DISCUSSION PAPER

WHO BORROWS? AN ANALYSIS OF GENDER, DEBT AND ASSETS IN ECUADOR, GHANA AND KARNATAKA, INDIA

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TABLE OF CONTENTS

LIST OF TABLES & FIGURES

APPENDIX TABLES

EXECUTIVE SUMMARY

While there is a substantial and growing literature on household finance in developing countries, less is known about the borrowing behaviour of individual women and men within households: how much they borrow and for what purpose (e.g., to invest in an asset or pay for an expense), where they borrow from, decisions about taking and using credit, and the correlates of individual debt and particular types of debt (e.g., asset debt). This report addresses these questions in Ecuador, Ghana and Karnataka, India using innovative national/state level data sets collected by the Gender Asset Gap project in 2010.

This study provides rich descriptive information on individual and household debt in the three countries, including the purpose of the loan, its source and who decided to take it out. Our analysis finds that two thirds of the households in the Karnataka sample have at least one outstanding debt, compared to less than half in Ecuador and more than one quarter in Ghana. Disaggregating by type of debt, the share of households holding asset debt exceeds the share with expense debt in Ghana and Ecuador, while in Karnataka the share of households holding asset and expense debt are similar. In all three countries, wealthier households are more likely to hold any debt compared to poorer households, particularly a greater share of asset debt. The reverse is the case for expense debt: a higher share of poorer households than richer households in all three countries hold expense debt.

Examining individual women and men within households presents a somewhat different picture. In all three countries, more men than women hold debt for any purpose, a pattern that holds for asset and expense debt—with the exception of Ghana, where slightly more women hold asset debt than men. Whether individuals within households are responsible for debt repayment alone or jointly with someone else is a novel contribution of the analysis. Jointly held loans constitute a larger share in Ecuador than in the other two countries, particularly Ghana where these are negligible. In Ghana, women alone hold more than half of asset loans, compared to men who hold slightly less than half. In contrast, in Karnataka, men alone hold more than half of asset loans and women less than a fifth, a pattern that is similar in Ecuador, although the gender difference is less extreme.

The report also analyses the source of loans for individuals and finds that while formal sector sources dominate in Ecuador, informal sources predominate in Ghana and Karnataka. In Ecuador, the primary source of loans varies by who in the household holds the debt; business/store credit is the primary one for women and men who hold loans alone, while couples borrow more frequently from private banks and savings and loan (S&L) cooperatives than from other sources. In Ghana, the main source of loans for all borrowers is similar: friends, followed by family members. In Karnataka, male borrowers rely on friends, followed by moneylenders and family. Female borrowers rely largely on informal credit groups, followed by friends and non-governmental organizations (NGOs). When considered in value terms, formal sector loans are relatively more important for female borrowers in all three countries while informal sector loans are relatively more important for male borrowers.

Another innovative feature of the analysis is information on who decided to take out the loan. In Ecuador and Ghana, loans for which a woman alone is responsible are more likely to have been decided upon by her alone than loans for which a man alone is responsible. This suggests that in these two countries men are

more likely than women to decide jointly with someone else (generally the spouse) to take out a loan for which they are individually responsible. By contrast, in Karnataka there appears to be more joint decision-making on individual loans, irrespective of whether a woman or a man is responsible for its repayment.

The study also investigates whether the correlates of female and male borrowers differ, the characteristics of women who borrow from formal sources compared to those who borrow only from informal sources and those who do not borrow, and whether the correlates of having asset debt differ for women and men. Our most important analytical results are with respect to borrowing for asset accumulation. The factors associated with women's borrowing for assets in Ecuador and Ghana are they themselves being an asset owner, a member of a group and self-employed. For men, by contrast, only being in a household in the wealthiest quintiles is positively associated with asset borrowing while having expense debt is negatively associated with asset debt in both countries; men's borrowing for asset accumulation is also positively related to their own asset ownership. These results suggest that wealth may beget wealth. They also point to the potentially important role of women's ownership of assets in enhancing their access to credit. The monograph concludes with a number of insights for policy and recommendations for future research.

1 INTRODUCTION

1.

INTRODUCTION

At some point in their lives, both women and men may have a need to borrow money—to purchase an asset such as a house or a cow, manage cash flow, cope with an emergency such as a hospital stay or pay for social expenses, for example, a wedding. When they lack sufficient funds, women and men frequently borrow from an individual or institution, be it a family member or friend, a bank, a non-governmental organization (NGO) or a moneylender. In all countries, credit is an important tool for rich and poor, individuals and households, to improve their welfare. It can help households meet their basic needs and cover daily expenses in good times and bad. Credit also contributes to economic growth by alleviating capital constraints for agricultural production or business development and enabling households and firms to invest in assets, inputs, technology and productivity-enhancing services. It can further reduce constraints on long-term growth if it permits households to invest in children's education and health and enhance their human capital. Yet many people in developing countries, women and men alike, lack access to this important resource.

While there is a substantial and growing literature on household finance in developing countries, less is known about the borrowing behaviour of individual women and men: how much they borrow and for what purpose (e.g., to invest in an asset or pay for an expense), where they borrow from, decisions about taking and using credit, and the correlates of individual debt and particular types of debt (e.g., asset debt). This study addresses these questions in Ecuador, Ghana and Karnataka, India using innovative national/state level data sets collected by the Gender Asset Gap project in 2010. Specifically, it provides descriptive information on individual and household debt in the three countries, including the purpose of the loan, its source and who decided to take it out. The report then explores analytically three questions: Which women and men borrow? What are the characteristics of women who borrow from formal sources compared to those who borrow only from informal sources and those who do not borrow? And, are the correlates of having current asset debt different for women and men? Very little is known about the answers to these three questions largely because of data limitations. Insights into these questions can provide important information for policies and interventions aimed at improving access to credit for women and men.

Some caveats about what this study does and does not do are in order. The report examines the use of credit and outstanding debt as opposed to the supply of credit services (access).1 In addition, our analysis focuses on households, and individual women and men within households, who borrow rather than on firms or other entities. We are particularly interested in exploring the relationship between individual-level indebtedness and physical asset ownership and whether individual ownership of immovable property is correlated with borrowing generally and for specific purposes, such as the purchase of an asset. We also construct debt-to-wealth ratios for women and men; our survey did not collect information on income. Finally, while we would have liked to explore credit constraints in greater detail, our data do not contain information on the terms of the loans taken out by individuals and households, including interest rates and repayment periods.

As explained in greater detail below, this study makes several contributions. First, it goes beyond most household-level studies by disaggregating households in a novel way: by marital status and living arrangements of the individuals within them. Second, it is the first detailed study of within-household borrowing behaviour, considering such issues as who is responsible for the loan and decision-making about specific loans. Third, the analysis presents detailed information on how individuals use their loans, including the use of loans for a wide range of assets and expenses, which can help shed light on borrowing that contributes to growth versus borrowing for consumption. Fourth, by considering all sources of credit that individuals and households access, our analysis is broader than many recent studies that focus only on either microfinance or loans from formal institutions.

Before delving into the literature in the next section, it is important to define the terms used in this report. Credit is a method of lending financial resources to an institution or an individual in the present with the expectation of reaping a future return. A loan is money or goods given to someone for a period of time accompanied by the recipient's promise that it will be paid back, usually with interest. Debt typically refers to one or more obligations or liabilities arising from borrowing money or taking goods or services 'on credit'—in other words, against an obligation to pay later—embodied in a contract or agreement between individuals or institutions.2 In common parlance, loans and debt are often used interchangeably. We will refer to a loan as an amount of money that has been borrowed by an individual or household, debt as the aggregation of loans taken by the individual or household and outstanding debt as what individuals or households held at the moment of the surveys.

We also use the terms 'formal' and 'informal' credit and/or debt. These refer to the type of institution or entity from which the individual or household borrowed. Financial systems in developing countries consist of a mix of formal and informal institutions, including private and public banks, credit unions, finance companies, microfinance institutions and a whole range of other formal and quasi-formal nonbank institutions. While there is no standard categorization in the literature, formal financial institutions include banks, credit unions, savings and loan (S&L) cooperatives and microfinance institutions, while informal sources usually include family, friends, Rotating Savings and Credit Associations (ROSCAS), informal self-help groups and moneylenders.3 These distinctions are important to the analysis since most people in developing countries have limited access to formal credit and rely essentially on informal credit sources (Banerjee and Duflo 2010). Moreover, women, relative to men, are perceived to have less access to credit generally and formal credit specifically.

CONCEPTUAL FRAMEWORK

2

2.

