
Gender and the Business Environment for New Firm Creation

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The authors summarize the extant literature on the relationship between gender and entrepreneurship. They note significant quantitative gender differences in business entry, with male-owned firms heavily prevailing over firms owned by women in many parts of the world. They find that enterprises owned by men on the one hand and women on the other are generally concentrated in different sectors, women entrepreneurs being better represented in labor intensive sectors such as trade and services rather than capital intensive manufacturing industries. They also observe certain gender differentials in business survival and growth patterns. Yet an analysis of a large body of literature does not suggest that, in general, the so called “gender gap” in entrepreneurship can be explained by explicit discrimination in laws or regulations. Rather, differences in quantitative and qualitative indicators of business entry and performance can in part be explained by a number of business environment factors that disproportionately affect a woman’s decision to operate a business in the formal sector. For example the concentration of women in low capital intensive industries—which require less funding and at the same time have a lower potential for growth and development—might also be driven by barriers against women regarding access to finance. Furthermore, women may have relatively less physical and “reputational” collateral than men, which limits their access to finance. Overall the literature suggests that improvements in the business environment can help promote high-growth female entrepreneurship. JEL codes: L26, J16, H11, O16, O17, P43

Increasingly policymakers are exploring ways of promoting economic activity and growth among women in developing countries. With the success of Grameen and other microfinance schemes which lend mainly to women, it is becoming apparent that female entrepreneurship represents a potentially valuable tool for

promoting growth and reducing poverty. Yet relatively little is known about the role of female entrepreneurship, especially in developing countries, or about the opportunities and barriers that women entrepreneurs face in practice.

The aim of this article is to review the literature relating to these questions and to speculate about the underlying reasons for observed findings. We start in the next section by outlining some salient facts about the extent of formal female entrepreneurship and the performance of women entrepreneurs. It is seen that although the ratio of female to male entrepreneurship varies across countries (Reynolds, Bygrave, and Autio 2004; Bosma and Harding 2007; Parker 2009, ch. 6), women entrepreneurs are outnumbered by men in many parts of the world—often by a wide margin (Estrin and Mickiewicz 2009).

We then describe how women tend to lag behind men in terms of the turnover, profitability, and growth performance of their businesses. These findings are well established in both industrialized and developing countries and motivate our primary question of whether these outcomes reflect gender differences in voluntary individual choices, or constraints in the business environment that restrict the opportunities of female entrepreneurs more than male ones.

We find some evidence that in developing countries female entrepreneurs might be constrained by features of the investment climate, such as barriers against access to credit and fair legal treatment. These issues are discussed and relate to questions such as gender discrimination, the role of property rights, and gender-based social norms.

Throughout the paper, we address the recurring question of whether individual choices or the business environment are primarily responsible for lower rates of female entrepreneurship and their lower average financial performance. The arguments behind these positions inform our policy recommendations, which we summarize.

Women's Engagement in Entrepreneurship

This section commences with some stylized facts about the nature and extent of women's participation in entrepreneurship. We then move on to discuss briefly three particular issues: household factors, industry choices, and motivations, both intrinsic and extrinsic. The section closes with us asking whether the different rates of participation in entrepreneurship primarily reflect choices or constraints.

An important caveat that should be mentioned is that our analysis, in general, focuses on entrepreneurship in the formal private sector. However, the informal sector (or "shadow economy") plays an important role in many countries, ranging from over 75 percent of official GDP in Nigeria to about 10 percent in the United States (Schneider and Enste 2000). The previous literature has

highlighted the potential advantages to formal sector participation, including police and judicial protection (hence less vulnerability to corruption and the demand for bribes), access to formal credit institutions, the ability to use formal labor contracts, and greater access to foreign markets (Schneider and Enste 2000). However, because of burdensome regulations, high marginal tax rates, the absence of monitoring and compliance (of both registration and tax regulations), and other weaknesses in the business environment, many firms might find it optimal to evade regulations and operate in the informal sector. Firms that choose to stay small and informal might be unable to realize their full growth potential. Our discussion spotlights barriers in the business environment that challenge female entrepreneurs in the formal sector, who have the greatest potential for job creation and high-growth entrepreneurship.

