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# **Explaining gender differences in preference for self-employment among tertiary graduates in Ghana**

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**Abstract:** We examine gender differences in ambitions and expectations of jobseekers concerning self-employment, an increasingly proposed option for youth in economies with limited wage employment. Analysing survey data on 2,036 tertiary graduates in Ghana, we find that males have a stronger preference for self-employment. This is mostly explained by differences in educational background and work experience, and less by financial assets and family background. Personal traits (such as self-esteem or ‘grit’) do not explain gender differences. Our findings suggest early interventions may reduce gender differences in labour market outcomes, specifically by strengthening women’s academic training and encouraging more pre-graduate work experience.

**Keywords:** gender, Ghana, graduate employability, higher education, self-employment

**JEL classification:** I21, J16, J21, J24, O15

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## 1 Introduction

Youth un(der)employment has become an urgent policy issue in Africa, with half of the population under 25 years and the expectation that this proportion will continue to grow (Filmer et al. 2014). This population trend emerges against a backdrop where job creation lags behind economic growth (AfDB et al. 2014). Policy makers have increasingly pushed self-employment (or ‘entrepreneurship’) as a solution to the lack of jobs for educated young people entering the African labour market each year (Anyidoho et al. 2012; Honeyman 2016). This paper seeks to understand gender differences in ambitions and expectations of job seekers concerning self-employment. In this regard, tertiary graduates are a relatively understudied population that potentially offers insight into the barriers to gender equality in economic welfare. Additionally, analysing the interaction between tertiary graduates and the labour market may provide an early indication of future trends as average levels of educational attainment continue to rise across developing countries.

This paper approaches the question of gender differences in preference for self-employment at the intersection of three areas of policy and research concern: youth under/unemployment in the face of inadequate job creation in African economies; the employability of tertiary graduates; and gendered inequalities in educational and employment outcomes. We focus on the case of Ghana, a country whose economy has experienced somewhat steady growth in the past three decades but has not created adequate employment opportunities for its population. Consequently, there are not enough formal sector salaried jobs for young people entering the job market annually, more of whom have higher degrees as a consequence of the continued expansion of tertiary education (Baah-Boateng 2015). Self-employment, couched as ‘entrepreneurship’ in policy discourse in Ghana and other developing countries, has been proffered as a solution to these problems; it purportedly addresses the lack of jobs by having young people create employment for themselves and for others, and it addresses employability to the extent that entrepreneurship programmes offer skills training and entrepreneurship education to young people with which they can productively engage with the job market (Gough and Langevang 2016; Honeyman 2016; Jeffrey and Dyson 2013). This is a narrative to which both state and non-governmental agencies in Ghana have subscribed, with a number of entrepreneurship programmes being rolled out by the state, non-governmental organizations (NGOs), and bilateral agencies (e.g. CARE 2013; Ministry of Food and Agriculture 2014). It is telling, for instance, that the Ghanaian government’s erstwhile National Youth Employment Programme, which aimed to provide temporary work for young people to help them transit fully into the labour market, was replaced by the Ghana Youth Employment and Entrepreneurial Development Agency (GYEEDA), which was launched in 2013 under the banner ‘Youth Entrepreneurship, the Key to Solving Youth Unemployment in Ghana’ (Arthur 2012). GYEEDA was in turn replaced in 2015 by the Youth Employment Agency, which has a mandate, in part, to assist young people to find and create jobs (Kpessa 2015).

Entrepreneurship is a concept without a clear definition, even among researchers (Gartner 1998; Shane et al. 2003), and this ambiguity has seeped into policy discourse as well. However, there are two general approaches to a definition: attempts to identify the traits of entrepreneurs and approaches that focus on what entrepreneurs do. While there is some scepticism about trying to determine the psychological makeup of an entrepreneur (Guterman 2009), there is literature to suggest that entrepreneurs need to exhibit low risk aversion, innovativeness, ambition, and creativity, among other qualities (Shane et al. 2003). The second set of definitions focus on behaviours, one of which is ‘the creation of something new’ (Hessels 2008: 6)—whether by introducing a new market, product, service, or firm (Ahmad and Hoffman 2007; Gartner 1988; Hessels 2008; UNCTAD 2012) or by expanding

or adding value to an existing product, service, or firm (Ahmad and Hoffman 2007). Importantly for policy makers, entrepreneurship is also expected to create new jobs.

Thus, ‘entrepreneurship’ differs conceptually from ‘self-employment’ but, in this paper, we exploit the overlaps between these ideas, taking a cue from literature that defines self-employment as an example or a form of entrepreneurship (e.g. Startienė et al. 2010). Self-employment suggests that a single person is responsible for the operations, decision-making, and risks in their enterprise, and reaps the profits directly. Similarly, entrepreneurship implies initiative, autonomy, and acceptance of risk and responsibility, although it has the added element of novelty. While entrepreneurship does not necessarily imply that an entrepreneur be the founder or head of an enterprise (Shane et al. 2003), this is often the assumption, hence the conflation of entrepreneurship with self-employment within policy rhetoric.

Existing research indicates gendered differences in productivity and earnings among entrepreneurs. This is one dimension of the larger problem of unequal labour market outcomes, particularly in developing countries, despite the narrowing gap in educational attainment (Hausman et al. 2014; World Bank 2012). Research also shows that there are gender differences in management styles and other behaviours, which may be linked to productivity and earnings (Brush 1992). There is, however, little interrogation of initial differences in aspirations or interests between the sexes that may feed into observed differences in preferences and outcomes in the labour market. Previous studies, for instance, have shown that students begin to segregate into gender-stereotypical fields of study as early as in secondary school, with females predominantly pursuing home economics and general arts while males pursue agriculture, science, and technical studies (Ajayi and Buessing 2015). With specific reference to self-employment, female secondary school students in Ghana express a weaker preference for this work option relative to male students (Ajayi and Telli 2013). Furthermore, existing studies estimating the effects of access to capital on firm growth have found limited impacts for female entrepreneurs compared to males, potentially indicating a stronger negative selection of women into entrepreneurship (de Mel et al. 2014; Fafchamps et al. 2014).

