

# UNEQUAL VENTURES



## Results from a Baseline Study of Gender and Entrepreneurship in East Java, Indonesia

Evidence-based Report  
Series on Women's Economic  
Empowerment

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## ABOUT THE EVIDENCE-BASED REPORT SERIES ON WOMEN'S ECONOMIC EMPOWERMENT

The Center for Global Development's Evidence-Based Report Series on Women's Economic Empowerment presents summary findings and policy implications of rigorous research that tests the impact of mobile savings and business training on the growth of women's businesses and their income. The series also provides links to the detailed research undertaken in collaboration with research and implementing partners. The series opened with *Mindful Saving*, which highlights the main messages from the research evidence to date about what empowers women economically and how to measure it.<sup>1</sup> It explores the impact of providing women with access to savings and to business training programs and summarizes findings

from an evaluation of a mobile savings and training program in Tanzania.

*Unequal Ventures* is the second report in the series. It summarizes results from an analysis of a baseline survey (for an upcoming impact evaluation of a branchless banking mobile savings product) of women and men entrepreneurs in East Java, Indonesia, focusing on the relationship between the gender of the entrepreneur and economic outcomes.

The evidence generated from this series feeds into *She Counts*, a global platform created in partnership with Women's World Banking and the ExxonMobil Foundation, that promotes the power of putting asset-building tools and resources in the hands of women business owners.

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The Indonesia trial is testing whether providing financial literacy training for women who are potential bank clients and varying financial incentives to bank agents promoting a new mobile savings product make a difference in increasing women entrepreneurs' uptake of formal savings and in improving economic outcomes



## 1. EAST JAVA STUDY SAMPLE AND RESEARCH QUESTIONS

A study of women and men business owners in East Java offers a unique opportunity to analyze characteristics of entrepreneurs and their businesses by gender for a country where such systematic data are scarce. The study is one of two randomized controlled trials launched in 2015 to assess the power of mobile savings and training for women entrepreneurs. This report details baseline results from the Indonesia trial, still under way, which is testing whether providing financial literacy training for women who are potential bank clients and varying financial incentives to bank agents promoting a new mobile savings product make a difference in increasing women entrepreneurs' uptake of formal savings and in improving economic outcomes. Short-term results of the other trial, in Tanzania, were reported in the first report in this series.<sup>2</sup>

### The Indonesia study sample in East Java

Indonesia, like many other low- and middle-income countries, has few nationally representative datasets from which to draw valid comparisons between women and men entrepreneurs and their enterprises. The random selection of women and men business owners in East Java for this study on a branchless banking mobile savings product provides valuable data that are largely free

of sampling biases and that can be used to compare the characteristics of entrepreneurs by gender.

The sample is comparatively large. It includes 4,828 business owners, 2,852 of them women and 1,976 men, from 401 villages in five districts (*kabupaten*) of East Java. Village lists of entrepreneurs, collected by survey staff, were prepared as the basis for randomly selecting 12 business owners in each sample village (7 women and 5 men). In addition to owning at least one currently operating nonfarm business, the surveyed entrepreneurs had to be between the ages of 18 and 55, reside in the village, and have a mobile phone with an active account (since the project introduced mobile saving services). See box 1 for a brief discussion of the study methodology.

### The baseline study questions

The baseline study sought to answer three related questions:<sup>3</sup>

- Are there gender differences in entrepreneurs' earned income and savings?
- Do differences in characteristics (endowments)<sup>4</sup> of women and men entrepreneurs help explain observed differences in economic outcomes?
- Which factors are related to more successful entrepreneurial ventures, and do these factors differ for women and men entrepreneurs?

## BOX 1

## METHODOLOGY OF THE BASELINE STUDY

### Sample

From lists of entrepreneurs prepared by field survey staff in 401 villages in five districts in East Java, 4,828 business owners (2,852 women and 1,976 men) were randomly selected; in each village, 12 entrepreneurs were selected, 7 women and 5 men. To be eligible for the project, entrepreneurs had to own at least one business, reside in the village, be 18–55 years old, and have a mobile phone with an active account.

### Baseline survey

Using a computer-assisted interview format, interviewers conducted a baseline survey lasting about an hour and a half with each entrepreneur in January 2018. The survey included questions about:

- 21 indicators of entrepreneurs' characteristics, such as sex and age, business experience, highest level of schooling, cognitive ability, willingness to take risks, and household and business assets.
- Indicators of business practices, such as whether the entrepreneur keeps records and knows the costs of products; eight of these were also combined into an index of adherence to recommended business practices.
- Income of primary and second business, other income (from wage employment, other businesses), savings, and loans during the past 12 months.

### Statistical analysis

*Propensity score matching.* To assess how much of the observed differences in entrepreneurs' economic outcomes are explained by differences in characteristics (question 2), the multivariate analysis was conducted using propensity score matching

(since regression analysis would have resulted in unreliable estimates because of some highly skewed, discrete, or correlated variables). The propensity score was obtained from a probit regression model in which the dependent variable was binary, taking a value of 0 for men and 1 for women, and the covariates include a set of entrepreneur characteristics: age group, highest level of schooling completed, cognitive ability, marital status, having children and the number of children, risk aversion (and how it relates to age), household size, household assets (and how it relates to age), and business assets (and how it relates to age and marital status). Women were then matched with men on the basis of their estimated propensity scores.