REVIEW OF THE LITERATURE

The financial literature on developing countries addresses credit for firms and households. Considering the literature on firms, a large segment focuses on the supply of credit to, and demand for credit by, firms. Some cross-country studies have argued that female-owned businesses tend to have less access to formal credit than male-owned businesses (Carter and Rosa 1998; Coleman 2000).4 Others (Bruhn 2009; Aterido et al. 2011) find an 'unconditional' gender gap in favour of men in access to formal credit, but this gap disappears after controlling for firm-level characteristics (such as industry, firm size, ownership type, export orientation, etc.) and household and demographic factors (age, dependency burdens, etc.). Another substantial part of the literature focuses specifically on microcredit for female- and male-owned firms. We do not review the literature on credit/microcredit for businesses here since our focus is on households and individuals.

Several authors analyse household borrowing and debt in developing countries (Banerjee and Duflo 2010; Bertola and Hochguertel 2007; Diagne 1999; Diagne et al. 2000). This literature focuses only on the household level since data are generally collected for household members in the aggregate, and often the only gender dimension analysed is based on headship. Our study improves on this by disaggregating households into those that have partnered individuals (married or in consensual unions) and those in which the principal adults are non-partnered (single, separated, divorced or widowed). Hence, we do not conflate households comprised by a couple with those with only a principal adult man all under the rubric of 'male-headed households'; rather, our analysis treats households with a principal adult woman or man without a partner in a parallel fashion. We also include a much larger set of loan uses than most studies, which usually focus on only a few dimensions of borrowing.

Recent surveys have gone beyond the household level to collect information from individual female and male borrowers. Aterido et al. (2011), for instance, analyse the use of formal and informal financial services by women and men in several sub-Saharan African countries based on data from two surveys, FinScope5 and FinAccess, carried out since 2002 in nine South and East African countries. They find that women are less likely than men to use formal financial services in all nine countries, but that there is variation in the use of informal financial services. In Kenya, South Africa and the United Republic of Tanzania, women are more likely to use informal financial services than men, but the reverse is the case in Namibia and Rwanda. The use of formal banking services is correlated with higher income and education and with being in formal wage and self-employment. Many of the factors that explain the use of formal financial services also explain the use of informal financial services. However, this study does not parse financial services into loans versus savings or checking accounts.

Based on the success of the FinScope and FinAccess Surveys, the World Bank and Gallup joined forces to develop a new cross-country survey to measure individual access to financial services. The Findex survey

was developed in 2011 and collected information on the use of financial services among individuals 15 years and older in 148 countries. A second round has been collected in 2014 for release in 2015.6 The Findex data can be disaggregated by sex and other demographic characteristics to explore how adults save, borrow, make payments and manage risk. The data also contain indicators on whether individuals borrow from formal or informal institutions and the purposes of borrowing, e.g., house mortgage, emergency or health purposes, etc. A number of recent contributions analyse this data.

Demirgüç-Kunt and Klapper (2013) find that, on average, almost one third of adults in the 148 high- and low-income countries in the sample report having borrowed money in the past year. Klapper and Singer (2013) find that borrowing is relatively high in the 38 African countries in the sample: 44 per cent of adults report having borrowed money in the past 12 months, compared to 34 per cent worldwide.7 Borrowers in lower-income countries are more likely to use informal sources of credit, such as family and friends, than formal sources such as banks.8 Friends and family are the most commonly reported source of informal loans in developing countries, followed by informal lenders. Differences exist between rich and poor borrowers; on average, Demirgüç-Kunt and Klapper (2013) find statistically significant differences in the 'origination' (e.g., taking out a new loan as opposed to rolling over debt from prior years) of formal loans over the past year between the poorest and the richest income quintiles for the 148 countries. Just as the sources of loans differ, so do the purposes of the loans. Among borrowers in developing countries, emergency and health needs are the most common reason for having outstanding debt, especially among adults in the poorest income quintiles. On average, in developing countries, 14 per cent of adults in the poorest quintile had a loan for emergency or health purposes, compared to 8 per cent of those in the richest fifth of the population.

In a separate paper, Demirgüç-Kunt et al. (2013) explore gender differences in borrowing using individual-level data from 98 developing countries. The authors find that, overall, 36 per cent of men and 32 per cent of women borrowed in the past year. While there is a miniscule gender gap in the use of formal credit in these countries, there is a gender gap of 3-4 per cent in favour of men in loans from informal sources. Econometric analysis suggests several reasons for this gap: women were more likely than men to be poor, possess lower levels of education, head a household composed of only one adult, be divorced, separated or widowed and be out of the workforce. At the same time, women were less likely to be self-employed formal business owners or wage workers.

While the Findex survey and its predecessors are a great improvement over other surveys that do not collect individual level data, and they permit researchers to conduct analyses that are sex-disaggregated, the survey used for the analysis in this report enables analysts to go further and conduct within household analysis of who borrows, who within households are responsible for the loan and who made the decision to take it out. This is superior to other data sources because while an individual may report that s/he has a loan, it cannot be assumed—unless the question is posed—that s/he is solely responsible for the debt. Our data sets, described below, improve on previous efforts by allowing analysis of debts incurred individually by women or men as well as jointly by a couple or jointly with someone else besides the spouse. We also consider how the decision to take out the loan was made to verify whether those who hold debt (individually or jointly) participated in the decision to borrow.

This study makes a number of other contributions to the existing literature. As noted above, we consider a broader set of sources of loans than most studies and analyse both formal and informal debt in the same framework. Moreover, since our interest is in the components of individual and household wealth, we examine loans taken out for the purpose of asset accumulation as opposed to consumption or what we term 'current expenses' and how this differs for women and men. Asset accumulation refers to the acquisition of physical assets (the principal residence, agricultural land, other real estate, businesses, etc.). By contrast, we treat expenses on health, education and daily needs as current expenses necessary for consumption.

The analysis also focuses on the relationship between asset ownership and debt. It is commonly claimed that lack of collateral is an obstacle to accessing formal credit, particularly for women who lack assets that can be used as collateral. However, little is actually known about whether individuals and households who own immovable property are more likely to take out loans than individuals who do not. Even less is known about whether women and men who own property jointly or individually are better able to take on debt. Our analysis provides some insight into these questions.

Finally, there is growing recognition that women and men have different levels of access to information and, in many situations, women are less likely than men to know about the functioning of financial institutions in their communities (Fletschner and Mesbah 2011). Women often tend to rely on other women as their main source of information regarding markets, particularly the financial market (Fletschner and Kenney 2014). In fact, one of the main arguments regarding the benefits of microfinance programmes targeting women via organized groups—besides channelling financial resources to them directly—is the sharing of information that takes place (Mayoux 2002; Feigenberg et al. 2010). We are interested in the question of whether participation in groups, including microfinance groups, is associated with borrowing and whether there are gender differences in this relationship.

3.

THE CONTEXT OF BORROWING IN ECUADOR, GHANA AND INDIA

The three countries that we analyse in this study, besides spanning three world regions, reflect different levels of economic and social development and have some similarities and differences relevant for our analysis of debt.

One factor that Ghana and India have in common is their legal marital and inheritance regimes, in part due to their common heritage of British common law. The default marital regime is separation of property, whereby the assets acquired before or after marriage are considered the separate property of each spouse. In contrast, Ecuador, with its legal heritage in Roman law, is characterized by partial community property, whereby the assets acquired prior to marriage remain one's individual property but any assets acquired during the marriage by either spouse are considered the joint community property of the couple. These different marital regimes, combined with contrasting inheritance regimes (testamentary freedom in Ghana and India vs. restricted testamentary freedom in Ecuador), influence women's ability to accumulate assets (Deere et al. 2013) and might also have relevance for women's ability to borrow. Among the topics we explore is whether these different marital regimes are associated with different types of debt and, specifically, the prevalence of individual versus jointly held debt among couples.

The context for individual and household borrowing in Ecuador, Ghana and India differs in important ways. Below, we provide a brief profile of the financial sector in each country and the economic conditions that underpinned household debt in 2010.

3.1 Ecuador

In 2000, Ecuador adopted the US dollar as the country's official currency after 22 commercial banks failed (representing 60 per cent of the assets of the private financial system). The collapse of the financial system and dollarization were the culmination of almost a decade of economic instability brought on by financial deregulation and liberalization, an external debt crisis, sharply fluctuating prices of oil (the country's major export) and concurrent political instability (Jácome 2005). In the subsequent years, the Government focused on rebuilding the financial system and public confidence in it. Since 2005, Ecuador has been noted both for its financial stability and the rapid growth of its financial sector.

Two institutions currently regulate the formal private financial system: the Superintendency of Banks and Insurance (SBS, by its Spanish acronym) and the Superintendency of the Popular and Solidarity Economy (SEPS). The SBS regulates all private commercial banks; in 2013, these numbered only 24 compared to 96 prior to the financial crisis. Since 2013, the SEPS regulates all forms of cooperative financial associations. Previously, the largest S&L cooperatives—those with

assets of more than $1 million and deposits greater than $200,000—were governed by the SBS and those below this threshold were governed by the Ministry of Social and Economic Inclusion.