The 2012 Global Entrepreneurship Monitor (Xavier et al. 2012) found that Ghanaian females are more likely than males to be new entrepreneurs, a category which includes the self-employed. This contrast between lower female aspirations and higher female participation in entrepreneurship, including self-employment, invites further inquiry. Reynolds et al. (2003) suggest a possible answer by distinguishing between ‘necessity’ and ‘opportunity’ entrepreneurship, whereby women become entrepreneurs out of necessity due to a lack of opportunity for other work, whereas men become entrepreneurs by recognizing and taking advantage of opportunities. This typology of motivations for self-employment may even call into question the suggestion in the literature that women ‘prefer’ to be self-employed because it gives them the flexibility to combine this type of employment with childbirth, care work, and other domestic and social obligations. Understanding early preferences and aspirations might indicate that women in these situations may have a ‘necessity’ approach to entrepreneurship. Thus, Reynolds et al.’s (2003) model suggests why, in addition to employment outcomes, research must look at gendered differences in initial work preferences and motivations.

Our paper attempts to explain observed differences in preference for self-employment among male and female tertiary graduates in transition from schooling to labour market entry. The school-to-work transition is important to study because it allows an investigation of the initial gender differences among tertiary graduates before they are mediated or exacerbated by subsequent professional experiences in the labour market or by personal decisions, such as additional human capital investment, marriage, or fertility.

## 2 Data and methodology

We use data from a targeted survey of tertiary graduates to examine preference for self-employment. Since 1973, all citizens completing an accredited tertiary degree or diploma in Ghana are required to work for one year under the National Service Scheme (NSS), a mandatory employment programme for tertiary graduates under the age of 40. NSS participants receive a monthly stipend of approximately US\$100 and are posted to work either in public institutions to support the country's manpower needs in agriculture, education, and technology, or in private sector establishments that request personnel. The NSS deployed over 75,000 tertiary graduates in the 2015/16 cohort. We used administrative data from the NSS secretariat to construct a random sample of establishments that had requested national service personnel in the previous year in three of Ghana's 10 administrative regions—Ashanti, Greater Accra, and Northern, which account for over 60 per cent of national service postings. We invited up to 10 national service personnel at each selected establishment to complete a 45-minute survey administered by trained enumerators. The resulting National Service and Beyond (NSB) Survey covers a sample of 2,036 tertiary graduates interviewed between October and November 2015, at the beginning of their national service year, which runs from September to July. For the purposes of this analysis, we focus on the 1,180 bachelor degree graduates and exclude diploma graduates because gender differences in diploma and degree receipt complicate the interpretation of our results.

The NSB survey elicited responses about job preferences and expectations. Additionally, in order to construct a comprehensive assessment of skills, the survey measured grit using the eight-item grit scale (Duckworth and Quinn 2009; Duckworth et al. 2007), self-esteem using the Rosenberg self-esteem index (Rosenberg 1965), and critical reasoning using Raven's matrices (Raven 1936). Grit scores range from 1 to 5, self-esteem scores range from 1 to 4, and we standardize Raven's scores to have mean 0 and standard deviation 1 within the sample. We also standardize self-reported grades on the nationwide Secondary School Certification Exam (SSCE) math and English exams to construct a measure of exam performance with mean 0 and standard deviation 1. We analyse gender and other differences using *t*-tests for statistical significance in differences in subgroup means.

## 3 Who wants to be self-employed?

Despite the prevalence of unemployment in Ghana—18 per cent for 19–29-year-old tertiary graduates in the 2010 census (Minnesota Population Center 2015)—most graduates prefer to be given employment as opposed to creating employment for themselves, indicated by their response to the question: 'If you were to start work after completing National Service, what type of employer would you want to work for?' Only 14 per cent of respondents in our survey aspire to be self-employed and there is a significant difference by gender, with 16 per cent of males preferring self-employment compared to 12 per cent of females. Table 1 presents differences between aspiring self-employed and other graduates. Each row reports the average outcome for graduates aspiring to be either self-employed or employed by another person, along with a *t*-test for the significance level of differences between the two samples.

Self-employment is valued in the policy discourse because it is a guarantee of work for the individual. Panel A shows that survey responses in our sample of tertiary graduates subscribe to this policy narrative; graduates who prefer self-employment expect to have more positive employment outcomes such as the likelihood of having a current job offer or the prospect of a job expected and the likelihood of earning income within six months of national service. Preference for self-employment is also positively associated with expected earnings.