*Difference in differences analysis.* The study also used a difference in difference analysis to analyze differences in characteristics and outcomes between more and less successful entrepreneurs for each gender and also to check for any significant gender differences in those differences (question 3). The less successful group includes the bottom 50% of entrepreneurs in reported average monthly profits (1,539 women and 895 men) in the past 12 months in their primary and second businesses combined, while the more successful group includes the top 50% (1,239 women and 1,072 men). Differences in differences were analyzed for 21 indicators of characteristics, 22 savings indicators, 19 indicators related to use of financial services, 14 business practices indicators, 15 indicators related to business inputs (such as having a second business and number of hours worked), and 10 other business indicators. The results of these analyses and the full list of indicators can be found online in the tables in [Knowles 2018](#), *op. cit.*



Growing evidence in Indonesia shows that, overall, women-owned firms are smaller and less productive than those owned by men



## 2. PRIOR EVIDENCE ON WOMEN ENTREPRENEURS IN INDONESIA

In Indonesia, micro, small, and medium enterprises are a critical element of inclusive growth, contributing 43% of gross national product. The sector is recognized as having helped maintain the country's economic resilience during the 2008 financial crisis, and as a consequence, support for such enterprises has been a public sector priority. The government has encouraged underserved populations – particularly women – with low labor force participation rates to enter self-employment.<sup>5</sup>

### Women-owned businesses in Indonesia

**Growing evidence in Indonesia shows that, overall, women-owned firms are smaller and less productive than those owned by men**

Women make up a large and growing share of the self-employed population in Indonesia.<sup>6</sup> In 2015, there were an estimated 22–33 million women entrepreneurs in Indonesia, accounting for over half of the country's micro, small, and medium enterprises.<sup>7</sup> The entrepreneurship prevalence rate is similar for women and men (36% for women and 38% for men), but the majority of women operate smaller and less productive enterprises, mostly in the informal sector.

### Characteristics of women entrepreneurs

**The gender gap in business performance is attributable largely to differences in choice of sector of activity, in human and financial capital, and in legal and social constraints encountered by women but not by men in the business world**

Existing data for Indonesia support the general finding, widely observed across countries and situations, that the gender gap in business performance is related to women running subsistence-level firms in more traditional, less

profitable sectors; having less access to key resources such as business knowledge and networks, capital, and technology; and facing legal discrimination and social constraints.<sup>8</sup>

Prior to the current study, the largest and most comprehensive survey of women entrepreneurs in Indonesia sampled 1,633 women micro and small entrepreneurs in 48 villages in eight provinces in 2015.<sup>9</sup> It found that the most common business sector for women entrepreneurs was trade (50%), followed by manufacturing (24%) and services (13%). Most enterprises (97%) were informal and unregistered and followed substandard financial practices.

About half of the women in that survey were entrepreneurs by necessity, choosing this occupation because they needed income and could not find alternative wage or salaried employment. Only a small minority (15.4%) embraced entrepreneurship in response to a business opportunity and owned businesses that showed consistent signs of growth. While most of these more growth-oriented businesses were also informal and concentrated in trade, their owners were more likely to have business plans and keep business records and to have higher demand for financial services, suggesting that business practices and financial capital matter for entrepreneurial success.<sup>10</sup>

Women entrepreneurs' access to formal financial services is low. Only 14.5% of the women in the World Bank study had borrowed from a bank in the past 12 months, and only 12.9% had borrowed from a formal financial institution other than a bank.<sup>11</sup> A higher percentage (40%), but still low by global benchmarks, had a savings account in their name at a financial institution.

The women entrepreneurs in the current study in East Java share many characteristics with the subsistence-level, necessity-only entrepreneurs in the World Bank survey. But there are also some important differences, as is reported next.

Men earn significantly more, on average, from business and other sources of income than women. The large gender differences in economic outcomes are only partly explained by differences in characteristics by gender



### 3. BASELINE RESULTS: GENDER DIFFERENCES IN CHARACTERISTICS, ECONOMIC OUTCOMES, AND CORRELATES OF SUCCESS

This section first describes the main characteristics of women and men entrepreneurs. It then summarizes analyses in response to the three questions raised in the introduction on gender differences in economic outcomes, possible explanations for these differences, and factors associated with more successful entrepreneurial ventures.

#### Characteristics of women and men entrepreneurs

Women and men entrepreneurs run mostly small, subsistence-level firms with few or no employees, likely aimed at local markets, with limited opportunities for expansion

Most of the sample entrepreneurs operate small businesses. Around 24% have no employees and 40%–44% have just one helper – spouse, family member, or employee. Only 9% of men entrepreneurs and 4% of women entrepreneurs employ 5–19 employees. Slightly more men (19.3%) than women (15.6%) run a second business in addition to the primary one, perhaps as a way to expand a limited local market. (There are a total of 4,825 primary businesses and 827 secondary businesses in the sample.<sup>12</sup>)

#### More women than men run informal firms, and their activities are more concentrated in a few sectors

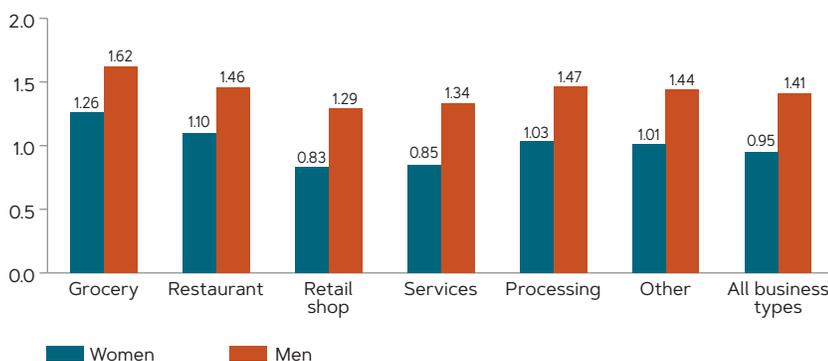
Firm registration is low overall. Only 17.5% of men entrepreneurs and 11.4% of women entrepreneurs have registered their primary or secondary business. Women’s firms are highly concentrated in retail shops (46.9% of their primary and secondary businesses combined) and groceries or food stalls (an additional 28.9% of combined firms). Men’s firms are more diversified, distributed fairly evenly across retail shops (20.4%), food stalls and groceries (19.1%), repair shops (18.5%), and other types of businesses (31.7%).<sup>13</sup>

#### Women earn less than men across different sectors of business activity

Women have consistently lower average monthly profits than do men across all business sectors for their primary business (figure 1). The literature on gender and entrepreneurship suggests that the sector or type of business in which women typically operate is one of the main reasons for their firms’ lower profits.<sup>14</sup> That finding is not supported by this study. Analysis of profits of the primary business by type of business and gender of

**Figure 1. Women entrepreneurs in East Java have lower average monthly profits than men across all business sectors, 2017**

Millions of rupiah



Source: Knowles 2018.

the entrepreneur suggests that the gender gap in earnings would not shrink significantly if women operated the same types of businesses as men do – women’s business profits would increase by less than 3%.<sup>15</sup> This is partly because profit differentials between business types are not very large.