The Central Bank collects and publishes data only on the major institutions in the private financial system, shown in Appendix Table A1, which include all the private banks, the largest S&L cooperatives (those formerly under the wing of the SBS) and two other forms of association (mutualism and financial societies). In December 2013, the total volume of credit outstanding reached $21.1 billion, more than doubling since 2006, with the private banks accounting for 82 per cent of this loan activity.

A fuller picture of the formal private financial system emerges by considering all of the S&L cooperatives (or credit unions) that report to the SEPS. Many of these were formed in the 1960s, mostly in rural areas, but their numbers expanded rapidly throughout the country following the collapse of the banking sector. By June 2013, 773 S&L cooperatives reported to the SEPS.9 As Appendix Table A2 shows, these are stratified by size (depending on the value of their total assets, number of members and extent of geographic coverage), with the largest cooperatives (those in Segment 4) being the ones that previously reported to the SBS.10

The composition of the loan portfolios of the private banks and the S&L cooperatives differs markedly, as Appendix Table A2 illustrates. While the private banks are heavily focused on lending to the commercial sector (presumably to large enterprises), the S&L cooperatives serve microenterprises and households. Loans for the purchase of vehicles and other consumer durables and those taken out to meet household emergencies make up a relatively large share of both the private bank and S&L cooperative sector loan portfolios: 36 per cent and 50 per cent, respectively.

Similar to other countries, Ecuador has witnessed the growth of a microfinance movement since 2000. The microfinance sector consists of private banks providing microloans,11 S&L cooperatives, NGOs and dedicated microfinance programmes. Many of these have come together under the Rural Finance Network (RFR), whose mission is financial inclusion and which operates both in rural areas and among the urban poor. Their combined loan portfolio has steadily increased, growing at around 10 per cent per year during the decade of 2000 (Readout 2011: 30) and more than doubling between 2010 and 2013.

As Appendix Table A3 shows, the institutions that comprise the RFR have been quite successful in attending to women's credit needs, with women representing 54 per cent of their loan clients in 2013. A number of the NGO microfinance programmes initially targeted only women, explaining why over two thirds of their clients are female. The RFR institutions have also been quite successful at recruiting women officers, who represented 47 per cent of the loan officers in 2010 (Readout 2011: 83). However, it is not clear how representative these latter figures are of the total microfinance sector.

The SBS determines the maximum interest rates that can be charged by all private institutions. How these vary by type of borrower and purpose of the loan is illustrated in Appendix Table A4.

3.2 Ghana

Ghana's financial system has gone through a series of reforms, beginning with the comprehensive Financial Sector Adjustment Programme (FINSAP) that was launched in 1988 following an era of crisis. The initial set of financial reforms involved institutional restructuring, enhancement of the legal and regulatory framework for banking operations, liberalizing interest rates with the aim of making banks viable and efficient, and a revitalization of the financial sector by creating new institutions. Its success led to the implementation of the Financial Sector Strategic Plan (FINSSP) in the early 2000s that enacted new

regulations for banks, insurance, pensions and anti-money laundering and upgraded the trading and settlement infrastructure for capital markets, the national payments system and accounting standards (IMF 2011).

Like other countries, Ghana's financial sector comprises both formal and informal institutions. The formal sector is currently made up of 27 commercial banks, 140 rural and community banks (RCBs), 337 microfinance programmes and 57 non-bank financial institutions (NBFIs), including 23 S&L companies, 31 finance houses, two leasing companies and one mortgage finance company (Bank of Ghana 2013). These institutions are regulated by the Bank of Ghana under the Banking Act 2004 (Act 673). Many of them provide services in urban and semi-urban areas, largely concentrated around the major urban centres of the Greater Accra, Ashanti and Eastern regions, with little outreach to rural and remote areas.

Commercial banks are the largest financial institutions in the country and represent about 85 per cent of total banking assets. They prefer to extend credit to the commercial and financial sectors (27 per cent), the services sector (26 per cent) and the manufacturing sector (11 per cent), which collectively accounted for the major part of outstanding credit in 2012. Commercial banks are estimated to reach only about 5 per cent of households, most being excluded by high minimum deposit requirements.

The RCB network reached about 2.8 million depositors and 680,000 borrowers in 2010. Clients consist mostly of farmers, government employees and small and micro entrepreneurs. Between 2000 and 2008, the number of depositors grew at an average annual rate of 14 per cent, while the number of borrowers grew at an average annual rate of 27 per cent. Women accounted for 45 per cent of depositors and 45 per cent of borrowers in RCBs in 2007 (African Development Bank 2010).

Rural banks, S&L companies and the semi-formal and informal financial systems play a particularly important role in Ghana's private sector development and poverty reduction strategies (Steel and Andah 2003). The country's informal and semiformal financial institutions include 433 credit unions, 80 financial NGOs and about 4,000 susu12 collectors. These institutions, together with the RCBs, represent about 5 per cent of the total banking assets and account for about half of the total banking outlets in the country. They are especially significant in the rural areas (Nair and Fissha 2010).

A survey in 2009 by AudienceScapes on access to financial services in Ghana revealed that 40 per cent of the extreme poor, 29 per cent of women and 27 per cent of the youth had no access to banking services. Residents in the more remote and/or rural regions were less likely than those in less remote or more urban areas to access and use financial services. In an effort to widen the reach of financial services, the Bank of Ghana issued Guidelines for Branchless Banking in 2008 that authorized deposit-taking institutions to offer financial services through non-bank agents. Furthermore, since January 2009, there is an approved National Strategy for Financial Literacy and Consumer Education in the Microfinance Sector (MFTransparency 2011).

In Ghana, market interest rates prevail, and the range of interest rates in 2010 (the survey year) is presented in Appendix Table A5.

3.3
India

India has a long history of credit and banking that goes back to pre-colonial times and whose influence is still reflected in the current system. Formal credit from bankers was used to finance trade and utilized by the nobles and the state. Informal credit from moneylenders financed the credit needs of rural people in a largely agrarian economy. The Reserve Bank of India (RBI) was created in 1935 and played an important role in building the Cooperative Credit Structure that gradually evolved two arms, one for short-term credit and one for investment credit. Fisher and Sriram (2002) posit that, between the 1950s and mid-1960s, cooperatives were seen as the preferred method to deliver credit to rural areas. In the 1970s and 1980s, commercial banks and regional rural banks were the preferred method, while the pre-reform period of the early 1990s saw the emergence of microfinance institutions and self-help groups.

In the mid-1990s, India began to implement reforms in the financial sector, following a financial crisis and research that revealed a large portion of the rural population was excluded from formal banking and credit despite the existence of many rural financial institutions (RFI). The reforms sought to increase outreach to the poor, stimulate additional credit flows to the sector, change the incentive regime by liberalizing interest rates for cooperatives and Regional Rural Banks (RRB), relax controls on where, for what purpose and to whom the RFIs could lend, introduce prudential norms and restructure and recapitalize RRBs.

Today, India's financial sector consists of a mix of formal, semi-formal and informal institutions, with an intrinsic dominance of informal ones (see Appendix Table A6). According to the last round of the All India Debt and Investment Survey (AIDIS) estimates, total cash debt in India in 2002 stood at 57 per cent from institutions and 43 per cent from informal sources (Government of India 2005).13 In Karnataka, these figures were 67 per cent and 33 per cent, respectively. Nationally, 31 per cent of borrowers resort to family and friends for credit, while only 27 per cent are able or choose to access formal credit. Among all the sources of informal credit, the AIDIS estimates that professional moneylenders dominate the credit market over agricultural moneylenders and commission agents. According to this source, around 36 to 38 per cent of the rural borrowers resort to moneylenders, who charge approximately 46 per cent interest per annum (compared to formal institutions, which charge around 15 per cent per annum). About 61 per cent of borrowing from informal sources is for unsecured expenditure, i.e., immediate consumption, marriage and medical treatment expenses, whereas 72 per cent of formal borrowing is for the acquisition of a house, agricultural production or a business and is secured expenditure. In India, interest rates are also market-determined, and the range in 2010 is shown in Appendix Table A7.


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4.

SURVEY METHODOLOGY

The Gender Asset Gap project is a joint initiative of an international research team that has collected individual-level asset data to calculate measures of the gender asset and wealth gaps.14 The project has collected nationally representative data in Ecuador and Ghana and data representative at the state level for Karnataka, India. All physical and financial assets are included, including both formal and informal means of savings. The surveys also collected information on formal and informal debt, although not on the terms of the loans.