Table 1: Self-employment aspirations

| Preferred employer:                                  | Self    | Other   | Difference            |
|--|---------|---------|-----------------------|
| <b>Panel A: Employment expectations</b>              |         |         |                       |
| Expected monthly earnings in first job (US\$)        | 589.442 | 491.445 | 97.997<br>[29.623]*** |
| Minimum acceptable monthly earnings (US\$)           | 354.902 | 320.953 | 33.949<br>[15.395]**  |
| Chance of income within six months (out of 10)       | 7.488   | 6.727   | 0.762<br>[0.185]***   |
| Already have job offer/prospect                      | 0.153   | 0.091   | 0.062<br>[0.025]**    |
| <b>Panel B: Socio-emotional and cognitive skills</b> |         |         |                       |
| Grit score   | 3.847   | 3.827   | 0.020<br>[0.047]      |
| Self-esteem score                                    | 3.336   | 3.310   | 0.027<br>[0.030]      |
| Raven standardized score                             | 0.168   | 0.155   | 0.014<br>[0.082]      |
| SSCE standardized score                              | 0.529   | 0.381   | 0.148<br>[0.073]**    |
| Tertiary field of study = STEM                       | 0.265   | 0.201   | 0.064<br>[0.034]*     |
| Tertiary field of study = business                   | 0.206   | 0.304   | -0.098<br>[0.038]***  |
| <b>Panel C: Financial background</b>                 |         |         |                       |
| Have a bank account                                  | 0.959   | 0.948   | 0.011<br>[0.018]      |
| Have stocks or bonds                                 | 0.253   | 0.181   | 0.072<br>[0.033]**    |
| Have insurance policies                              | 0.382   | 0.422   | -0.039<br>[0.041]     |
| Saved money in the last year                         | 0.588   | 0.615   | -0.027<br>[0.040]     |
| Borrowed money in the last year                      | 0.159   | 0.168   | -0.009<br>[0.031]     |
| Used mobile banking in the last year                 | 0.888   | 0.850   | 0.039<br>[0.029]      |
| <b>Panel D: Demographic characteristics</b>          |         |         |                       |
| Male   | 0.676   | 0.595   | 0.081<br>[0.040]**    |
| Age  | 24.576  | 25.011  | -0.434<br>[0.244]*    |
| Marital status = single                              | 0.982   | 0.931   | 0.052<br>[0.020]***   |
| Have biological children                             | 0.029   | 0.063   | -0.034<br>[0.019]*    |
| Family member in political office                    | 0.082   | 0.081   | 0.001                 |

|                                   |       |       |                   |
|-----------------------------------|-------|-------|-------------------|
| Father ever owned a business      | 0.524 | 0.531 | -0.007<br>[0.023] |
| Father ever worked for government | 0.518 | 0.537 | -0.019<br>[0.041] |
| Mother ever owned a business      | 0.759 | 0.739 | 0.020<br>[0.036]  |
| Mother ever worked for government | 0.247 | 0.267 | -0.020<br>[0.037] |

Note: We censor earnings at the 99th percentile response of GHc5,000 (Ghana cedis) per month for minimum earnings and GHc10,000 per month for expected earnings, to lessen the impact of outliers (US\$1,282.05 and US\$2,564.10 respectively at the prevailing exchange rate of GHc3.9 to US\$1). Standard errors reported in square brackets. Statistical significance levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Source: authors, based on NSB Survey.

Panel B examines differences in socio-emotional skills, cognitive skills, and educational backgrounds of graduates aspiring to be self-employed, in line with the literature that suggests differences between people with the capacity or potential to be entrepreneurs and those without. We find no significant differences in grit, self-esteem, or Raven's scores. However, aspiring self-employed graduates have stronger educational backgrounds, with higher self-reported SSCE grades. Interestingly, specializing in science, technology, engineering, or mathematics (STEM) is positively associated with entrepreneurial ambitions, while the opposite is true for specializing in business.

Since preferences for entrepreneurship may depend on access to financial services, Panel C examines financial background. Graduates aspiring to self-employment are significantly more likely to have stocks or bonds but are no more likely to have a bank account or insurance policy, or to have saved, borrowed, or used mobile banking in the last year.

Panel D examines personal and family background. Aspiring self-employed graduates are more likely to be male, relatively younger, single, and childless. There are no significant differences in the likelihood of having a family member who has held political office, which we hypothesized might signal the chance of getting preferential treatment from the government, such as securing government contracts or avoiding compliance with government regulations. Aspiring self-employed graduates are not significantly more likely to have a parent who owns or has owned a business. Tellingly, the data provide support for the broader trend of higher female representation in self-employment in Ghana—almost 75 per cent of respondents have a mother who ever owned a business, but less than 55 per cent have a father who ever did.

Finally, we find distinct gender differences in self-employment preferences. Panel A of Table 2 indicates almost half the women in our sample intend to start a new job after completing national service (compared to 37 per cent of men), while 13 per cent of men intend to start their own business (compared to 7 per cent of women). These differences are statistically significant. Panel B confirms that men are indeed more likely to prefer self-employment or working in a family business than women are. Further, women are less likely than men to want to be professionals, but are twice as likely to want to be clerks (Panel C). These are the only two statistically significant differences in occupational aspirations, and they are consistent with women's increased preference for being employed by someone else, rather than starting a business.