**Basic demographic and educational characteristics of women and men entrepreneurs tip the scales in favor of men**

*Most entrepreneurs are married, but men entrepreneurs reside in larger households, which gives them more labor assets to draw on*

While the share of married entrepreneurs is nearly identical among women (91%) and men (90%), men reside in larger households, with an average of 4.80 members compared with 3.99 for women. That household size advantage for men appears to provide them with more unpaid workers for their businesses. A positive relationship emerges in the analysis for household size and unpaid workers, even after other factors are controlled for, such as the entrepreneur’s own labor inputs, number of paid workers, and marital status.<sup>16</sup>

*Women entrepreneurs are younger and less educated than men entrepreneurs, which adds to women’s disadvantage*

Women entrepreneurs are more heavily represented than men entrepreneurs in the younger age groups (18–40), whereas men entrepreneurs are more heavily represented in the older age groups (41–55). This difference is important because several gender differentials in other characteristics vary with the entrepreneur’s age. Male entrepreneurs in all age groups are more likely to

have completed upper secondary schooling (49% of men and 39% of women overall), but this gender differential is wider in the younger age groups (61% for men and 48% for women in the 18–40 age group).

**Men report significantly greater business assets than women**

The overall value of men entrepreneurs’ assets is more than twice that of women entrepreneurs (figure 2). The gap favoring men increases with the entrepreneur’s age, reaching a maximum of more than three times women entrepreneurs’ assets in the oldest age group (51–55).

**Entrepreneurs’ economic outcomes by gender**

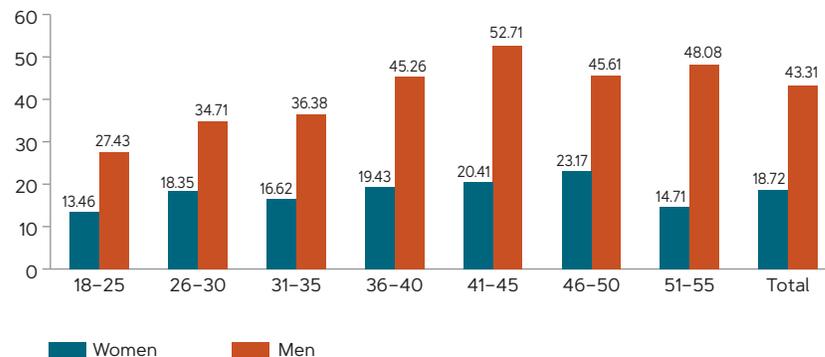
**Men earn significantly more, on average, from business and other sources of income than women**

Earnings from the main sources of income are sharply higher for men entrepreneurs than for women entrepreneurs. Men have higher average monthly profits from their primary and secondary businesses combined, which is the largest income source for both women and men, and from other, lesser income sources, which includes wage and salary earnings and profits from other businesses (figure 3). The gender differential favoring men is 2:1 for primary and secondary business, 3:1 for average monthly wage and salary earnings, and 4:1 for profits from businesses other than primary and secondary.

**Despite men’s higher reported income, women entrepreneurs are more likely to report having**

**Figure 2. The value of men entrepreneurs’ assets is more than twice that of women entrepreneurs’ assets in East Java, 2017**

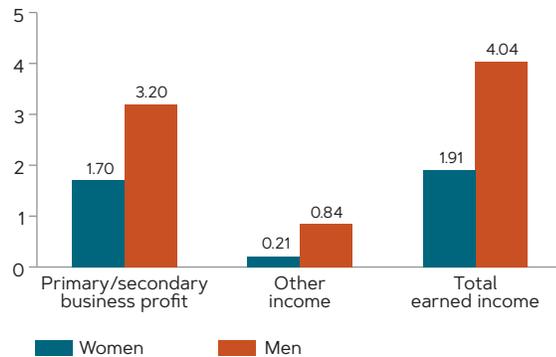
Millions of rupiah



Source: Knowles 2018.

**Figure 3. Among entrepreneurs in East Java, men have significantly higher average monthly profits from all sources than women, 2017**

Millions of rupiah per month



Note: "Other income" sources include profits from other businesses and wage and salary earnings.

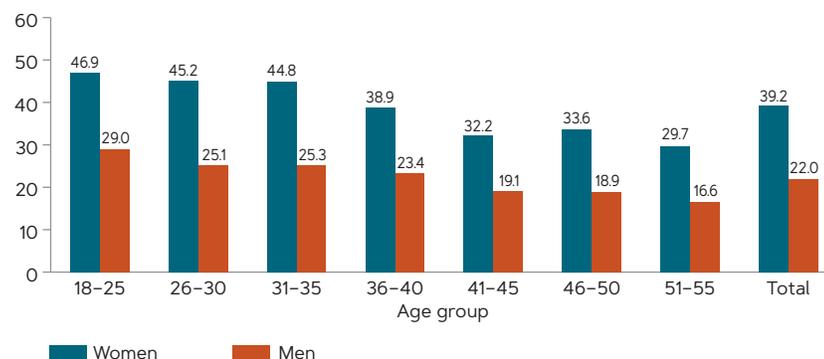
Source: Knowles 2018.