The basic facts about women's rates of participation in entrepreneurship are stark. Regardless of whether 'entrepreneurship' is defined in terms of 'new venture creation', 'business ownership,' or 'self-employment,' a higher proportion of men than women engage in this activity in industrialized economies. For example, according to data from the US Census Bureau, there were 6.5 million privately held women-owned firms in the United States in 2002, accounting for just over one-quarter of all firms. This number was up by 20 percent over 1997–2002: twice the growth rate of U.S. firms as a whole (Robb and Coleman 2009). Women entrepreneurs are also in the minority in Europe, where female self-employment rates in the EU vary considerably, from just over 20 percent in the UK, Ireland, and Sweden to 40 percent in Belgium and Portugal (Cowling 2000). Data collected from the business registrars of companies in Azerbaijan, Italy, Romania, and Tajikistan reveal that the ratio of new female-owned firms (as a percentage of total new firms) varies from 8.5 percent in Tajikistan to 38.3 percent in Romania. In Azerbaijan and Italy the ratio is 23.4 and 31.1 percent, respectively. Overall the data suggest that women entrepreneurs are even less represented in developing countries. Further evidence using 2005 firm level data for 26 countries in Eastern Europe and Central Asia finds that the average share of female entrepreneurs in the region is 28 percent, varying from over 40 percent in Latvia and Hungary to less than 15 percent in Armenia and Albania (Sabarwal and Terrell 2008). In addition this study finds that the majority of firms with less than 10 employees are female owned, while the reverse is true for larger firms. Furthermore female-owned firms in Eastern Europe and Central Asia constitute nearly 70 percent of "unspecified service" firms, in comparison to less than 10 percent of mining and construction firms.

Women entrepreneurs in industrialized countries are also more likely to be part-time workers than (i) women employees are and (ii) men are, in either employment category. For example calculations using data from the British Household Panel Survey (ISER 2008) reveal that females comprise only 16

percent of full-time employees, but as much as 70 percent of the part-time, self-employed workforce in the United Kingdom (Parker 2009, ch. 6). In the United States there appears to be two distinct groups of women entrepreneurs, with one group working less than 15 hours per week in their business and the other working full-time (more than 40 hours per week). Budig (2006) argues that the first group of women engage in nonprofessional self-employment primarily to limit their work hours and juggle family commitments (possibly because nonprofessional waged jobs tend to be less family friendly), whereas the second group enters professional self-employment to advance their careers. These arguments are based on evidence that family factors, especially children, help to explain the entrance of women into nonprofessional self-employment, though (as in the case of males) they have little impact on female entry into professional and managerial self-employment. Budig concludes that “women entering self-employment in professional occupations are more similar to their male peers in self-employment than they are to women entering non-professional self-employment” (2006, p. 2235).

It is certainly well established that men systematically contribute less to household production than women, even when the woman is working, and whether or not they are engaged in paid-employment or entrepreneurship. This finding is based on time-use data and responses to household surveys (Longstreth, Stafford, and Mauldin 1987; Boden 1999; Bond and Sales 2001). With less time to spend on formal work, part-time entrepreneurship can offer married women the flexibility to combine home and work commitments. This might partly explain higher female rates of part-time participation in entrepreneurship. Being married and raising children are both strongly associated with self-employment among women (Parker 2009, ch. 6). Having children of less than six years of age has the greatest impact on the probability that women are self-employed, especially among home-workers (Edwards and Field-Hendrey 2002).