The data collection involved two phases: qualitative fieldwork and a quantitative assets survey.15 In the qualitative phase, the primary methodology was focus group discussions, complemented by interviews with key informants and a compilation of the secondary literature, including the study of marital and inheritance regimes. The qualitative work was essential in adapting the generic template of the survey instrument to country-specific contexts.

The quantitative phase of the study involved the implementation of surveys fielded between May 2010 and January 2011. Two survey instruments were administered. The first collected data on household demographics, livelihoods, consumption expenditure, the inventory of physical assets owned by members of the household (housing, agricultural land, other real estate, livestock, agricultural implements, non-farm businesses, consumer durables) and the identity of the asset owners. The second instrument was administered separately to up to two adult members of the household and collected information on ownership of financial assets, debt and decision-making, among other topics, besides collecting additional information on physical assets.

In Ecuador, the sample of 2,892 households is representative of rural and urban areas and the two major regional geographic and population groupings of the country: the sierra (highlands) and coast. A total of 4,668 persons completed the individual questionnaire, including the financial assets section. In Ghana, a total of 2,170 households were surveyed and 3,288 persons answered the individual questionnaire; the survey is representative of the 10 administrative regions of the country. In Karnataka, a total of 4,110 households were surveyed across the rural and urban areas of nine districts covering all agro-climatic zones of the state, and 7,095 individuals completed the individual questionnaire.

As previously noted, the survey interviewed up to two adults (aged 18 or above) per household. The primary respondent was the person most knowledgeable about assets in the household; the secondary respondent was the spouse (Ecuador) or, in some cases, an adult member of the opposite sex who was also considered knowledgeable about household assets (Ghana and Karnataka).16

Information on debt was collected in both the household inventory and an individual-level debt module that contained a number of detailed questions. The household inventory in the three countries asked whether there was a loan outstanding for the principal residence, agricultural land, other real estate and non-farm businesses and the amount of outstanding debt. In Ecuador and Ghana, the loan refers primarily to the acquisition of the asset, whereas in Karnataka, it refers to whether that asset was used as collateral for a loan related to its acquisition or another purpose. Since the purpose of the loan was not systematically captured in this case, there is a category for Karnataka on the tables called 'purpose unknown', which comprises all

those loans from the inventory for which information on their purpose cannot be deduced. The household inventory in the three countries did not solicit information on who was responsible for the loan; thus in the subsequent analysis we assume that these debts, if no other information is available, are the responsibility of the owner(s) of the particular asset.

The individual-level debt module collected information on the current loans of each respondent.17 For each loan, information was elicited on the source of the loan, its purpose(s), if anyone else besides the respondent was responsible for the loan, how much was borrowed initially and how much is outstanding. In addition, respondents were asked who decided to take out the loan, what collateral was provided and to whom the collateral belongs.18 Ecuador's debt module asked this information for all loans outstanding. The individual debt modules of Ghana and Karnataka by and large excluded the loans for the principle residence, agricultural land, other real estate and businesses (since this information was asked in the asset inventory), thereby only capturing detailed information for expense debt plus some asset debt such as for the purchase of consumer durables, livestock, etc.

Ecuador's survey asked the debt questions in both the household inventory and the individual questionnaire, which led to duplicating some information as well as to some inconsistencies. The enumerators were not always consistent in reporting loans in the individual questionnaire if they were included in the inventory and thus some information was lost; however, more information on debt was captured on the major assets as a result of having asked about this in both the household inventory and individual questionnaire.

In all three surveys, since respondents were asked about their own individual debts separately and in private, it was sometimes difficult to determine whether couples, for example, were referring to the same loan or to different ones (or, in the case of Ecuador, to the debt already reported for a major asset in the household questionnaire). A major problem is that, unlike the immovable assets owned by someone in the household, loans were not given a unique identifier that would allow them to be traced among the different modules of the questionnaire. As a result, in Ecuador's case, this error in the design of the survey entailed a lengthy process of reconciliation of the information at the data cleaning stage.19

5.

A PROFILE OF HOUSEHOLD AND INDIVIDUAL DEBT IN ECUADOR, GHANA AND KARNATAKA, INDIA

This section provides descriptive information on household and individual debt in the three countries—including the purpose of the loan, its source and who decided to take it out—as well as on debt-to wealth-ratios. This analysis sets the stage for the subsequent section's formal econometric tests of the relationship between prior asset ownership and debt.

5.1 Household debt

Table 1 shows the percentage of households with debt in the three countries by purpose of the loan, e.g., whether the loan was used to acquire an asset (including working capital) or to cover an expense such as daily expenses or a health need.20 The first issue to note is that almost 64 per cent of households in the Karnataka sample have at least one type of debt ('any debt'), compared to 47 per cent in Ecuador and just under 28 per cent in Ghana.21 A greater share of households in Karnataka (30 per cent) also report expense debt compared to the other two countries (19 per cent in Ecuador and 12 per cent in Ghana). Most relevant to this study is debt for asset accumulation. Thirty-four per cent of households in Ecuador and 28 per cent in Karnataka borrowed to acquire an asset, compared to just 17 per cent in Ghana. In Ecuador and Ghana, the share of households holding asset debt exceeds households holding expense debt, while this share is fairly close in Karnataka.

TABLE 1.
Percentage of households with debt by purpose of loan

Purpose		Ecuador	Ghana	Karnataka
Asset debt[a]	%	34.0	17.3	28.2
	n	983	376	1153
Expense debt[b]	%	19.4	11.6	29.7
	n	561	251	1214

Purpose		Ecuador	Ghana	Karnataka
Purpose unknown[c]	%	NA	0.9	26.8
	n	NA	21	1094
Any debt[d]	%	47.0	27.5	63.8
	n	1,358	597	2,608
Total n		**2,892**	**2,169**	4,088

Notes:
a Includes loans for asset acquisition and/or working capital.
b Includes loans for education, health, daily expenses, debt repayment, celebrations and other.
c Includes loans where an asset has been used as collateral but whose purpose is unknown and other loans that cannot be attributed to a specific purpose.
d Any debt is not a sum but a category that captures households that hold either or both asset and expense debt.

However, the burden of this debt differs considerably among households that are asset rich and those that are asset poor.22 Table 2 reports the incidence of debt outstanding for households in each wealth quintile and by purpose of the loan, with asset loans disaggregated by type. In all three countries, a greater proportion of richer households than poorer households have any debt. Similarly, a greater share of richer households hold asset debt compared to poorer households. However, the reverse is the case for expense debt, with a higher share of poorer households than richer households in all three countries holding this. In Ecuador, 49 per cent of households in the richest quintile have asset debt compared to 20 per cent of households in the poorest quintile, while 23 per cent of households in the poorest quintile have expense debt compared to 16 per cent of households in the richest quintile. In Ghana, the pattern is similar to Ecuador's for asset debt; however, the proportions of rich and poor households who hold expense debt do not differ much.

TABLE 2.
Percentage of households reporting debt by quintile and purpose (%)

Purpose	Quintile					Total
	Q1	Q2	Q3	Q4	Q5	
Ecuador						
Dwelling/lot	0.3	5.2	6.1	11.4	16.8	8.0
Agricultural land	0.0	0.2	0.5	0.5	1.2	0.5
Other real estate	2.4	1.2	2.6	2.1	4.7	2.6
Business	5.2	8.5	12.3	13.5	20.8	12.0
Agricultural equip. & installations	0.2	0.5	å0.0	0.2	1.0	0.4
Livestock	0.3	0.7	0.3	0.7	0.9	0.6

Purpose	Quintile					Total
	Q1	Q2	Q3	Q4	Q5	
Agricultural inputs	0.0	1.9	2.6	0.5	0.9	1.2
Consumer durables	12.6	16.3	13.3	11.2	10.0	12.7
Vehicles	0.3	0.5	1.9	4.3	7.6	2.9
Asset debt	**20.4**	**31.0**	**33.4**	**36.4**	**48.8**	**34.0**
Expense debt	**23.3**	**22.5**	**18.5**	**16.9**	**15.7**	**19.4**
Any debt	**38.9**	**45.7**	**45.8**	**47.3**	**57.1**	**47.0**
Ghana						
Dwelling/lot	0.0	0.5	0.2	0.5	0.7	0.4
Agricultural land	0.0	0.2	0.0	0.9	0.7	0.4
Other real estate	0.0	0.2	0.2	1.6	1.2	0.7
Business	2.1	3.2	5.9	7.4	8.0	5.3
Agricultural equip. & installations	0.2	0.0	0.7	1.2	2.1	0.8
Agricultural inputs	4.6	5.5	7.8	8.1	7.4	6.7
Consumer durables	2.8	3.7	5.8	5.3	3.5	4.2
Vehicles	0.0	0.0	0.2	0.0	0.7	0.2
Asset debt	**10.2**	**11.8**	**19.4**	**21.4**	**21.4**	**17.3**
Expense debt	**10.2**	**12.2**	**14.3**	**11.3**	**9.9**	**11.6**
Purpose unknown	**0.7**	**1.2**	**0.7**	**1.2**	**1.2**	**0.9**
Any debt	**19.6**	**23.0**	**32.2**	**31.6**	**31.1**	**27.5**
Karnatakaå						
Dwelling/lot	1.7	6.0	6.7	11.9	12.5	10.5
Agricultural land	0.0	0.2	0.9	2.3	3.6	1.2
Other real estate	0.0	0.2	0.7	0.8	2.3	0.8
Business	2.2	1.5	1.6	1.8	3.2	2.1
Agricultural equip. & installations	0.1	0.5	1.7	1.3	3.7	1.6
Livestock	1.5	2.2	2.9	2.1	1.0	1.9