### any savings – and to report higher savings relative to their earned income

More women entrepreneurs (84%) than men (69%) reported having any savings in the past 12 months in any savings instrument (including a formal bank account, at home, or in a rotating savings and credit association, or ROSCA<sup>17</sup>). While men saved more than women in absolute terms (11.0 million rupiah compared with Rp. 6.1 million),<sup>18</sup> women saved substantially more than men as a share of their reported earned income, both overall (almost 2:1) and in all age groups (figure 4). For both women and men entrepreneurs, the savings ratio decreases steadily with age, which is contrary to the usual life-cycle pattern in which savings ratios tend to be lower among both young and old age groups.

**Figure 4. Women entrepreneurs in East Java save significantly more than men as a share of average monthly income overall and in all age groups, 2017**

Share of annualized earnings (%)



Note: Extreme values (the top 2%) of the reported saving ratios have been excluded to reduce the effect of possibly spurious outliers (winsorization).

Source: Knowles 2018.

Among entrepreneurs, women are more likely than men to save in an informal network, including ROSCAs, while men are more likely to save in a formal bank or at home. There are large gender differentials favoring men in saving in a formal bank account (more than 3:1) and at home (almost 2:1), whereas there are smaller gender differentials favoring women in saving in a ROSCA or in other savings instruments.

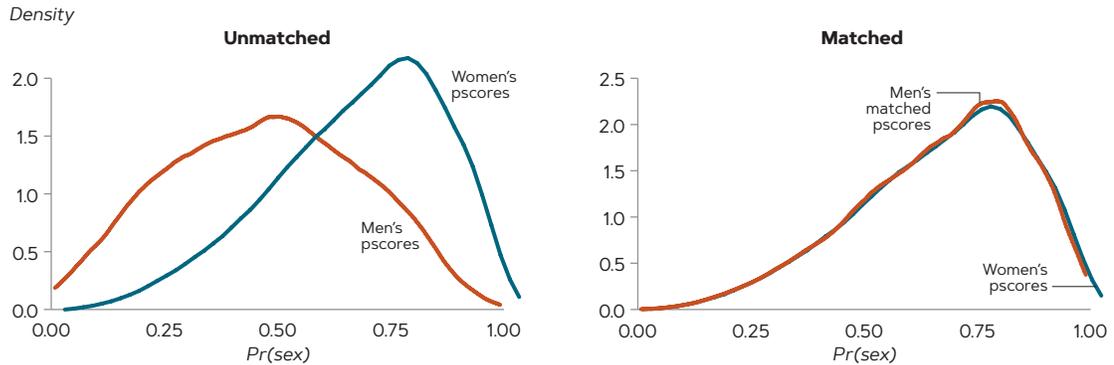
### What helps explain differences in economic outcomes by gender?

To answer questions about gender differences in economic outcomes, the outcomes were compared for a sample of women and men entrepreneurs who were well matched in characteristics, using the statistical technique of propensity score matching.<sup>19</sup> Characteristics that were matched include age, marital status, household size and number of children, as well as education level, cognitive ability, willingness to take risk, and business and household assets.<sup>20</sup> Despite large gender differences in characteristics in the sample, the study was able to match women and men entrepreneurs on relevant characteristics to compare outcomes in this matched sample.

### The large gender differences in economic outcomes are only partly explained by differences in characteristics by gender

Before matching, the distributions of the estimated propensity scores (pscores) are quite different between women and men entrepreneurs, as was expected (figure 5, left panel). After matching, however, the two distributions overlap almost

**Figure 5. After matching on entrepreneurs’ characteristics, estimated propensity scores are very similar for women and men entrepreneurs in East Java, 2017**



Source: Knowles 2018.

completely, meaning that there are men entrepreneurs with the same or similar estimated pcores as most women entrepreneurs, indicating that the matching was successful (figure 5, right panel).

The before and after matching distributions of the total value of business assets, a highly skewed characteristic with the largest pre-matching gender gap, again show successful matching (figure 6).

This analysis shows that the sharp gender differences in earnings and economic outcomes are only partly explained by differences in characteristics that give men entrepreneurs a head start over women entrepreneurs.

**Matching on entrepreneurs’ characteristics reduces by only 32% the gender differential in average monthly total earned income favoring men**

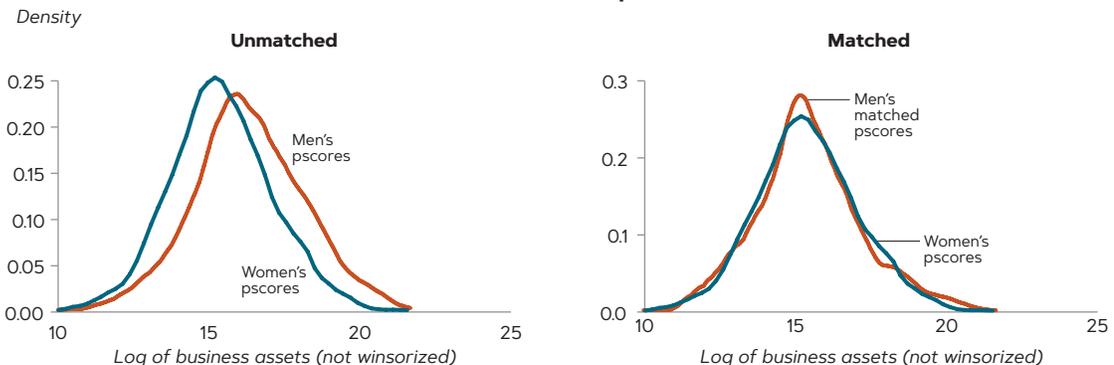
As shown earlier, estimates of gender differentials in average monthly earned income by source all favor men entrepreneurs. Matching reduces gender differentials in three of the four sources of

monthly earned income (the exception is wage and salary earnings; figure 7). However, none of the reductions is statistically significant. These results suggest that other factors (such as social customs and gender discrimination) account for the remaining statistically significant gender differential of almost Rp. 1.5 million a month in total earned income.