Table 2: Gender differences in employment preferences and expectations

|  | Female | Male  | Difference           |
|--|--------|-------|----------------------|
| <b>Panel A: Main intentions after NSS</b>          |        |       |                      |
| Continue school in Ghana                           | 0.119  | 0.123 | -0.004<br>[0.019]    |
| Continue working at NSS post                       | 0.110  | 0.123 | -0.013<br>[0.019]    |
| Neither work nor continue school                   | 0.006  | 0.003 | 0.004<br>[0.004]     |
| Return to pre-tertiary work                        | 0.002  | 0.004 | -0.002<br>[0.003]    |
| Start my own business in Ghana                     | 0.071  | 0.128 | -0.057<br>[0.018]*** |
| Start work at a new job in Ghana                   | 0.457  | 0.372 | 0.085<br>[0.029]***  |
| Travel abroad to continue school                   | 0.224  | 0.226 | -0.002<br>[0.025]    |
| Travel abroad to work                              | 0.011  | 0.021 | -0.010<br>[0.008]    |
| <b>Panel B: Preferred employer</b>                 |        |       |                      |
| Self-employment                                    | 0.119  | 0.161 | -0.042<br>[0.021]**  |
| Family business                                    | 0.000  | 0.008 | -0.008<br>[0.004]**  |
| Government (ministries, departments, and agencies) | 0.347  | 0.335 | 0.012<br>[0.028]     |
| Government school                                  | 0.050  | 0.066 | -0.016<br>[0.014]    |
| Inter-/multinational company                       | 0.220  | 0.184 | 0.035<br>[0.024]     |
| Large private Ghanaian company                     | 0.192  | 0.190 | 0.002<br>[0.023]     |
| Non-profit/charity/NGO                             | 0.034  | 0.021 | 0.014<br>[0.010]     |
| Private school                                     | 0.009  | 0.020 | -0.011<br>[0.007]    |
| Small private Ghanaian company                     | 0.030  | 0.015 | 0.015<br>[0.009]*    |
| <b>Panel C: Preferred occupation</b>               |        |       |                      |
| Professionals                                      | 0.414  | 0.494 | -0.081<br>[0.030]*** |
| Legislators, senior officials/managers             | 0.196  | 0.189 | 0.008<br>[0.023]     |
| Technicians and associate professionals            | 0.179  | 0.177 | 0.002<br>[0.023]     |
| Clerks   | 0.149  | 0.067 | 0.082<br>[0.018]***  |



|   |         |         |                       |
|---|---------|---------|-----------------------|
| Service and shop/market sales workers               | 0.030   | 0.027   | 0.004<br>[0.010]      |
| Other   | 0.032   | 0.046   | -0.014<br>[0.012]     |
| <b>Panel D: Employment expectations</b>             |         |         |                       |
| Expected monthly earnings in first job (US\$)       | 477.730 | 523.600 | -45.870<br>[21.353]** |
| Minimum acceptable monthly earnings (US\$)          | 311.975 | 334.831 | -22.856<br>[11.071]** |
| Chance of income within six months (out of 10)      | 6.892   | 6.800   | 0.092<br>[0.134]      |
| Already have job offer/prospect                     | 0.108   | 0.095   | 0.013<br>[0.018]      |
| Expect to be out of work for six months without pay | 0.119   | 0.137   | -0.018<br>[0.020]     |

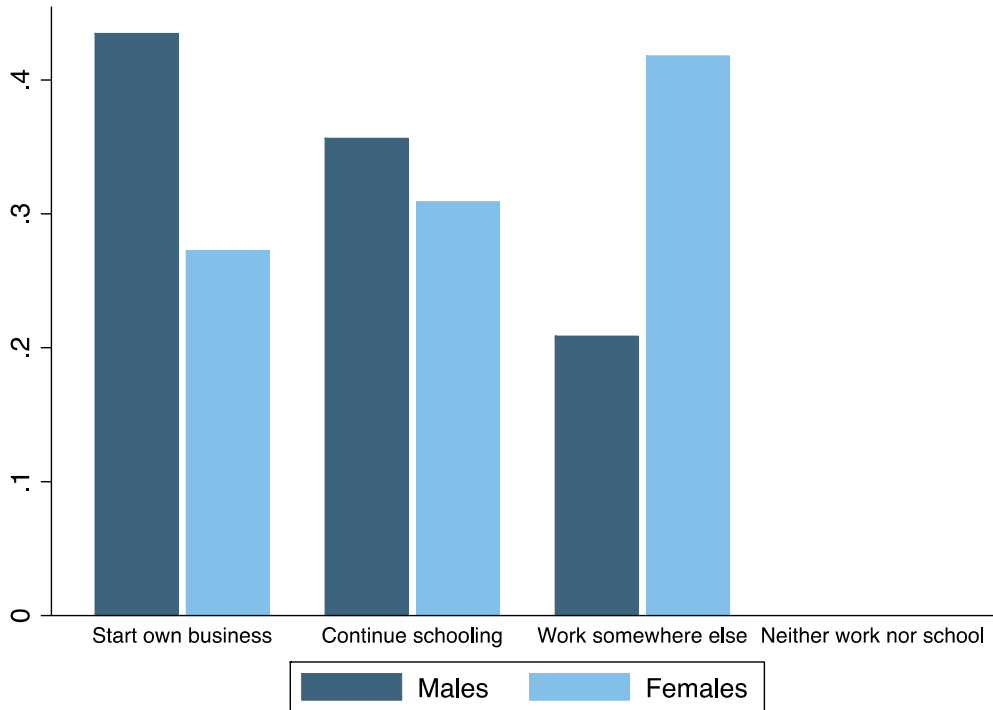
Note: Standard errors reported in square brackets. Statistical significance levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Source: authors, based on NSB Survey.

Interestingly, we see in Panel D that young men expect to earn more. As we have previously discussed, our sample of graduates associated self-employment with positive employment outcomes such as higher expected earnings. Therefore, the fact that young men expect to earn more might mean either their ambition to earn higher incomes leads them to want self-employment or that they expect self-employment to bring them higher incomes.

The preference for self-employment does not necessarily lead to a desire to immediately start a business. Figure 1 shows that even among the 14 per cent of graduates who would prefer to be self-employed, there are significant gender differences in immediate plans after national service. Forty-three per cent of males in this group say that they intend to start their own business immediately, another 21 per cent intend to start work at a new company, continue working at their NSS post, return to their pre-tertiary job, or travel abroad to work, and 36 per cent intend to continue their schooling. In contrast, only 27 per cent of females who prefer self-employment intend to start their own business immediately, while 42 per cent intend to work somewhere and 31 per cent intend to continue their schooling.