Purpose	Quintile					Total
	Q1	Q2	Q3	Q4	Q5	
Agricultural inputs	0.8	1.9	6.6	9.6	8.1	5.5
Consumer durables	11.9	12.4	10.4	9.8	7.9	10.1
Vehicles	0.4	0.7	1.0	0.8	0.8	0.8
Asset debt	**17.3**	**22.9**	**21.9**	**33.5**	**32.2**	**28.2**
Expense debt	**33.2**	**32.7**	**33.9**	**27.5**	**21.1**	**29.7**
Purpose unknown	**6.5**	**13.0**	**25.5**	**36.7**	**49.6**	**26.8**
Any debt	**48.8**	**56.0**	**68.1**	**72.4**	**71.9**	**63.8**

Karnataka's pattern of asset and expense debt follows these trends. There is also a secular increase in the incidence of loans for which the purpose was not recorded from 7 per cent in the poorest quintile to almost 50 per cent in the richest quintile. This is because the majority of these loans were taken out as collateral against some asset, such as the residence, land or businesses, though the purpose of the loan was not recorded in the instrument. Given that these assets were owned predominantly by the wealthier quintiles, it stands to reason that the loans against them would also be concentrated among these quintiles.

Turning to the composition of asset debt (last column, Table 2), different patterns emerge in the three sites, although the acquisition of consumer durables is an important reason for indebtedness in all three. In Ecuador, the most frequent type of asset debt is for the acquisition of consumer durables (13 per cent) and businesses (12 per cent), followed by the principal residence (8 per cent). In Karnataka, the acquisition of consumer durables and the main dwelling is the most frequent (around 10 per cent each), followed by agricultural inputs (6 per cent). For Ghana, the acquisition of inputs (for businesses and/or agriculture) leads (7 per cent), followed by businesses (5 per cent) and consumer durables (4 per cent).

Differences also exist within countries in the composition of debt held by households in different wealth quintiles. For Ecuador, the most frequent type of asset debt among the wealthiest households is for businesses or the main dwelling, while among the poorest households it is for the acquisition of consumer durables; the differences among rich and poor also stand out in terms of the acquisition of vehicles. For Ghana, the greatest contrast is for the acquisition of businesses. For Karnataka, the most frequent asset debt of the richest households is for a dwelling and agricultural inputs, whereas for the poorest—as in Ecuador—it is most frequently for the acquisition of consumer durables.

The components of expense debt vary by country and quintile and are shown in Appendix Table A8. With respect to country patterns, in both Ecuador and Ghana, the largest share of expense debt is related to daily needs (food, utilities, rent and clothing), followed by health and education expenses. In contrast in Karnataka, the largest share of expense debt is for health expenses and those associated with celebrations, such as marriages (including dowry) and funerals. Only in Ecuador did debt repayment (taking out a new loan to repay a previous loan) constitute a notable purpose, although it accounts for only 3 per cent of total loans.23

By rank ordering, households in the poorest quintile in Ecuador primarily incur expense debt to cover daily needs, health, education and debt repayment; those in the richest quintile borrow for daily needs, education, other expenses and health. Households in Ghana's richest quintiles borrow to cover education, daily expenses and health, whilst those in the poorest quintiles borrow to meet health expenses, daily expenses and education.

In Karnataka, 19 per cent of households in the poorest quintile borrow to meet health expenditure, 13 per cent to meet the expenses of social and religious ceremonies and 8 per cent for education expenses. The proportion of these households borrowing for day-to-day household maintenance and for repayment of earlier debts is quite low. Among households in the wealthiest quintile, the picture is not too different except for the lower incidence of borrowing to meet health expenses, at 7 per cent. Similar to the poorest quintile, 8 per cent of these households borrow for education, 11 per cent for ceremonies and 2 per cent for routine household maintenance expenses. In sum, what the three countries have in common is the prominent role of health expenses in expense borrowing among poorer households and the incidence of this type of borrowing being greater among poorer as compared to wealthier households.

The mean amount of outstanding household debt, shown in Table 3, follows a similar pattern to the incidence of household debt. Households in the richest quintile hold greater amounts of debt, on average, than households in the poorest quintiles, and mean debt increases nearly monotonically from the poorest to the richest quintile in each country. There is some variation across quintiles, however, for asset and expense debt. For instance, households in quintile 2 in Ecuador have greater mean expense debt than those in quintile 3, and households in quintile 1 in Ghana have slightly greater mean asset debt than those in quintile 2.

TABLE 3.

Mean amount of household debt outstanding by quintile and purpose (US$ 2010 PPP)a

Purpose		Quintile					Total
Q1		Q2	Q3	Q4	Q5		
Ecuador							
Asset debt	Mean	443	764	1,221	3,429	7,355	3,290
	Positive n	115	175	186	205	277	958
Expense debt	Mean	401	641	609	985	1,834	825
	Positive n	132	127	101	95	85	540
Unallocated debtb	Mean	313	1,259	685	2,000	2,408	1,330
	Positive n	4	2	6	4	5	21
Any debt	Mean	467	831	1,113	2,968	6,744	2,689
	Positive n	225	262	263	271	327	1,348

Purpose		Quintile					Total
Q1		Q2	Q3	Q4	Q5		
Ghana							
Asset debt	Mean	231	205	385	818	1,724	799
	Positive n	43	52	83	94	95	367
Expense debt	Mean	100	229	233	352	793	325
	Positive n	43	51	59	46	40	239
Unallocated debtb	Mean	NA	230	868	NA	NA	549
	Positive n	0	2	2	0	0	4
Purpose unknown	Mean	795	289	111	693	136	423
	Positive n	3	5	3	5	3	19
Any debt	Mean	201	235	344	726	1,530	650
	Positive n	83	103	139	133	128	586
Karnataka							
Asset debt	Mean	2,634	4,795	4,568	7,145	17,285	8,204
	Positive n	124	201	278	327	301	1,231
Expense debt	Mean	4,857	5,252	4,800	6,023	12,516	6,099
	Positive n	215	251	265	222	131	1,084
Unallocated debtb	Mean	3,727	7,220	4,023	7,192	16,340	7,765
	Positive n	50	54	70	82	63	319
Purpose unknown	Mean	2,841	2,962	2,962	7,785	23,310	12,028
	Positive n	48	108	228	317	393	1,094
Any debt	Mean	4,678	6,272	6,378	10,736	28,967	12,138
	Positive n	362	477	611	627	588	2,665

Notes:
a The conversion of Karnataka's mean estimates utilizing the PPP index results in much higher mean values than would be the case using 2010 exchange rates, while for Ghana either conversion rate gives similar values; Ecuador's currency is the US dollar.
b Unallocated debt refers to debt whose value cannot be attributed to either an asset or an expense debt alone since the purpose includes both.