A 2005 Eurostat survey of entrepreneurs across 15 EU countries on start-up motivations also finds a significant gender difference in the decision to allocate more time to family life. For instance while only 7 percent of male respondents mention the relative maturity of their children as an incentive to start a business, this motive was highlighted by 16 percent of female respondents. Women are also more likely to cite the ability to combine work and private life—30 percent of women versus 42 percent of men—as the motivation to start up their own firms.

Another important gender difference in entrepreneurial participation is the industries in which businesses are established (Verheul, Risseuw, and Bartelse 2002; Greene and others 2003). Women entrepreneurs remain heavily over-represented in a few industry sectors, especially sales, retail, and services. For example fully 69 percent of women-owned firms were in the service sector in 2006, while

14.4 percent were in retail trade (CWBR 2008). Similar sectoral distribution patterns, as well as a high concentration of female-owned firms in low-income informal sectors, have also been found in developing countries such as Indonesia (Singh, Reynolds, and Muhammad 2001). In contrast only a small percentage of women-owned businesses are located in high-growth or high-technology sectors (Menzies, Diochon, and Gasse 2004; Morris and others 2006).

Industry concentration is important because, as we will see in the next section, it has implications for the performance of women-owned ventures. The sectors that women cluster in are typically characterized by smaller scale, more intense competition and lower average returns. A question that naturally arises is whether industry clustering by women entrepreneurs reflects choices or constraints in the business environment.

To the extent that entrepreneurs identify opportunities to start businesses of similar types and in similar industries in which they formerly worked, one might be able to explain a portion of the industry concentration of women entrepreneurs in terms of different labor market experiences that vary by gender (Carter, Williams, and Reynolds 1997). For example female wage-and-salary workers are heavily concentrated in clerical and administrative jobs which require less advanced qualifications and which yield work experience that is arguably ill-suited to switching into entrepreneurship (Boden 1996). Male entrepreneurs in contrast are more likely than females to have been employed prior to start-up. They also have more previous work and business experience in industry and in managerial roles on average (Brush 1992; Carter, Williams, and Reynolds 1997; Boden and Nucci 2000; Kepler and Shane 2007; Fairlie and Robb 2009). And male entrepreneurs are more likely than females to have education and experience with technical, business, or managerial elements (Brush 1992; Menzies, Diochon, and Gasse 2004). In order to prepare females for a broader range of industry choices, including nontraditional fields such as engineering and science which offer higher growth potential and greater rewards, it has been argued that they should be encouraged to study business and technical subjects (Hisrich and Brush 1984, 1987; Hisrich 1989).

Gender differences in women's choices of industry and the sizes of their businesses might alternatively be linked to differences in business objectives. It has been suggested, for example, that women are less motivated than men by growth and profits, and more by internal goals such as personal fulfillment, flexibility, and autonomy (Anna and others 1999; Carter and others 2003; Morris and others 2006). However, several empirical studies of both nascent (potential) and actual entrepreneurs do not find any significant gender differences in terms of (self-declared) growth or profit motives for business start-up. Similar to male entrepreneurs, the drive of women for personal freedom, independence, satisfaction, and/or security as motivating factors for running a business is mentioned in

studies conducted in countries such as the United States, Singapore, Norway, and Pakistan (Hisrich and Brush 1985; Ljunggren and Kolvereid 1996; Shabbir and Di Gregorio 1996; Maysami and Goby 1999; Scheiner and others 2007). And a recent German study found that entrepreneurial self-perception was an equally important motivator at business start-up for males and females (Werner and Kay 2006).