Figure 1: Plans after national service for graduates who prefer to be self-employed

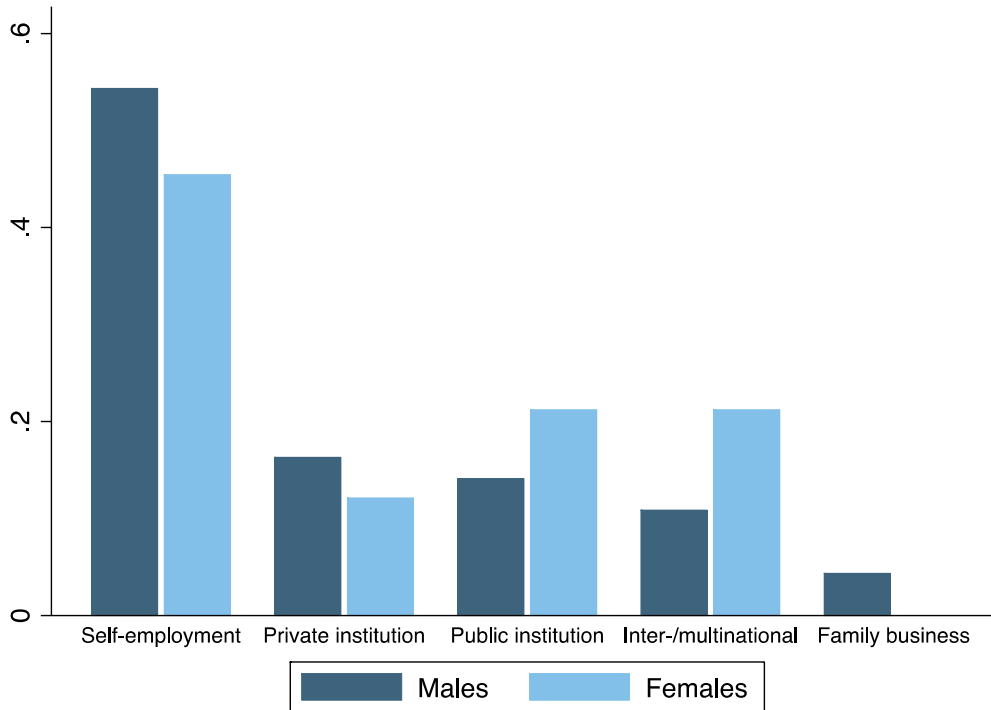


Note: the figure illustrates plans after national service for the 14 per cent of graduates (16 per cent of males and 12 per cent of females) who would prefer to be self-employed.

Source: authors, based on NSB Survey.

Strikingly, only half of the 11 per cent of graduates who intend to start their own business immediately after completing their national service would prefer to be self-employed (Figure 2). There is a statistically insignificant gender difference, and men who intend to start their own business are 9 percentage points more likely to prefer self-employment. Sixteen per cent of people who plan to start their own business would prefer to work for a government institution, while 29 per cent would prefer to work for a private Ghanaian institution or an international or multinational company. Thus, it appears that many graduates see establishing a business as a short-term source of employment, rather than their preferred employment situation. Altogether, only 5.5 per cent of graduates (7 per cent of males and 3 per cent of females) both intend to start their own business after national service and would prefer to be self-employed.

Figure 2: Preferred employment sector for graduates who plan to start a new business



Note: the figure illustrates the preferred employer for the 11 per cent of graduates (13 per cent of males and 7 per cent of females) planning to start a new business after national service.

Source: authors, based on NSB Survey.

#### 4 Gender differences in preference for self-employment

Why are women less likely to want to be self-employed? We explore competing explanations. First, self-employment appears to be a more risky proposition than seeking employment. Are women, then, more risk averse, and does this have to do with lower grit and self-esteem? Table 3 shows that there are no significant differences in grit or self-esteem between men and women in our sample.<sup>1</sup> This is counter-intuitive as one might expect higher self-esteem to be indicative of the confidence to venture out on one's own. We also find that women do not perform significantly worse on the Raven's test of non-verbal reasoning, which one might take as an indication of the ability to innovate. As with the self-esteem scores, it is only one dimension of possible qualities that may be needed in an entrepreneur. Nonetheless, this aspect of our analysis arguably sheds doubt on the utility of models of entrepreneurship based on traits or personal qualities, at least in explaining gender differences for tertiary graduates in Ghana.

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<sup>1</sup> Interestingly, men typically have higher self-esteem than women (Bleidorn et al. 2016; Kling et al. 1999).

Table 3: Socio-emotional skills and educational background

|  | Female | Male  | Difference           |
|--|--------|-------|----------------------|
| <b>Panel A: Socio-emotional and cognitive skills</b> |        |       |                      |
| Grit score   | 3.834  | 3.828 | 0.006<br>[0.034]     |
| Self-esteem score                                    | 3.331  | 3.302 | 0.030<br>[0.021]     |
| Raven standardized score                             | 0.128  | 0.175 | -0.048<br>[0.059]    |
| <b>Panel B: Secondary education background</b>       |        |       |                      |
| SSCE standardized score                              | 0.389  | 0.412 | -0.024<br>[0.053]    |
| SHS programme = agriculture                          | 0.013  | 0.031 | -0.018<br>[0.009]**  |
| SHS programme = business                             | 0.237  | 0.303 | -0.066<br>[0.027]**  |
| SHS programme = general arts                         | 0.418  | 0.291 | 0.128<br>[0.028]***  |
| SHS programme = general science                      | 0.205  | 0.295 | -0.090<br>[0.026]*** |
| SHS programme = home economics                       | 0.060  | 0.003 | 0.058<br>[0.009]***  |
| SHS programme = technical                            | 0.000  | 0.015 | -0.015<br>[0.006]*** |
| SHS programme = visual arts                          | 0.045  | 0.043 | 0.002<br>[0.012]     |
| <b>Panel C: Tertiary education background</b>        |        |       |                      |
| Tertiary field of study = STEM                       | 0.147  | 0.251 | -0.105<br>[0.024]*** |
| Tertiary field of study = business                   | 0.310  | 0.277 | 0.034<br>[0.027]     |
| Tertiary field of study = other                      | 0.543  | 0.472 | 0.071<br>[0.030]**   |

Note: Standard errors reported in square brackets. Statistical significance levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Source: authors, based on NSB Survey.