5.1.1
Household type

Table 4 presents the incidence of debt by household type, disaggregated by the marital status and/or living arrangements of the respondents. These are characterized as either partnered (married or consensual union) or non-partnered (separated, divorced, widowed or single) depending on the status of the principal adults.24 These categories are important: households with two individuals (married or in a consensual union) are presumably better able to borrow and carry debt than those with a sole adult (what we will term for short as 'non-partnered households') since they always contain at least two adults who may contribute to a household's wealth through their earnings or inheritances.25

TABLE 4.
Incidence of household debt by household type and purpose (%)

Purpose	Household type			Total
	Non-partnered males	Non-partnered females	Partnered	
Ecuador				
Dwelling/lot	5.2	5.8	9.0	8.0
Agricultural land	0.0	0.1	0.7	0.5
Other real estate	2.6	1.3	3.1	2.6
Business	7.3	8.8	13.7	12.0
Agricultural equip. & installations	0.0	0.0	0.6	0.4
Livestock	1.0	0.3	0.7	0.6
Agricultural inputs	1.0	0.3	1.5	1.2
Consumer durables	7.3	8.9	14.6	12.7
Vehicles	2.6	1.1	3.6	2.9
Asset debt	**21.8**	**23.8**	**38.9**	**34.0**
Expense debt	**11.4**	**16.7**	**21.2**	**19.4**
Any debt	**31.1**	**37.5**	**51.9**	**47.0**
n	**193**	**718**	**1,981**	**2,892**
Ghana				
Dwelling/lot	0.5	0.4	0.3	0.4
Agricultural land	0.9	0.0	0.4	0.4

Purpose	Household type			Total
	Non-partnered males	Non-partnered females	Partnered	
Other real estate	0.2	0.3	1.1	0.6
Business	2.3	5.2	6.8	5.3
Machinery	0.5	0.1	1.5	0.8
Inputs	3.5	5.2	9.1	6.7
Consumer durables	2.9	4.7	4.4	4.2
Vehicles	0.2	0.0	0.3	0.2
Asset debt	10.4	14.7	21.2	16.8
Expense debt	9.7	10.0	13.5	11.6
Purpose unknown	1.2	0.9	1.0	1.0
Any debt	20.5	24.3	31.9	27.1
n	**434**	**728**	**1,007**	**2,169**
Karnataka				
Dwelling/lot	7.2	4.1	9.3	10.7
Agricultural land	1.0	0.4	2.1	1.2
Other real estate	2.0	0.6	0.8	0.8
Business	1.2	1.2	2.1	1.7
Agricultural equip. & installations	1.2	0.7	1.4	1.3
Livestock	1.1	2.0	2.1	1.7
Agricultural inputs	5.1	2.4	6.2	5.5
Consumer durables	10.1	10.5	10.3	10.2
Vehicles	1.6	0.0	0.9	0.8
Asset debt	26.8	17.2	29.7	28.2
Expense debt	28.7	23.4	30.2	29.7
Purpose unknown	31.1	14.5	29.0	26.8
Any debt	58.5	43.2	69.1	63.8
n	**260**	**720**	**3,106**	**4,086**

In Ecuador, 52 per cent of partnered households hold any debt compared to only 38 per cent of non-partnered female households and 31 per cent of non-partnered male households. Following the general trend, all three types are more likely to hold asset debt than they are to hold expense debt. The main difference worth noting is that the households of non-partnered females are more likely to hold expense debt compared to those of non-partnered males. Disaggregating asset debt, Table 4 shows that 14 per cent of partnered households hold debt for a business and 9 per cent for a dwelling/lot, whereas only 9 per cent of those of non-partnered females and 7 per cent of those of non-partnered males have a business loan, and 6 per cent of those of non-partnered females and 5 per cent of those of non-partnered males have a home loan. That non-partnered women have a higher incidence of debt for homes and businesses than non-partnered men is not surprising given that more females than males in Ecuador individually own homes and businesses (Doss et al. 2011a). Very few households in Ecuador have debt for agricultural land given that the population of the country is predominantly urban.

In Ghana, 32 per cent of partnered households hold some form of debt compared to only 24 per cent of non-partnered female and 21 per cent of non-partnered male households. All household types hold more asset debt than expense debt (but again, the fraction of households with this type of debt in each category is small). With respect to asset debt, 7 per cent of partnered households and 5 per cent of non-partnered female households hold a business loan. A slightly larger share of non-partnered female households borrows for consumer durables than non-partnered male and partnered households. In Karnataka, non-partnered male and partnered households have similar borrowing behaviour: 69 per cent of partnered households and 59 per cent of non-partnered male households have debt compared to 43 per cent of non-partnered female households. Interestingly, a greater fraction of both non-partnered female and male households hold expense debt than asset debt when compared to partnered households, where the proportions holding asset and expense debt are similar.

The mean amounts of debt held by each type of household (Table 5) follow a similar pattern to the incidence results discussed above, albeit with some small differences. Non-partnered male households in Ghana have greater mean total debt than non-partnered female households but less mean debt than partnered households; this pattern holds for asset debt as well. In Ecuador, non-partnered female households have about the same total mean debt but greater mean asset debt than non-partnered male households, although less mean total and asset debt than partnered households. In Karnataka, non-partnered male households have greater mean total debt than all other household types; the mean asset debt of partnered and non-partnered male households is similar. Non-partnered female households show the lowest amount of debt in all categories.

TABLE 5.

Mean amount of household debt outstanding by household type and purpose (US$ 2010 PPP)

Purpose		Household type			Total
Non-partnered males		Non-partnered females	Partnered		
Ecuador					
Asset debt	Mean	1,765	2,065	3,638	3,290
	Positive n	41	163	754	958
Expense debt	Mean	830	642	875	825

Purpose		Household type			Total
Non-partnered males		Non-partnered females	Partnered		
	Positive n	22	113	405	540
Unallocated debt	Mean	NA	430	1,779	1,330
	Positive n	0	7	14	21
Any debt	Mean	1,536	1,544	3,055	2,689
	Positive n	59	267	1,022	1,348
Mean household size		**2.5**	**3.6**	**4.5**	**4.2**
Ghana					
Asset debt	Mean	557	391	1,067	810
	Positive n	42	109	216	367
Expense debt	Mean	341	177	402	325
	Positive n	41	71	127	239
Unallocated debt	Mean	NA	83	705	549
	Positive n	0	1	3	4
Purpose unknown	Mean	102	650	384	423
	Positive n	4	7	8	19
Any debt	Mean	450	331	881	650
	Positive n	84	180	320	586
Mean household size		*1.6*	*2.7*	*5.3*	*3.7*
Karnataka					
Asset debt	Mean	8,660	4,388	8,667	8,204
	Positive n	70	133	1028	1,231
Expense debt	Mean	6,367	3,777	6,502	6,099
	Positive n	66	157	861	1,084
Unallocated debt	Mean	12,704	3,345	7,964	7,765
	Positive n	10	24	285	319
Purpose unknown	Mean	14,584	7,728	12,305	12,028
	Positive n	80	106	908	1,094
Any debt	Mean	14,685	6,388	12,810	12,138
	Positive n	158	325	2,182	2,665
Mean household size		**3.8**	**3.4**	**5.1**	**4.7**

As expected, the mean size of partnered households exceeds that of non-partnered households in all three countries. In Ecuador, total mean per capita debt in partnered households also exceeds that of non-partnered households. In Ghana and Karnataka, total mean per capita debt is greater in non-partnered male households than in the other types, perhaps because of their very small size or large differences in mean debt amounts.

We also examined the incidence of the different kinds of debt and household type by quintile (Appendix Table A9). For Ecuador, the incidence of any debt follows the expected pattern by quintile, with a greater share of richer households than poorer ones holding some form of debt, irrespective of whether the households are characterized as that of a non-partnered woman or man or partnered couples, although the relation is not always perfectly linear. This is the case for Karnataka as well, although non-partnered male households are differentiated by the high incidence of any debt among the top 80 per cent of these households in comparison to the bottom 20 per cent. In Ghana, the highest incidence of any debt is reported by non-partnered female households in the second and third quintiles.

Our primary interest in examining the incidence of debt by household type and quintile is to ascertain whether poorer households with non-partnered women are more likely to have expense debt than those with non-partnered men. This hypothesis is supported for Ecuador for both quintiles 1 and 2, although the highest incidence of debt is found among partnered households in these quintiles. It is not supported by the evidence for Ghana or, particularly, Karnataka. While non-partnered female households in quintile 1 in Ghana have a slightly higher incidence of expense debt than their male counterparts, this tendency is reversed in quintile 2. In Karnataka, non-partnered male households have only a slightly higher incidence of expense debt in quintile 1, but a much higher incidence than non-partnered female households in quintile 2.

In sum, the analysis by household type reveals, across countries, that partnered households are more likely than those with non-partnered women or men as the principal adult to hold any debt and to have greater amounts of debt on average. In Ecuador and Ghana, female non-partnered households are more likely than male non-partnered households to hold any debt, whereas the opposite is the case in Karnataka. Nonetheless, in all three sites, the mean amount of any outstanding debt is greater for male non-partnered households, though only notably so in Karnataka.

5.2 Individual level debt[26]

Moving to the individual level gives a different picture than the profile of debt at the household level. As Table 6 shows, in all three countries, more men than women hold debt for any purpose: 44 per cent compared to 35 per cent in Ecuador, 61 per cent compared to 34 per cent in Karnataka and 21 per cent compared to 19 per cent in Ghana. These differences are only statistically significant in Ecuador and Karnataka. The pattern also holds for asset and expense debt, with the exception of Ghana, where slightly more women hold asset debt than men (although the difference is not statistically significant).[27]

TABLE 6.