More clear-cut results emerge when one considers the role of external factors. For instance a study conducted in Norway found that women are more prone than men to be influenced in their decisions regarding starting a business by external influences like family or community opinions (Ljunggren and Kolvereid 1996). And in Italy, whereas men tend to enter self-employment for career advancement considerations, women tend to enter from inactivity or unemployment (Rosti and Chelli 2005). Furthermore a novel dataset collected during a natural experiment in a rural setting in the Appalachian region of the United States in the post-Tobacco Buyout era supports the hypothesis that females, but not males, are pushed into entrepreneurial activities by changing economic environments and a lack of household income (Pushkarskaya and Marshall 2008). This is consistent with the 2005 Business Success Survey conducted by Eurostat in 15 European countries which found that women are significantly more likely to report their motivation for starting their own business “to avoid unemployment” than men (58 percent of women versus 42 percent of men). Overall then the literature suggests that female entrepreneurs’ motivation is relatively more likely to represent a job transition or a re-entry into the workforce following a lay-off or voluntary leave (Kaplan 1988).

So do gender differences in entry rates and sectors reflect gender-based differences in choices and attitudes, or do they stem from differences in the external business environment? While there can never be a definitive answer to this question, the evidence cited above suggests that choices of career paths, work experience, and fertility all play important roles, as do motivations deriving from business conditions and prospects in the broader economy. This would seem to support the notion that women consciously choose their entrepreneurial engagement profiles. On the other hand it could be argued that women are socialized into taking these choices and that the socialization process inculcates and replicates dominant patriarchal norms. While we lack hard evidence on this proposition, anecdotal evidence suggests that the social norms argument may have some relevance in some developing countries in which overt restrictions on women’s activities are observed. But even in industrialized countries, the ongoing gender differential in terms of the burden of household chores, which continues to fall largely on women, raises deep questions about underlying gender roles. Unfortunately we still do not know enough about the relative importance of subtle yet persistent social norms

(“nurture”) or the role of biology in shaping tastes and predispositions (“nature”). By comparison more is known about explicit barriers to female entrepreneurship in the form of access to finance, an issue which will be discussed in some depth below.

Women’s Performance in Entrepreneurship: Survival, Growth, and Profitability

This section commences with a brief review of evidence about women’s performance in entrepreneurship. This can be measured in several ways, including earnings and profits, rates of return on capital, venture growth rates, and survival. A key finding that emerges is that in terms of all of these metrics, women entrepreneurs tend to underperform relative to their male counterparts. We go on to consider several possible explanations for this finding and then discuss whether gender differences in performance reflect choices or constraints.

There is broad agreement among researchers that, in both industrialized and developing countries, women entrepreneurs earn less income than male entrepreneurs. For example measuring entrepreneurship in terms of self-employment, full-time self-employed American women in 1990 earned 73 percent of the annual income of women wage-and-salary workers, whereas self-employed men earned 107 percent of the annual income of their employee counterparts (Devine 1994). In this study self-employed men were more frequently observed to work in high-paying sectors than women, including executive, administrative, managerial, and precision artisan jobs. In contrast self-employed women were more frequently found in lower-paying service and retail sectors. These sectors are more competitive and also exhibit lower business survival rates.

Self-employed women perform somewhat better on average in other countries, with female/male earnings ratios reaching 87 percent in the case of Australia (OECD 1986). But in developing countries women receive substantially lower average returns than men do, especially if they are not employers (for example see Honig 1996, 1998, for Jamaican evidence).

A similar story applies if performance is measured in terms of turnover, employment creation performance, growth rates, or survival prospects.¹ For example Loscocco and Robinson (1991) report that women generate only one-quarter of men’s average business receipts, while Bosma and others (2004) estimate that male Dutch business founders outperform their female counterparts in terms of survival, profitability, and employment creation. With regard to growth, one longitudinal study found that the majority of female-owned businesses were moderately successful with revenue increases of approximately 7 percent per year, though this was significantly less than the average for male-owned firms (Hisrich

and Brush 1987). And for developing countries, a recent study conducted in Sri Lanka reported that female microenterprise owners had returns to capital that were dramatically lower than male entrepreneurs—in many instances zero or even negative (de Mel, McKenzie, and Woodruff 2009).