We found in the preceding section that graduates aspiring to self-employment had higher SSCE scores. The female university graduates in our sample do not report significantly lower SSCE scores. They are, however, more likely to have studied general arts or home economics as their secondary school programme. Women are less likely to have specialized in STEM and are more likely to have studied business for their tertiary qualification, both of these tendencies are associated with a lower probability of having entrepreneurial aspirations.

Table 4: Work experience

|  | Female  | Male    | Difference           |
|--|---------|---------|----------------------|
| <b>Panel A: Prior work experience</b>              |         |         |                      |
| During tertiary—worked for pay                     | 0.267   | 0.331   | -0.064<br>[0.027]**  |
| Any employment since secondary                     | 0.343   | 0.434   | -0.092<br>[0.029]*** |
| Typical hours worked per week                      | 38.340  | 39.958  | -1.619<br>[1.728]    |
| Typical monthly income (US\$)                      | 128.105 | 106.217 | 21.888<br>[15.547]   |
| Still working at previous job                      | 0.113   | 0.132   | -0.019<br>[0.032]    |
| <b>Panel B: Prior employment sector</b>            |         |         |                      |
| Self-employed                                      | 0.047   | 0.056   | -0.008<br>[0.013]    |
| Government (ministries, departments, and agencies) | 0.045   | 0.020   | 0.026<br>[0.010]**   |
| Government (other)                                 | 0.019   | 0.021   | -0.002<br>[0.008]    |
| Private formal                                     | 0.170   | 0.237   | -0.067<br>[0.024]*** |
| Private informal                                   | 0.047   | 0.078   | -0.031<br>[0.015]**  |
| Non-profit   | 0.011   | 0.013   | -0.002<br>[0.006]    |
| International company                              | 0.004   | 0.008   | -0.004<br>[0.005]    |
| Other  | 0.000   | 0.003   | -0.003<br>[0.002]    |
| <b>Panel C: Prior occupation</b>                   |         |         |                      |
| Professionals                                      | 0.237   | 0.421   | -0.184<br>[0.046]*** |
| Legislators, senior officials/managers             | 0.113   | 0.132   | -0.019<br>[0.032]    |
| Technicians and associated professionals           | 0.144   | 0.109   | 0.034<br>[0.032]     |
| Clerks   | 0.244   | 0.096   | 0.147<br>[0.034]***  |
| Service and shop/market sales workers              | 0.219   | 0.161   | 0.058<br>[0.037]     |
| Other  | 0.044   | 0.080   | -0.037<br>[0.024]    |

Note: 'Other' occupations include: elementary occupations, craft and related trades workers, plant and machine operators or assemblers, and skilled agricultural or fishery workers. Standard errors reported in square brackets. Statistical significance levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Source: authors, based on NSB Survey.

Next, we examine gender differences in employment backgrounds and explore the possibility that previous work experience might affect occupation preferences and expected earnings. As Table 4 indicates, men were more likely to have had work experience after completing their secondary education. Among those with prior work experience, there are no significant differences in typical hours worked per week or monthly income. Although there are no significant differences in self-employment experience, men were more likely to have experience working for the private sector, which could lead them to be more comfortable in wanting to be self-employed. Finally, men are more likely to have worked as professionals whereas women are more likely to have worked for government ministries, departments, and agencies and as clerks.

We now turn to differences in financial background (Table 5). Men are significantly more likely to have a bank account and to have stocks or bonds, which could suggest there are gender differences in risk aversion, since we might expect risk-averse people to be less likely to invest in the stock market. Women are more likely to have saved in the last year. There are no significant differences in the likelihood of having insurance policies, borrowing money, or using mobile money services.

Table 5: Financial background

|                                      | Female | Male  | Difference         |
|--------------------------------------|--------|-------|--------------------|
| Have a bank account                  | 0.966  | 0.939 | 0.027<br>[0.013]** |
| Have stocks or bonds                 | 0.218  | 0.175 | 0.043<br>[0.023]*  |
| Have insurance policies              | 0.440  | 0.401 | 0.039<br>[0.029]   |
| Saved money in the last year         | 0.651  | 0.585 | 0.066<br>[0.029]** |
| Borrowed money in the last year      | 0.149  | 0.179 | -0.030<br>[0.022]  |
| Used mobile banking in the last year | 0.836  | 0.867 | -0.031<br>[0.021]  |

Note: Standard errors reported in square brackets. Statistical significance levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Source: authors, based on NSB Survey.

In the previous section, we found that graduates who expressed a preference for self-employment were more likely to be male, single, and without children, but that having a family member who had political office did not differ by employment aspirations. Comparing gender differences in family background, we find that women with a preference for self-employment were more likely to be married with children. There were no gender differences in having a political connection in the family. Women also report completing a larger percentage of housework, which suggests they may have more demands on their leisure time. In terms of parental background, female graduates were more likely to have parents with higher education levels and who worked for government, suggesting that they come from better-off families on average.