Percentage of respondents with debt by purpose of loan and sex

Purpose		Ecuador			Ghana				Karnataka	
		Men	Women	Total	Men	Women	Total	Men	Women	Total
Asset debt	%	32.7	24.1	27.8	11.8	12.2	12.1	23.2	14.1	19.6
	n	657	640	1,297	175	219	394	733	512	1,254
Expense debt	%	15.8	13.9	14.7	9.3	7.1	8	26.5	18.2	21.7
	n	317	370	687	138	127	265	761	580	1,341
Purpose unknown	%	0.5	0.6	0.6	0.6	0.7	0.6	25.4	5.2	14.8
	n	10	16	26	10	11	21	863	196	1,059
Any debt	%	44.3	34.7	38.8	20.9	18.9	19.9	60.8	33.6	46.5
	n	892	921	1813	310	338	648	2,064	1,272	3,336
Total n		2,012	2,656	4,668	1,481	1,790	3,271	3,393	3,789	7,182

Notes: * p < .10; ** p < .05; *** p < .01

Similarly, the mean amount of total debt held by men is greater than the mean amount held by women; in Ecuador, the mean amount of female debt is about 75 per cent of male debt, while in Karnataka mean female debt is only about 40 per cent of mean male debt. In the case of Ghana, mean female debt is 38 per cent of the mean debt for males (Table 7).

Similarly, the mean asset debt held by men is greater than for women, and the gender differences in mean debt and mean asset debt are statistically significant in all three countries.28 Men also hold a greater mean amount of expense debt in all three countries, although the difference is not statistically significant in Ecuador.

TABLE 7.

Mean amount of respondent debt by purpose of loan and sex (US$2010 PPP)a

Purpose		Ecuador			Ghana			Karnataka		
		Men	Women	Total	Men	Women	Total	Men	Women	Total
Asset debt	Mean	2,641	2,047	2,349	1,198	433	759	3,691	1,600	2,938
	Positive n	644	622	1,266	166	218	384	733	413	1,146
Expense debt	Mean	732	604	663	436	177	309	2,449	1,440	2,024
	Positive n	306	352	658	128	123	251	669	488	1,157

Purpose		Ecuador			Ghana			Karnataka		
Unallocated debt	Mean	2,017	581	1,098	566	355	439	3,543	1,711	2,925
	Positive n	9	16	25	2	3	5	175	89	264
Purpose unknown	Mean	NA	NA	NA	374	458	423	6,356	3,742	5,815
	Positive n	0	0	0	8	11	19	570	149	719
Any debt	Mean	2,198	1,636	1,912	880	335	589	5,183	2,089	4,039
	Positive n	884	914	1,798	294	338	632	2,223	1,303	3,526
Total n		2,012	2,656	4,668	1,481	1,790	3,271	3,660	4,170	7,830

Notes:
a Includes respondents who answered the debt module but for whom some values of debt may be missing.
* p < .10; ** p < .05; *** p < .01

5.2.1
Who is responsible for debt repayment?

Studies of borrowing rarely consider who is responsible for the repayment of a loan. Loans can be taken out by women individually, men individually, by the couple or by a woman and/or a man with others besides their partner (e.g., a father and son, a woman and her sister or the couple with someone else). Table 8 reports who is responsible for the loan by its purpose (asset versus expense).

TABLE 8.

Who is responsible for the loan by purpose and amount outstanding (US$ 2010 PPP)

Purpose Man alone	Who is responsible				Total
	Woman alone	Couple	Joint others		
ECUADOR					
Asset loans					
Total # loans	467	366	344	51	1,228
% loans	38.0	29.8	28.0	4.2	100
Mean	2,198	1,464	4,168	3,487	2,583
Positive n	462	364	340	51	1,217
Expense loans					
Total # loans	214	251	117	11	593

Purpose Man alone	Who is responsible				Total
	Woman alone	Couple	Joint others		
% loans	36.1	42.3	19.7	1.9	100
Mean	757	626	898	973	733
Positive n	213	249	115	11	588
Unallocated					
Total # loans	8	12	8	3	31
% loans	25.8	38.7	25.8	9.7	100
Mean	3,809	431	2,213	317	1,683
Positive n	7	12	8	3	30
GHANA					
Asset loans					
Total # loans	194	244	11	8	457
% loans	42.5	53.4	2.4	1.8	100
Mean	1,073	312	1,135	605	654
Positive n	183	239	11	8	441
Expense loans					
Total # loans	145	133	10	15	303
% loans	47.9	43.9	3.3	4.9	100
Mean	365	158	178	374	265
Positive n	136	133	10	14	293
Unallocated					
Total # loans	4	4	0	0	8
% loans	47.9	43.9	0.0	0.0	100
Mean	378	266	0	0	314
Positive n	3	4	0	0	7
Purpose unknown					
Total # loans	8	10	0	0	18

Purpose Man alone	Who is responsible				Total
	Woman alone	Couple	Joint others		
% loans	44.4	49.6	0.0	0.0	100
Mean	373	165	0	0	251
Positive n	7	10	0	0	17
KARNATAKA					
Asset loans					
Total # loans	937	224	389	158	1708
% loans	54.9	13.1	22.8	9.3	100
Mean	3,455	2,125	2,025	4,163	3,019
Positive n	926	219	388	155	1,688
Expense loans					
Total # loans	696	226	434	141	1497
% loans	46.5	15.1	29.0	9.4	100
Mean	2,031	1,298	2,287	4,282	2,206
Positive n	696	226	430	141	1,493
Unallocated					
Total # loans	244	34	96	41	415
% loans	58.8	8.2	23.1	9.9	100
Mean	3,201	942	2,552	3,911	2,935
Positive n	243	34	96	41	414
Purpose unknown					
Total # loans	1,056	193	46	159	1,454
% loans	72.6	13.3	3.2	10.9	100
Mean	4,875	4,345	2,287	4,713	4,709
Positive n	1,040	185	44	150	1,419

Some interesting observations emerge from this table. First, in Ecuador, men alone are responsible for 38 per cent of all asset loans, compared to women alone who are responsible for 30 per cent and couples together who are responsible for 28 per cent. However, in value terms, couples and joint others who are responsible

for the loan have a greater mean asset debt burden ($4,168 and $3,487, respectively) than either females or males who do so alone. In Ghana, women alone hold 53 per cent of asset loans, compared to 43 per cent for men alone and 2 per cent for couples. Similar to Ecuador, however, couples have a greater mean burden of asset debt than either males or females alone ($1,135 versus $1,073 for men and $312 for women). The pattern is quite different in Karnataka, where men alone hold 55 per cent of asset loans (with a greater mean amount outstanding), compared to women who hold 13 per cent and couples who hold 23 per cent (with similar mean amounts outstanding to women).

An analysis of expense loans reveals some different patterns. In Ecuador, women alone hold 42 per cent of expense loans, while men alone hold 36 per cent and couples hold 20 per cent. The mean outstanding amount of couples' expense loans ($898) is greater, however, than the mean outstanding amount of expense loans held by males alone ($757) and females alone ($626). In Ghana, men alone are responsible for 48 per cent of expense loans compared to women alone, who are responsible for 44 per cent, followed by joint others who have 5 per cent. Yet, joint others have the largest mean expense loans ($374), followed by males alone ($365) and females alone ($158). In Karnataka, the pattern of expense loans is different: men alone and couples hold the majority (47 per cent and 29 per cent, respectively) followed by women alone and joint others (15 per cent and 9 per cent, respectively). The amount of mean debt outstanding is greatest for joint others, followed by couples and males alone.

5.2.2 Sources of loans

Table 9 shows the distribution of the source of the loans to the women, men and couples in our sample. One clear factor differentiates Ecuador from Ghana and Karnataka, where the overwhelming share of loans is from informal sources (87 and 85 per cent, respectively). By contrast, in Ecuador this source makes up less than one third of the loans. Common to the three countries is that among informal sources, family and friends are crucially important.

TABLE 9.