It should be acknowledged that the evidence on inferior women entrepreneurial performance is not unanimous. It is true that some studies have found similar survival and growth rates for male- and female-owned businesses (Kalleberg and Leicht 1991; Westhead, Storey, and Cowling 1995). But these studies are the exception rather than the rule.

What explains these findings of inferior female-owned business performance? As observed in the previous section, women entrepreneurs tend to be concentrated in industries with lower capital intensities and lower average returns to capital. Some researchers have attributed women entrepreneurs' inferior financial performance to this factor (Loscocco and Robinson 1991; Loscocco and others 1991; Hundley 2001). Another common observation is that women entrepreneurs operate smaller businesses on average, utilizing less capital and finance from banks and other lenders than men do (Aronson 1991; Carter, Williams, and Reynolds 1997; Watson 2002). For example Watson's (2002) analysis of Australian Federal Government data on 13,551 male small and medium sized (SME) business owners and 875 female SME business owners revealed that the females earn similar rates of return on equity and assets as males, though the former invested less to start with, which explains why they ended up with lower absolute income and profits than the males.

It is unclear whether these factors reflect different preferences or different responses to external business conditions. Some insight into this issue can be gleaned by looking at the self-reported preferences and goals of women entrepreneurs. Studies conducted in Canada have shown that running a "small and stable business" was a preferred mode of operation among women but not among men (Lee-Gosselin and Grise 1990; Cliff 1998; Verheul, Thurik, and Grilo 2008). And according to another study, self-employed female accountants report lower profitability of their firms to be an acceptable result of their choice for greater flexibility and to be able to devote more time to their families. At the same time higher profitability projections were associated with higher achievement and income goals (Fasci and Valdez 1998).

It might also be thought that greater risk aversion among women than men might explain their lower average returns and growth performance in entrepreneurship, leading women to choose positions further down the expected profit–risk frontier than their male counterparts (Watson and Robinson 2003). Although Watson and Robinson (2003) observed that female-owned businesses in Australia were characterized by both lower risk and lower returns, with similar risk-adjusted returns by gender, the evidence about gender differences in risk

attitudes is sparse and inconclusive. While Jianakoplos and Bernasek (1998) adduced survey evidence suggesting that women are more risk averse than men, experimental evidence (albeit from a small sample of students) from Schubert and others (1999) detected similar levels of risk aversion among men and women.

Similar to the findings about women entrepreneurial participation rates discussed in the previous section, preferences that are associated with household production seem to play an important role. A decomposition analysis by Hundley (2001), which explored the role of numerous explanatory variables, is especially instructive. According to Hundley the tendency of women to do more housework, work fewer hours in business, and do more childcare accounted for between 30 and 50 percent of the American annual self-employment gender earnings differential. This suggests that women earn less than men do because they spend more time in household production and less time managing and developing their businesses.

Complementary evidence comes from a study which reports that rather than reinvesting their profits, women entrepreneurs in Morocco are more likely to spend their income on family and household needs, save cash for emergencies, or both (Murray and Barkallil 2006). Furthermore a field experiment of providing random grants to microenterprise owners in Sri Lanka finds that grants generated large profit increases for male entrepreneurs, but not for females. The authors report that this can in part be explained by inefficient resource allocation within households, which is reduced in more cooperative ones (de Mel, McKenzie, and Woodruff 2009).

Yet external constraints also seem to play an important role in transition and developing countries. Thus studies of formal enterprises in Eastern Europe and Central Asia find that women-owned businesses tend to be small and use less external financing (Sabarwal and Terrell 2008). Sabarwal and Terrell (2008) also find that returns-to-scale of women-owned firms are significantly larger than male-owned firms, implying that women entrepreneurs would gain more from enlarging their firms, relative to male entrepreneurs. This study finds that a main reason for the suboptimal size of women-owned firms is capital constraints. Similar results have been found in Latin America and Africa (Sabarwal and Terrell 2008).