**Matching on entrepreneurs’ characteristics only slightly reduces some gender differentials in savings favoring women and others favoring men**

Matching only slightly reduces gender differentials favoring women entrepreneurs for having any saving during the past 12 months and for the amount saved as a share of annualized total earnings. Matching reduces by 15% the differential favoring men for total annual savings as well as for the amounts saved in formal bank accounts and at home.

**Figure 6. After matching on entrepreneurs’ characteristics, the natural logarithm of the value of total business assets is similar for women and men entrepreneurs in East Java, 2017**



Source: Knowles 2018.

**Figure 7. Matching on entrepreneurs’ characteristics reduces by less than one-third gender differentials for entrepreneurs in East Java in three of four sources of monthly earned income, 2017**



Note: Gender differentials are unchanged for “wage and salary earnings” and are statistically insignificant for “second business profits.”  
 Source: Knowles 2018.

Matching on entrepreneurs’ characteristics substantially reduces the estimated gender differentials favoring men in some important business-related outcomes

Matching reduces by a substantial 39% the gender differential favoring men entrepreneurs for the number of paid workers. In addition, matching reduces to statistically insignificant levels gender differentials for having a second business, an index of adherence to eight recommended business practices,<sup>21</sup> and registering at least one business (figure 8).

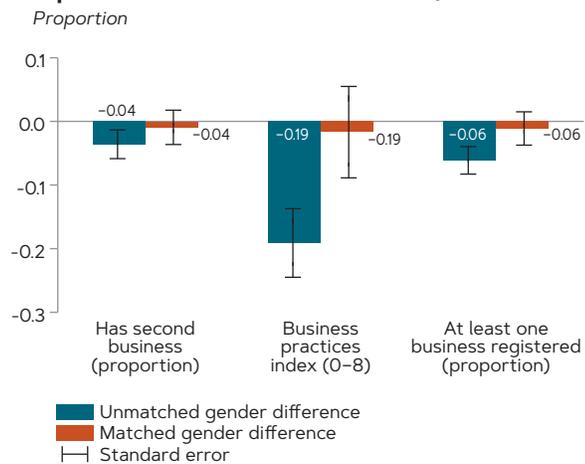
Matching on the entrepreneurs’ characteristics only somewhat reduces gender differentials favoring men for accessing information technology and financial services

Before matching, gender differentials in four other characteristics – ownership of a smart phone, accessing the internet, having an individual bank account, and taking out a loan during the past 12 months – are statistically significant and favor men. Matching on these characteristics reduces all four estimated gender differentials, but not significantly (figure 9).

**Characteristics associated with successful entrepreneurship by gender**

The study classified entrepreneurs into two groups by degree of business success. Entrepreneurs with reported average monthly business profits above the median in the last year were classified as more

**Figure 8. Matching on entrepreneurs characteristics reduces to statistically insignificant levels gender differentials for entrepreneurs in East Java in three important business-related outcomes, 2017**



Source: Knowles 2018.

successful, and those with profits at or below the median as less successful. Classified in this way, the sample of women entrepreneurs includes 1,239 more successful entrepreneurs and 1,539 less successful entrepreneurs, while the sample of men entrepreneurs includes 1,072 more successful entrepreneurs and 895 less successful entrepreneurs.<sup>22</sup> More successful women entrepreneurs have a higher representation among retail operations (52% of the primary businesses) than do less successful women entrepreneurs (44%). More successful men entrepreneurs have

**Figure 9. Matching on the entrepreneurs' characteristics only somewhat reduces gender differentials favoring men over women entrepreneurs in East Java in accessing information technology and financial services, 2017**



Source: Knowles 2018.

a higher representation among grocery stores and food stalls (23.5%) than do less successful men entrepreneurs (19%).

The analysis looked at differences between more and less successful entrepreneurs for each gender as well as the gender differences in differences<sup>23</sup> for 21 indicators of entrepreneurs' characteristics, such as age, educations, business experience, cognitive ability, and household and business assets.<sup>24</sup>

It is important to underscore that this analysis can only suggest relations between variables; it cannot establish a causal link. A significant relationship between business success and a given indicator may reflect a causal link between the two and a third unobserved factor. For example, a significant relationship between higher profits and adherence to recommended business practices might be observed because age or education affects both profits and business practices. In addition, there is the possibility of causation in both directions: adherence to recommended business practices may make a business more profitable, but it is also plausible that at least some entrepreneurs may follow recommended business practices if their business is more profitable for whatever reason (such as good luck).

**Successful entrepreneurs, both women and men, share characteristics that sharply differentiate them from less successful ones, including registering the business, having more business experience, and being willing to take risks**

Data on 21 indicators of entrepreneurs' characteristics show that differences between more

successful and less successful men entrepreneurs and between more successful and less successful women entrepreneurs are highly significant in most cases.<sup>25</sup> For example, business registration, number of years of business experience, and willingness to take risk are positively and highly significantly related to business success for both women and men. More successful women entrepreneurs are 8% more likely than less successful ones to have at least one business registered; for men entrepreneurs the difference is 12%. More successful entrepreneurs have more business experience than less successful ones: 2.0 more years for women and 1.2 for men.

The differences between more and less successful entrepreneurs for most of the remaining indicators are highly significant for business success for both women and men entrepreneurs, including for a household asset index and the total value of business assets.<sup>26</sup>

**Being older, however, is associated with a greater likelihood of business success only for women, while being married and having children is associated with greater success only for men**

The 1.1 year age difference between (older) more successful women entrepreneurs and (younger) less successful women entrepreneurs is highly significant, whereas the smaller 0.6 year difference between more and less successful men entrepreneurs is not statistically significant. Conversely, the differences between more and less successful women entrepreneurs for the indicators "currently married" and "has children" are both statistically

insignificant, whereas the differences are both highly significant among men entrepreneurs.