Table 6: Personal and family background

|                                       | Female | Male   | Difference            |
|---------------------------------------|--------|--------|-----------------------|
| <b>Panel A: Personal demographics</b> |        |        |                       |
| Age                                   | 24.545 | 25.209 | -0.664<br>[0.175]***  |
| Marital status = single               | 0.903  | 0.961  | -0.058<br>[0.014]***  |
| Have biological children              | 0.080  | 0.045  | 0.035<br>[0.014]**    |
| Number of children expected           | 3.288  | 3.435  | -0.147<br>[0.089]*    |
| Family member in political office     | 0.075  | 0.085  | -0.010<br>[0.016]     |
| Percentage housework self             | 66.647 | 55.385 | 11.261<br>[2.046]***  |
| Percentage housework spouse           | 1.649  | 1.690  | -0.041<br>[0.551]     |
| Percentage housework outside agent    | 4.970  | 5.027  | -0.057<br>[0.991]     |
| Percentage housework other family     | 26.735 | 37.898 | -11.163<br>[1.975]*** |
| Only child                            | 0.056  | 0.082  | -0.026<br>[0.015]*    |
| First-born child                      | 0.216  | 0.203  | 0.013<br>[0.024]      |
| Last-born child                       | 0.278  | 0.230  | 0.048<br>[0.026]*     |
| <b>Panel B: Father's background</b>   |        |        |                       |
| Father ever owned a business          | 0.526  | 0.532  | -0.006<br>[0.030]     |
| Father ever worked for government     | 0.554  | 0.521  | 0.033<br>[0.030]      |
| Father completed primary              | 0.832  | 0.825  | 0.006<br>[0.023]      |
| Father completed secondary            | 0.713  | 0.633  | 0.081<br>[0.028]***   |
| Father completed tertiary             | 0.427  | 0.380  | 0.047<br>[0.029]      |
| <b>Panel C: Mother's background</b>   |        |        |                       |
| Mother ever owned a business          | 0.759  | 0.730  | 0.028<br>[0.026]      |
| Mother ever worked for government     | 0.304  | 0.239  | 0.065<br>[0.026]**    |
| Mother completed primary              | 0.806  | 0.781  | 0.025<br>[0.024]      |
| Mother completed secondary            | 0.543  | 0.462  | 0.081                 |

|                           |       |       |            |
|---------------------------|-------|-------|------------|
|                           |       |       | [0.030]*** |
| Mother completed tertiary | 0.155 | 0.124 | 0.031      |
|                           |       |       | [0.020]    |

Note: Standard errors reported in square brackets. Statistical significance levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Source: authors, based on NSB Survey.

## 5 Potential explanations for gender differences in preference for self-employment

What can we eliminate as possible alternative explanations to the gender differences in aspirations to enter self-employment or to take up entrepreneurship? To assess the role of all these different background factors in explaining gender differences, we estimate a set of probit regressions that analyse the predictors of wanting to be self-employed (Table 7). We begin by estimating the raw gender difference and find that males are 5 percentage points more likely to want to be self-employed (column 1). Adding controls for grit and self-esteem does not change this gap significantly (column 2). Adding controls for educational background (column 3) and prior work experience (column 4) both reduce the gap, suggesting that part of the reason men are more likely to want to be self-employed is because they have stronger educational backgrounds and more relevant work experience (given that men are more likely than women to have been previously self-employed). Controlling for financial background (column 5) and personal and family background (column 6) does little to change the gender gap.

Table 7: What predicts preference for self-employment?

|                                 | (1)       | (2)       | (3)      | (4)      | (5)       | (6)       |
|---------------------------------|-----------|-----------|----------|----------|-----------|-----------|
| Male                            | 0.043     | 0.044     | 0.039    | 0.038    | 0.037     | 0.038     |
|                                 | [0.021]** | [0.021]** | [0.021]* | [0.022]* | [0.022]*  | [0.022]*  |
| Grit score                      |           | 0.001     | 0.005    | 0.005    | 0.007     | 0.010     |
|                                 |           | [0.019]   | [0.019]  | [0.020]  | [0.020]   | [0.020]   |
| Self-esteem score               |           | 0.027     | 0.021    | 0.019    | 0.015     | 0.007     |
|                                 |           | [0.031]   | [0.032]  | [0.032]  | [0.032]   | [0.032]   |
| Raven standardized score        |           |           | -0.004   | -0.003   | -0.003    | -0.004    |
|                                 |           |           | [0.011]  | [0.011]  | [0.011]   | [0.011]   |
| SSCE standardized score         |           |           | 0.025    | 0.027    | 0.027     | 0.020     |
|                                 |           |           | [0.015]* | [0.015]* | [0.015]*  | [0.015]   |
| Tertiary field of study = STEM  |           |           | 0.028    | 0.026    | 0.027     | 0.023     |
|                                 |           |           | [0.025]  | [0.025]  | [0.025]   | [0.025]   |
| During tertiary, worked for pay |           |           |          | 0.016    | 0.012     | 0.020     |
|                                 |           |           |          | [0.023]  | [0.023]   | [0.023]   |
| Any employment since secondary  |           |           |          | 0.000    | -0.003    | 0.009     |
|                                 |           |           |          | [0.023]  | [0.024]   | [0.024]   |
| Self-employment experience      |           |           |          | 0.071    | 0.074     | 0.065     |
|                                 |           |           |          | [0.043]  | [0.043]*  | [0.044]   |
| Have a bank account             |           |           |          |          | 0.030     | 0.042     |
|                                 |           |           |          |          | [0.050]   | [0.050]   |
| Have stocks or bonds            |           |           |          |          | 0.053     | 0.062     |
|                                 |           |           |          |          | [0.025]** | [0.026]** |
| Have insurance policies         |           |           |          |          | -0.019    | -0.013    |
|                                 |           |           |          |          | [0.021]   | [0.021]   |