The current state of the literature does not clearly reveal whether gender performance differences in entrepreneurship are primarily attributable to voluntary choices by women entrepreneurs or to constraints. Yet the evidence cited above provides some interesting clues. Suppose one identifies different levels of household production with preferences, and different access to finance with external constraints. Then the findings of Hundley (2001) and Sabarwal and Terrell (2008) might lead us to attribute performance differences in industrialized countries mainly to preferences (especially those related to child rearing and

household production), whereas in developing countries external constraints as well as household factors also affect performance.

Challenges in the Business Environment and Policy Implications

In the previous sections we documented differences between male and female entrepreneurs—in business participation rates, sectoral choices, growth rates, profitability, and survival rates—and discussed the competing hypotheses of whether these differences are driven by choices or barriers in the business environment. In this section we review possible institutional barriers to female entrepreneurship, including credit constraints, property rules, and adverse social norms. Evidence from cross-country studies shows that women receive a lower share of available external funding than men for business and other purposes. Yet the evidence suggests that this might be less attributable to explicit discrimination than to weaknesses in the business environment that make lending to women a higher (perceived or actual) credit risk.

An extensive literature now documents the positive effect of financial development on economic growth in both industrialized and developing countries (Rajan and Zingales 1998; Levine, Loayza, and Beck 2000). A related literature demonstrates a robust relationship (using data on over 100 countries) between firms' access to finance and various institutional features of the business environment, including creditor rights (La Porta and others 1998), the credit information infrastructure (Djankov, McLiesh, and Shleifer 2007), and bankruptcy regimes (Djankov and others 2008). Studies have also found that financial development has an impact on new business creation (Klapper, Laeven, and Rajan 2006). These papers highlight the importance for entrepreneurs of access to external financing, particularly for the formation of larger, capital intensive firms.

Yet cross-country studies have shown that women are less likely to get financing from a formal institution or are charged a higher interest rate than men (Muravyev, Schäfer, and Talavera 2007; Demirgüç-Kunt, Beck, and Honohan 2008). Similarly women entrepreneurs generally raise less formal and informal venture capital than men (Brush and others 2004). However, other evidence from industrialized countries, such as the United Kingdom, the United States, Canada, and New Zealand, and from certain developing countries, such as Ecuador and Peru, shows that women applying for funding generally do not face arbitrarily higher denial rates than men, suggesting that gender differences in the use of credit might be explained by differences in the demand for external financing (Buvinic and Berger 1990; Aguilera-Alfred, Baydas, and Meyer 1994; Baydas,

Meyer, and Aguilera-Alfred 1994; Coleman 2000, 2002; Carter and Shaw 2006). In particular fewer women than men apply for funding (Buvinic and Berger 1990) and women generally request smaller amounts (Aguilera-Alfred, Baydas, and Meyer 1994; Coleman 2000).

In many developing countries (including Bangladesh, Malawi, India, Pakistan, Ethiopia, Kenya, Tanzania, Uganda, and Zambia) and transition economies, women entrepreneurs report facing greater and more systemic access barriers to formal financial services; and they cite finance as a major challenge in starting and growing their businesses (Rose 1992; Diagne, Zeller, and Sharma 2000; Goheer 2003; Faisal 2004; ILO/AfDB 2004; Richardson, Howarth, and Finnegan 2004; GEM/IFC 2005; Bardasi, Blackden, and Guzman 2007; Ellis and others 2007a, 2007b; Demirgüç-Kunt, Beck, and Honohan 2008; Narain 2009). Further evidence from Asia and Africa finds that women entrepreneurs are more likely than men to rely on internal or expensive informal financing when formal funding is unavailable (Rose 1992; Richardson, Howarth, and Finnegan 2004).