**Having a bank account in one's name is significantly related to business success for both women and men**

More successful women entrepreneurs are 10% more likely than less successful ones to have a bank account in their name, and more successful men entrepreneurs are 16% more likely. Using an account for saving, checking the account balance, and taking out a business loan are positively and significantly related to business success among both women and men entrepreneurs. In addition, using an account for microcredit is positively and significantly related to success for women entrepreneurs, while using an account for letters of credit, vehicle loans, and health or life insurance is positively and significantly related to success for men entrepreneurs. Knowing about mobile money applications is positively and significantly associated with business success among men but is positively but not significantly associated with success among women.

**More successful women and men entrepreneurs save more than their less successful counterparts, suggesting the importance of savings to entrepreneurial success**

Most of the estimated differences between more and less successful women and men entrepreneurs for 22 savings indicators (such as having any savings in the last 12 months; having any informal savings, e-savings, or savings at home) are significant and positive, suggesting that more successful entrepreneurs save more than less successful ones do.<sup>27</sup>

**More successful women and men entrepreneurs are more likely than less successful ones to adhere to recommended business practices**

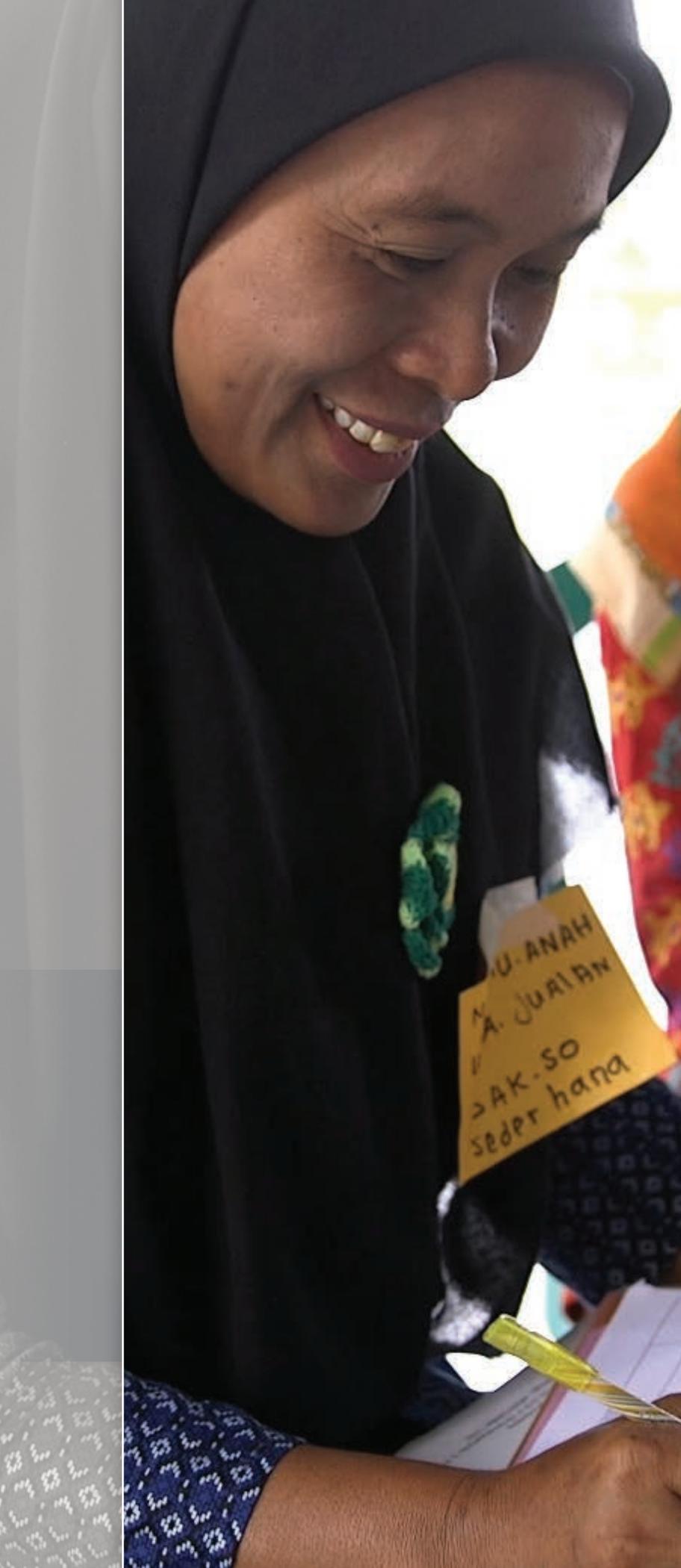
Estimated differences for 12 of 14 indicators of business practices are positive and statistically significant for both women and men entrepreneurs, including the 8 indicators in the business practices index.<sup>28</sup> These differences, however, are larger among men than among women entrepreneurs.

