employees. All regressions include district fixed effects and treatment indicators to absorb all experimentally induced variation at endline. Robust standard errors are reported in parentheses. Statistically significant p-values are highlighted by: * (10% significance level), ** (5% significance level), and *** (1% significance level).

Table 9: Do Entrepreneurs Update Business Aspirations?

	(1)	(2)	(3)	(4)
	Growth in Sales Aspirations	Growth in Customer Aspirations	Growth in Size Aspirations	Growth in Employee Aspirations
Pessimistic Aspirations for Sales	0.580***			
	(0.086)			
Optimistic Aspirations for Sales	-0.810***			
	(0.044)			
Pessimistic Aspirations for Customers		0.521***		
		(0.059)		
Optimistic Aspirations for Customers		-0.475***		
		(0.062)		
Pessimistic Aspirations for Size			0.598***	
			(0.033)	
Optimistic Aspirations for Size			-0.475***	
			(0.033)	
Pessimistic Aspirations for Employees				0.388***
				(0.038)
Optimistic Aspirations for Employees				-0.661***
				(0.041)
R-squared	0.361	0.376	0.518	0.446
Sample Size	1153	1170	1174	880
Dependent Variable Mean for Realistic Aspirers	0.628	-0.060	0.070	0.053

This table presents results from regressions of the growth rate of business aspirations. The dependent variable in each column is the log difference between endline and baseline aspirations for each business dimension. Realistic aspirations is a dummy equal to 1 if baseline aspirations are within a 10% range of the endline outcome. Optimistic aspirations is a dummy equal to 1 if baseline aspirations are above 10% of the endline outcome; and pessimistic aspirations is a dummy equal to 1 if baseline aspirations are below 10% of the endline outcome. All regressions control for individual- and firm-level characteristics, as well as business practices. The regressions also include district fixed effects and treatment indicators to absorb all experimentally induced variation at endline. Robust standard errors are reported in pa rentheses. Statistically significant p-values are highlighted by: * (10% significance level), ** (5% significance level), and *** (1% significance level).

Table 10: Do Baseline Aspirations Predict Forward Looking Behavior?

	(1)	(2)	(3)	(4)	(5)	(6)
	Plans to Develop Business Plan in Next 12 Months		Plans to Start/Improve Record Keeing in Next 12 Months		Plans to Expand Business in Next 12 Months	
Imagination Failure	-0.211***		-0.146***		-0.074**	
	(0.040)		(0.038)		(0.036)	
Planning Failure		-0.110***		-0.086***		-0.023
		(0.035)		(0.033)		(0.033)
R-squared	0.219	0.206	0.248	0.244	0.151	0.149
Sample Size	1301	1301	1301	1301	1301	1301

This table presents results from regressions of process innovations on aspirations-related measures. Columns (1) and (2) present results for developing a business plan, a dummy variable equal to 1 if the entrepreneur is planning to develop a business plan in the next 12 months. Columns (3) and (4) present results for improving record keeping, a dummy variable equal to 1 if the entrepreneur is planning to start or improve record-keeing in the next 12 months. Columns (5) and (6) present results for business expansion, a dummy variable equal to 1 if the entrepreneur plans to expand the business in the next 12 months . All regressions control for individual- and firm-level characteristics, as well as business practices. The regressions also include district fixed effects and treatment indicators to absorb all experimentally induced variation at endline. Robust standard errors are reported in parentheses. Robust standard errors are reported in parentheses. Statistically significant p-values are highlighted by: * (10% significance level), ** (5% significance level), and *** (1%

Table 11: Do Baseline Aspirations Predict Endline Performance?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Business Sales at Endline				Business Profits at Endline			
Business Size Aspirations at Baseline (Z score)	247.168				82.660			
	(288.628)				(56.254)			
Business Employee Aspirations at Baseline (Z score)		-1.557				-22.329		
		(117.117)				(34.622)		
Business Customer Aspirations at Baseline (Z score)			415.472**				173.782***	
			(200.342)				(46.694)	
Business Sales Aspirations at Baseline (Z score)				1811.957***				375.443***
				(354.335)				(64.142)
R-squared	0.541	0.539	0.544	0.597	0.132	0.129	0.143	0.200
Sample Size	1172	1172	1169	1172	1171	1171	1168	1171
Dependent Variable Mean	5024	5024	5024	5024	756.5	756.5	756.5	756.5

This table presents results from regressions of business performance outcomes at endline on the Z score of business aspirations at baseline. Columns (1) to (4) present results for business sales and columns (5) to (8) present results for business profits. Both measures are winsoized at the 5% level. All regressions control for individual- and firm-level characteristics, as well as business practices. The regressions also include district fixed effects and treatment indicators to absorb all experimentally induced variation at endline. Robust standard errors are reported in parentheses. Statistically significant p-values are highlighted by: * (10% significance level), ** (5% significance level), and *** (1% significance level).

Table 12: Do Baseline Aspirations Predict Endline Business Outcomes?

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Business Size at Endline				Business Employees at Endline				Business Customers at Endline			
Business Size Aspirations at Baseline (Z score)	1.668**				0.007				5.090**			
	(0.744)				(0.030)				(2.003)			
Business Employee Aspirations at Baseline (Z score)		0.543*				0.104*				-0.423		
		(0.301)				(0.055)				(1.098)		
Business Customer Aspirations at Baseline (Z score)			0.125				0.063*				1.160	
			(0.332)				(0.038)				(3.415)	
Business Sales Aspirations at Baseline (Z score)				3.089***				0.080**				9.200***
				(0.418)				(0.039)				(2.127)
R-squared	0.313	0.307	0.299	0.382	0.255	0.258	0.253	0.259	0.330	0.320	0.322	0.351
Sample Size	1174	1174	1170	1174	1174	1174	1170	1174	1174	1174	1170	1174
Dependent Variable Mean	12.8	12.8	12.8	12.8	2.1	2.1	2.1	2.1	50.1	50.1	50.1	50.1

This table presents results from regressions of business outcomes at endline on the Z score of business aspirations at baseline. Columns (1) to (4) present results for business size; columns (5) to (8) present results for business employees; and columns (9) to (12) present results for business customers. All regressions control for individual- and firm-level characteristics, as well as business practices. The regressions also include district fixed effects and treatment indicators to absorb all experimentally induced variation at endline. Robust standard errors are reported in parentheses. Statistically significant p-values are highlighted by: * (10% significance level), ** (5% significance level), and *** (1% significance level).