Importantly these studies do not find explicit discrimination against female borrowers. It is therefore important to identify why women might face greater challenges than men in accessing formal finance. As discussed in previous sections, female entrepreneurs might choose to enter less capital intensive industries. The disinclination of women to seek external financing might also be attributed to their own perception that they will have a harder time securing bank loans (Coleman 2000).²

Alternatively, female loan applicants, relative to male applicants, might have weaker loan applications. For instance women are found to have relatively greater difficulties completing complicated loan applications (Buvinic and Berger 1990). They also have lower financial literacy (Lusardi and Tufano 2009), which might make it harder for them to navigate the loan market.

In addition, and as noted already, women have been found to have weaker business backgrounds than men, including a lack of relevant education (especially technical) and a lack of business experience (Carter and others 2003; Menzies, Diochon, and Gasse 2004). Women are also less able on average to provide collateral (Buvinic and Berger 1990) or personal guarantees (Coleman 2002). Female entrepreneurs might also have weaker credit histories (“reputational collateral”), because loans, utilities, cell phones, and other debts might be in their husband’s name. These findings suggest that women, on average, might have lower credit scores, which are important for modern lending technologies (Narain 2009).

A more recent strand of literature cites “behavioral” patterns on behalf of lenders and borrowers. Studies of online lenders have shown that photographs of borrowers affect loan decisions and loan terms for both bank loans and microfinance (Ravina 2008; Pope and Sydnor 2008; de Laat and Chemin 2008). For instance a study of about 12,000 loan applications finds that a higher “beauty

rating” of the borrower increases the probability of getting a loan by 2.04 percent for women, but only 0.6 percent for men (Ravina 2008).

However, these findings only invite further explanation. For instance why do women have relatively less access to physical or reputational collateral than men? And what policies can address these barriers to access to finance, such as changes in laws or behavior that would allow women to acquire the collateral necessary for start-up financing?

One explanation is weaknesses in the legal environment, which can affect the ability of lenders to collateralize assets, and to seize them in the case of default. Although there are few examples of business and economic laws that explicitly discriminate against women, other rules and regulations may hamper female entrepreneurship. For example the requirement that married women in many Middle Eastern countries receive the permission of their husbands to obtain a passport or to travel can be a significant impediment to doing business (Chamlou 2008). Property laws are also important: married women may not be deemed creditworthy since they do not possess the title to their land or house, which might be due to unequal laws of inheritance (Goheer 2003; ILO/AfDB 2004; GEM/IFC 2005; Ellis and others 2007b; Morrison, Raju, and Sinha 2007; Demirgüç-Kunt, Beck, and Honohan 2008).

Other laws might disproportionately restrict female, relative to male, entrepreneurs. These include requirements for married women to obtain their husband’s signature and approval for all banking transactions (South Africa and Uganda). Women can also be affected by a husband’s adverse credit history, which might require his wife to repay the debt or be denied credit (South Africa) (Blanchard, Zhao, and Yinger 2005; Naidoo and Hilton 2006). Although men may also have to repay their wife’s debt under the same circumstances, it is more likely that the husband has incurred previous debts.

Social norms and differential treatment under the law are also important. Although women might not be legally prohibited from obtaining licenses required for accessing certain types of financing, evidence from Africa shows that in many instances only male heads of households are able to receive them successfully (Johnson 2004; Narain 2009). Similarly, in many Middle Eastern and South Asian countries, women are required in practice to have a father or husband co-sign a loan, even though banking laws do not require it in principle (Chamlou 2008).

To address these institutional barriers in developing countries, various government and institutional policies have been tried in an effort to increase the number of women borrowers. These include financial literacy training programs; public awareness workshops; business development services (Bangladesh and South Africa); promotions of sectors dominated by women entrepreneurs (Bangladesh, India, West Africa, Chile, the Philippines, and Canada); marketing

support; business training (Peru, India); legal aid; and female business networks.³ An important caveat is that few of these studies included randomized or control samples, which are necessary for ascertaining that women would not have increased their borrowing without the benefit of a government program.