**Having a second business is associated with greater business success among both women and men**

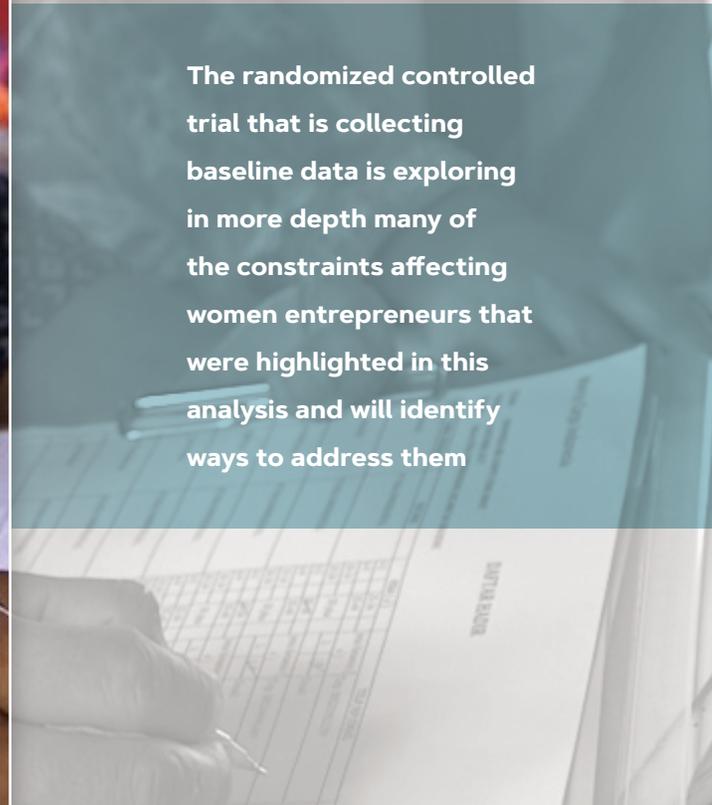
More successful women entrepreneurs are much more likely than less successful ones to have a second business (24% versus 9%); the difference is even larger among men entrepreneurs (29% versus 10%). More successful women and men entrepreneurs also work more days in a typical month and more hours in a typical day in their second businesses. However, working more in wage and salary work or in other business pursuits beyond the primary and second businesses is negatively associated with profitability among both women and men entrepreneurs, suggesting that too much diversification of work activities may negatively affect profitability in primary and second businesses.<sup>29</sup>

**Business help from a spouse is also positively and significantly associated with greater business success for both women and men**

More successful women and men entrepreneurs are more likely to receive business help from a spouse (8% more likely for women and 7% for men). Business help from another male household member is positively associated with success among women entrepreneurs but not among men entrepreneurs.



The randomized controlled trial that is collecting baseline data is exploring in more depth many of the constraints affecting women entrepreneurs that were highlighted in this analysis and will identify ways to address them



## 4. IMPLICATIONS OF THE FINDINGS

This rich dataset generally supports previous findings for Indonesia and the results of cross-country analyses of gender and entrepreneurship, while adding a few twists. These are discussed below, along with their potential policy implications.

### **Leveling the playing field for entrepreneurial ventures may require more than equalizing characteristics between women and men entrepreneurs**

Entrepreneurial ventures are highly unequal in East Java. The study supports evidence from cross-country studies showing sharp gender differentials in characteristics and economic outcomes in favor of men. However, this study also finds that differences in measured characteristics explain less than a third of observed gender differences in total earned income, suggesting that policies to improve women's entrepreneurial ventures will need to address a broader array of factors that tilt entrepreneurial environments in favor of men.

An important implication of these findings is that policies designed to boost women entrepreneurs' economic status by improving their characteristics, while helpful, may not be sufficient to close gender gaps in economic outcomes. It may also be necessary to address social, cultural, and political factors that hold women entrepreneurs back even when their characteristics are similar to those of men entrepreneurs. This could include examining potential biases against women clients in the delivery of financial and other services – an observation that motivated the studies that are documented in this series – and then overcoming them through information and other measures, including incentives for bank agents to enroll women clients.

**It is nonetheless the case that increasing women's education and training and improving their**

### **business practices are potentially important policy concerns**

The gender disparity in education, which persists even among the younger age groups in this study, is worrisome and suggests that less educated young women are becoming entrepreneurs in greater numbers, likely out of necessity. This and the fact that good business practices are associated with more successful entrepreneurs would support this focus of policy, especially for younger cohorts.

### **On the other hand, encouraging women to diversify their entrepreneurial activities may have less of an effect in the Indonesian context than in some others**

Encouraging women entrepreneurs to shift to more male-dominated occupations or sectors may have less of an effect on women's business outcomes in the context of East Java than in other cases documented in the literature. In East Java, interventions to increase women's profits within the sectors or types of businesses in which they are currently engaged may have a greater payoff in reducing gender disparities in outcomes.

### **The data for Indonesia support women's greater preference for savings and its association with entrepreneurial success, but women still resort to more informal saving mechanisms than men do**

Although women entrepreneurs save significantly less in absolute amounts, they save substantially more as a share of their reported earned incomes than men entrepreneurs, both overall (almost 2:1) and in all age groups, as underscored in the first report in this series.<sup>30</sup> Women's stronger preference to save, however, occurs mainly through informal mechanisms, perhaps because of both higher transaction costs for women and gender biases in the delivery of formal financial services.

This situation is inefficient and a potential contributor to unequal entrepreneurial outcomes. Awareness of these data may be useful input for banks and other formal financial services providers and help define women entrepreneurs as a new market segment for savings and other financial products.

**It is encouraging that some of the main characteristics associated with more successful entrepreneurs are well known in the literature and do not vary significantly by gender**

A successful venture is defined on the basis of the entrepreneurs' combined profits from primary and secondary businesses. More successful women and men entrepreneurs exhibit characteristics that vary little between them (the main exceptions are differences in savings and business assets, which vary substantially) but that vary sharply between them and less successful women and men entrepreneurs.

**These positive characteristics include following good business practices, having access to assets and financial services, having access to helping hands in the business, and owning a second business**

More successful entrepreneurs, both women and men, have higher levels of most well-studied characteristics, including business experience, registered businesses, cognitive ability, and willingness to take risk, while they also save more, have a bank account in their own name, are more likely to follow recommended business practices, and have a spouse who helps in running the business. Running a second business may help overcome the limitations of local markets.

The growth-oriented women entrepreneurs highlighted in the World Bank Indonesia survey<sup>31</sup> discussed earlier in this report are likely a portion of the more successful women entrepreneurs identified here, which highlights the potential importance of access to good business practices and financial services.