|                                      |       |       |       |       |         |          |
|--------------------------------------|-------|-------|-------|-------|---------|----------|
| Saved money in the last year         |       |       |       |       | -0.027  | -0.024   |
|                                      |       |       |       |       | [0.023] | [0.023]  |
| Borrowed money in the last year      |       |       |       |       | -0.007  | -0.010   |
|                                      |       |       |       |       | [0.030] | [0.030]  |
| Used mobile banking in the last year |       |       |       |       | 0.040   | 0.034    |
|                                      |       |       |       |       | [0.031] | [0.031]  |
| Age                                  |       |       |       |       |         | -0.006   |
|                                      |       |       |       |       |         | [0.005]  |
| Marital status = single              |       |       |       |       |         | 0.102    |
|                                      |       |       |       |       |         | [0.072]  |
| Have biological children             |       |       |       |       |         | -0.013   |
|                                      |       |       |       |       |         | [0.065]  |
| Family member in political office    |       |       |       |       |         | -0.006   |
|                                      |       |       |       |       |         | [0.038]  |
| Father ever owned a business         |       |       |       |       |         | -0.009   |
|                                      |       |       |       |       |         | [0.021]  |
| Father ever worked for government    |       |       |       |       |         | -0.014   |
|                                      |       |       |       |       |         | [0.022]  |
| Father completed primary             |       |       |       |       |         | -0.067   |
|                                      |       |       |       |       |         | [0.038]* |
| Father completed secondary           |       |       |       |       |         | 0.039    |
|                                      |       |       |       |       |         | [0.035]  |
| Father completed tertiary            |       |       |       |       |         | 0.007    |
|                                      |       |       |       |       |         | [0.028]  |
| Mother ever owned a business         |       |       |       |       |         | 0.021    |
|                                      |       |       |       |       |         | [0.026]  |
| Mother ever worked for government    |       |       |       |       |         | 0.002    |
|                                      |       |       |       |       |         | [0.029]  |
| Mother completed primary             |       |       |       |       |         | -0.021   |
|                                      |       |       |       |       |         | [0.032]  |
| Mother completed secondary           |       |       |       |       |         | -0.010   |
|                                      |       |       |       |       |         | [0.029]  |
| Mother completed tertiary            |       |       |       |       |         | -0.022   |
|                                      |       |       |       |       |         | [0.035]  |
| Only child                           |       |       |       |       |         | 0.040    |
|                                      |       |       |       |       |         | [0.038]  |
| First-born child                     |       |       |       |       |         | -0.015   |
|                                      |       |       |       |       |         | [0.028]  |
| Last-born child                      |       |       |       |       |         | 0.004    |
|                                      |       |       |       |       |         | [0.025]  |
| Pseudo R-squared                     | 0.004 | 0.005 | 0.011 | 0.015 | 0.024   | 0.041    |
| Observations                         | 1,180 | 1,180 | 1,180 | 1,180 | 1,180   | 1,180    |

Note: the table reports marginal effects from a set of probit regressions with an indicator for preferring to be self-employed as the dependent variable. Standard errors reported in square brackets. Statistical significance levels: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Source: authors, based on NSB Survey.

## 6 Conclusions

The goal of this paper was to examine preferences for self-employment, an increasingly popular policy proposition for young people in economies with few opportunities for wage employment. If differences in aspirations exist even before youth become employed, then this suggests that the differences in later outcomes are not simply due to the labour market, but also reflect antecedent factors. We find gendered differences in preferences for self-employment, with female graduates of tertiary education being less inclined to work for themselves. In the search for an explanation of this difference, we eliminated personal traits (grit and self-esteem) as factors. Further, financial assets and family background matter less in explaining this observed gender difference than educational background and work experience.

There are other possible explanations outside the scope of our study, including unobserved personality traits and socio-emotional skills such as risk aversion, optimism, and locus of control. Neither did we ask graduates for their unconstrained preferences; that is, what they would do if they had access to credit and other supports. Moreover, our survey did not elicit more specific information about preference for type of self-employment (whether own account or with employees), the type of enterprise (single venture, joint venture, cooperative), or the preferred industry in which these enterprises would be undertaken. These issues present important opportunities for future work. Our study also raises interesting questions about what young people understand by self-employment, what it represents for them, and therefore their underlying reasons for their stated preferences.

Nonetheless, as an entry into an area that has received little research attention, our study provides important insight into the choices that young Ghanaian university graduates make and the factors that inform these decisions. This study has direct implications for policies both in education and youth employment. Our findings suggest we can reduce gender differences in labour market outcomes by intervening before graduates transit into the labour market. The strongest predictors of entrepreneurial ambition are relevant work experience and good grades. This suggests that strengthening young women's training in tertiary institutions and offering them equal opportunities to earn experience may reduce the difference in expectations that men and women set for themselves. While focused on Ghana, this study has policy relevance for other developing economies, with growing numbers of high-skilled workers but relatively weak labour market outcomes for women which, we argue, may be a function of the differential preferences and aspirations, and which may have their roots in unequal opportunities for better education and for work experience.

Of course, a fundamental assumption underlying policies to promote self-employment and entrepreneurship is that pursuing these activities yields benefits. This is an assumption that should be subjected to closer interrogation, with research to map outcomes for graduates who have a preference for self-employment and eventually do become self-employed. We leave this for future work.

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