Other improvements in the business environment might also have a disproportionate impact on female entrepreneurs. For instance introducing credit registries and bureaus for consumer and commercial borrowing can help both men and women build credit histories, although this might have a relatively greater impact on women who are less likely to have physical collateral in their names.⁴ In addition women are likely to benefit relatively more than men from the inclusion in credit registries of nonbank credit information, such as utility payments, cell-phone histories, and consumer finance transactions.

Women might also benefit from the development of alternatives to physical collateral, which could allow banks to make less risky loans to women who are unable to pledge collateral. This includes co-signature loans, using savings and remittance behavior as a measure of determining credit worthiness, and incentive schemes such as conditioning new loans upon successful repayments (Almeyda 1996).

Another important measure would be to reform collateral laws that cover movable property. That might overcome women's lack of control over immovable assets in many developing countries (Fleisig, Safavian, and de la Pena 2006). Promoting a tax, legal, and regulatory environment that promotes business equipment leasing might also be a particularly important financial product for women who do not have land to use as collateral, have no banking histories, or who have limited start-up capital (Dowla 2000; Bass and Henderson 2000; Ellis and others 2007b; Brown, Chavis, and Klapper 2008).

Conclusion

As reviewed there is a substantial literature in industrialized countries, and a growing literature in developing and transition countries, that uses microlevel data to study women's entrepreneurship. Previous studies primarily focus on gender differences in business intentionality, human capital and access to finance, and the impact of these factors on business entry and performance. Women's educational backgrounds in the social sciences rather than technical disciplines, and their desire to combine entrepreneurship and family work, are often offered as explanations as to why women entrepreneurs are overwhelmingly concentrated in highly competitive, small-scale, labor intensive businesses. In addition similar gender-based sectoral concentration patterns, as well as a large representation of female entrepreneurs in informal segments of the economy, have been observed in

developing countries. However, the concentration of women in low-capital intensive industries—which require less funding and at the same time have a lower potential for growth and development—might also be driven by women’s barriers to access to finance.

Few studies conducted in either industrialized or developing countries have analyzed gender implications of the business regulatory environment. There are still many outstanding questions, such as the impact of improvements in the credit information infrastructure on women’s ability to mobilize resources for business creation and development. Or the impact of greater access to start-up capital on the industry-selection of female entrepreneurs. Addressing these questions can help policymakers target reforms to promote high-growth female entrepreneurship.

Notes

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1. For evidence relating to industrialized economies, see Chaganti and Parasuraman (1996), Carter, Williams, and Reynolds (1997), Schiller and Crewson (1997), Boden and Nucci (2000), Bosma and others (2004), and Lohmann and Luber (2004). For evidence relating to developing economies in southern Africa, see McPherson (1995, 1996). The same findings also emerge from reviews of the U.S. and U.K. business studies literature: see Brush (1992) and Rosa, Carter, and Hamilton (1996).

2. In addition to the reasons listed above, another explanation might be female under-representation among bankers and venture capitalists (Aspray and McGrath Cohoon 2006); however, these studies do not find any evidence of explicit discrimination among male lenders and investors.

3. See Rose (1992), Chen (1996), Simel (2001), ILO and Commonwealth Secretariat (2003), ILO/AfDB (2004), Isern and Porteous (2005), Dessy and Ewoudou (2006), Karlan and Valdivia (2006), Sievers and Vandenberg (2007), Pande and others (2007), Swain and Wallentin (2009), and Kuhn-Fraioli (forthcoming). Introducing programs and policies aimed at increasing the number of females studying computer and engineering sciences might also increase the body of women qualifying for venture capital investment (Menzies, Diochon, and Gasse 2004).

4. However, previous studies have found that the introduction of credit information systems can lead to the initial screening out of poor individuals, which include a disproportionate number of women borrowers (McIntosh, Sadoulet, and de Janvry 2006; Malhotra and others 2006; Luoto, McIntosh, and Wydick 2007).

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