**Older women run more successful ventures than younger ones, while being married and having children is associated with more business success for men**

This finding suggests that experience matters more for women than for men, perhaps to compensate for women's greater education deficit in all age groups. It also supports evidence in advanced economies that shows that marriage is beneficial to men's professional advancement. More important, perhaps, marriage provides family labor more readily in the case of successful men entrepreneurs than of successful women entrepreneurs.

**The gender gap favoring men entrepreneurs in smart phone ownership and access to the internet needs to be addressed**

The baseline data analysis suggests that enhancing women's information and knowledge and reducing gender bias in financial and other service delivery systems would improve women entrepreneurs' access to saving and credit services and information technologies that can help grow their businesses.

**The randomized controlled trial that is collecting baseline data is exploring in more depth many of the constraints affecting women entrepreneurs that were highlighted in this analysis and will identify ways to address them**

The randomized controlled trial in East Java villages, which is still ongoing, is designed to address, on the demand side, women's access to a mobile savings product through branchless banking and information on how to access the product, as well as why and how to save (financial literacy). By making mobile savings available to women entrepreneurs, the project hopes to reduce transaction costs and increase women's privacy to manage accounts and save. On the supply side, the project may be able to modify any potential bias of financial service providers against women clients through information dissemination (on the importance of reaching women) and financial incentives to bank agents for enrolling both women and men clients. The project is also exploring whether having women financial agents increases women's uptake of formal financial services.

Stay tuned.

## NOTES

1. Buvinic, M., and T. Jaluka, 2018, *Mindful Saving: Exploring the Power of Savings for Women*, Washington, DC: Center for Global Development.
2. Buvinic and Jaluka 2018, *op. cit.*
3. For more details on the study and the analysis, see Knowles, J.C., April 2018, “Analysis of Impact Evaluation Baseline Survey,” Background Paper, Washington, DC: Center for Global Development.
4. Entrepreneurs’ characteristics or “endowments” include attributes not dependent on choice, such as age and gender, as well as characteristics that depend on previous decisions, such as household and business assets and completed levels of schooling.
5. World Bank, Finance and Markets Global Practice, East Asia Pacific Region, April 2016, *Women Entrepreneurs in Indonesia: A Pathway to Increasing Shared Prosperity*, World Bank Indonesia.
6. World Bank 2016, *op. cit.*
7. Melissa, E., A. Hamidati, M. Saraswati, and A. Flor, 2015, “The Internet and Indonesian Women Entrepreneurs: Examining the Impact of Social Media on Women Empowerment,” in A. Chib, R. Barrantes, and J.D. May, eds., *Impact of Information Society Research in the Global South*, Berlin: Springer.
8. Campos, F., and M. Gassier, 2017, “Gender and Enterprise Development in Sub-Saharan Africa: A Review of Constraints and Effective Interventions,” World Bank Policy Research Working Paper 8239, Washington, DC: World Bank; McKenzie, D., and C. Woodruff, 2015, “Business Practices in Small firms in Developing Countries,” NBER Working Paper 21505, Cambridge, MA: National Bureau of Economic Research; Bardasi, E., S. Sabarwal, and K. Terrell, 2011, “How Do Female Entrepreneurs Perform? Evidence from Three Developing Regions,” *Small Business Economics* 37(4): 417–441.
9. World Bank 2016, *op. cit.*
10. World Bank 2016, *op. cit.*
11. World Bank 2016, *op. cit.*
12. For more detail, see Knowles 2018, *op. cit.*
13. These percentages of business types by gender may change somewhat in forthcoming issues in this Series on Women’s Economic Empowerment since all businesses are being recoded to better capture the details of the “other” category.
14. Campos and Gassier 2017, *op. cit.*; McKenzie and Woodruff 2015, *op. cit.*; Bardasi et al. 2011, *op. cit.*
15. Knowles 2018, *op. cit.*
16. Knowles 2018, *op. cit.*
17. A rotating savings and credit association is a form of locally organized savings in which members pool their savings resources regularly and lend them to another member on a rotating basis.
18. As of April 2018, 1 million rupiah were equivalent to \$72.
19. The matched sample includes 4,764 entrepreneurs: 2,807 women entrepreneurs and 1,957 men entrepreneurs. The sample size is 57 people smaller than the original sample of 4,821 entrepreneurs because of the attrition of 7 women entrepreneurs and unreported values for some of the outcomes analyzed. The matching was done using the Stata user-developed program “psmatch2” with the sample limited to women entrepreneurs with estimated pscores in the same range as those of men entrepreneurs.
20. Interactions between age and currently married, willingness to take risk, and household assets were also included; see Knowles 2018, *op. cit.*, table 2.
21. The business practices index is the sum of eight indicators of reported adherence to recommended business practices that are reported by

almost all (4,820) entrepreneurs (with adherence equal to 1 and nonadherence equal to 0): used special offers to attract customers during the past three months, used any form of advertising during the past six months, attempted to negotiate with a supplier for a lower price during the past three months, kept written business records, knows the cost of main products, has a written budget for operating costs, sells goods on credit, and has the records needed to apply for a bank loan. Information on the other recommended business practices is available in table 1 in Knowles 2018, *op. cit.*

22. The two groups are of unequal size because of the relatively large frequency of entrepreneurs reporting the median value of average monthly profits of Rp. 1.0 million for women (145 women) and Rp. 2.0 million for men (131 men).

23. A gender difference in differences analysis studies the effect of gender on a particular outcome.
24. Knowles 2018, *op. cit.*, table 2.
25. Knowles 2018, *op. cit.*, table 2.
26. Knowles 2018, *op. cit.*, table 2.
27. Knowles 2018, *op. cit.*, table 3.
28. Knowles 2018, *op. cit.*, table 4; see also note 21.
29. However, as with other findings, this is only an association and not necessarily a causal relationship. For example, entrepreneurs may allocate more time to other activities if their primary or second businesses are less profitable for other reasons.
30. Buvinic and Jaluka 2018, *op. cit.*
31. World Bank 2016, *op. cit.*

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