Distribution of source of loan by who is responsible for the loan (%)

Source	Who is responsible				Total
	Man alone	Woman alone	Couple	Joint others	
ECUADOR					
State bank	13.0	8.0	6.6	14.0	9.7
Private bank	13.2	10.6	23.8	16.0	15.1
Cooperative/CU	10.5	11.1	21.2	16.0	13.6
Other private/NGO	1.8	6.0	2.9	10.0	3.7

Source	Who is responsible				Total
	Man alone	Woman alone	Couple	Joint others	
Business/storea	26.9	26.3	20.1	30.0	25.1
Credit card	5.0	4.4	1.8	0.0	3.9
Sub-total formal	**70.4**	**66.4**	**76.4**	**86.0**	**71.1**
Informal group	0.3	2.3	1.5	0.0	1.3
Moneylender	4.0	4.6	3.3	4.0	4.0
Employer	3.4	1.0	0.9	0.0	1.8
Friend	12.4	12.4	6.8	8.0	10.9
Family	8.3	12.7	10.8	2.0	10.3
Other	1.2	0.5	0.2	0.0	0.7
Sub-total informal	**29.6**	**33.5**	**23.5**	**14.0**	**29.0**
Total	**100**	**100**	**100**	**100**	**100**
n	676	612	453	50	1,791
GHANA					
Bankb	9.0	5.8	14.3	12.0	7.7
Cooperative/CU	1.9	2.0	0.0	0.0	1.8
Other private/NGO	1.2	0.3	0.0	0.0	0.7
Microfinancec	2.2	2.3	9.5	4.0	2.5
Sub-total formal	**14.3**	**10.4**	**23.8**	**16.0**	**12.7**
Informal group	0.6	0.9	0.0	0.0	0.7
Moneylender	1.2	1.7	0.0	0.0	1.4
Employer	1.5	1.5	0.0	4.0	1.5
Shopa	7.4	14.5	14.3	4.0	10.9
Friend	63.0	57.8	47.6	40.0	59.2
Family	11.4	13.0	14.3	36.0	13.1
Other	0.6	0.3	0.0	0.0	0.4
Sub-total informal	**85.7**	**89.7**	**76.2**	**84.0**	**87.2**

Source	Who is responsible				Total
	Man alone	Woman alone	Couple	Joint others	
Total	**100**	**100**	**100**	**100**	**100**
n	324	346	21	25	716
KARNATAKA					
State bank	7.0	3.3	6.9	7.7	6.5
Private bank	2.7	1.8	3.4	2.7	2.8
Cooperative	1.4	0.9	0.6	1.4	1.1
Other private/NGO	2.1	12.7	6.2	4.9	5.0
Sub-total formal	13.2	18.7	17.1	16.7	15.4
Informal group	5.2	28.5	18.2	10.4	12.4
Moneylender	24.9	10.9	18.9	28.1	21.6
Employer	8.7	11.5	7.8	6.8	8.7
Shopa	1.8	1.2	0.8	1.8	1.4
Friend	34.0	17.6	20.4	19.0	26.7
Family	12.0	11.5	16.8	17.2	13.7
Other	0.2	0.0	0.0	0.0	0.1
Sub-total informal	**86.8**	**81.2**	**82.9**	**83.3**	**84.6**
Total	**100**	**100**	**100**	**100**	**100**
n	1,094	330	529	221	2,174

Notes: Percentages may not add up due to rounding.

a For Ecuador, business and store credit is classified as formal since it consists primarily of instalment credit for appliance and vehicle purchases as well as direct financing of dwellings by developers. For Ghana and Karnataka, shop credit is overwhelmingly informal credit granted by small entrepreneurs.

b Ghana did not distinguish between public and private banks.

c Microfinance is only reported separately for Ghana. In Ecuador, it is offered by private banks, S&L cooperatives and credit unions, as well as other private institutions such as NGOs. For Karnataka, microfinance has been allocated as appropriate to the formal (other private/NGOs) and informal sector (informal credit groups, in the case of self-help groups).

The main source of loans in Ecuador is business/store credit (25 per cent), provided primarily by department stores for the purchase of consumer durables or vehicle dealerships on instalments.29 This is followed by loans from private banks, S&L cooperatives (or credit unions), friends and then family members.30 In Ghana, loans by friends predominate (59 per cent), followed by those from family members, shops and private banks. In Karnataka, friends are also the most common source of loans (27 per cent), though these are followed in frequency by moneylenders, then family members and finally informal credit groups.

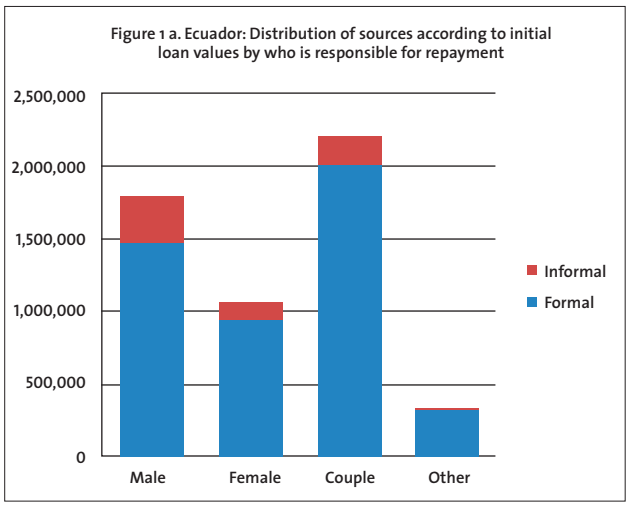
In Ecuador, the main source of loans varies by who in the household holds the debt; business/store credit is the primary source for women and men who hold loans alone, while couples borrow more frequently from private banks and S&L cooperatives than from other sources. After store credit, men turn to state and private banks followed by friends, whereas women turn to family and friends followed by S&L cooperatives and private banks. In Ghana, the main source of loans for all borrowers is similar: friends followed by family members. Banks are a less regular source of finance for couples, joint others and males alone; couples and women alone also use shop credit relatively frequently. In Karnataka, men alone rely on friends and then on moneylenders and family. Friends are also the most important source for couples, with informal credit groups and moneylenders being almost equally important. Women alone rely largely on informal credit groups, followed by friends and NGOs. Joint others use moneylenders, followed by friends and family.

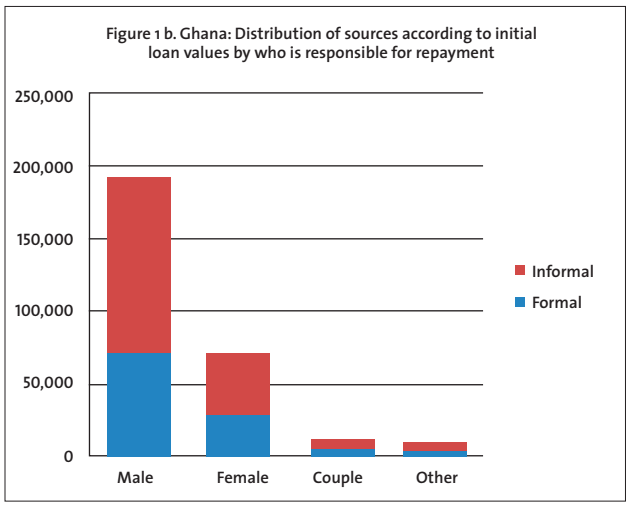
In light of the popularity of microfinance and the attention to it in the literature, it is noteworthy that microfinance institutions are not the main source of debt for respondents in any of the three countries, with the exception of women and to a lesser extent couples in Karnataka. In this state, microfinance has been allocated as appropriate to the formal (other private/NGOs) and informal sector (informal credit groups, in the case of self-help groups). These informal credit groups are more important here than formal microfinance programmes and relatively more important than in the other two countries. Nonetheless, overall, these informal microfinance groups are less important than other informal sources such as friends and moneylenders. For Ecuador, microfinance is included in the category of other private/NGO and also encompasses most of the lending by S&L cooperatives and credit unions. If these are summed together in Table 9, microfinance would constitute around 17 per cent of the outstanding loans reported. In addition, however, many private banks now have microfinance programmes, so the reach of microfinance is certainly greater than this figure (though still less in scope than consumer credit provided directly by businesses and stores).

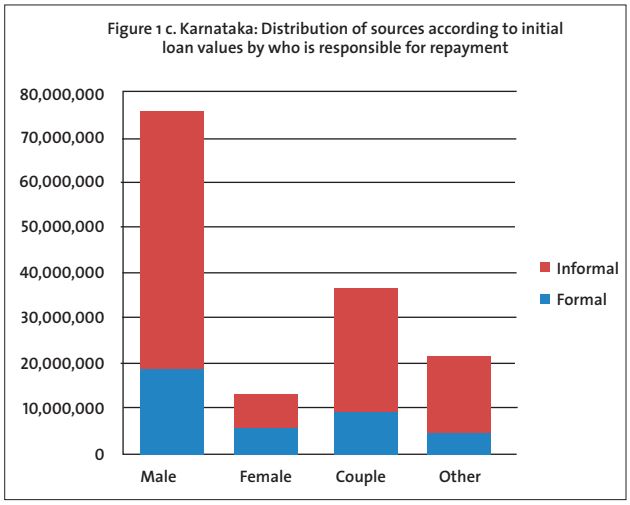
Two factors distinguish Ecuador from Ghana and Karnataka: the prevalence of consumer debt through business/store credit and the recent growth of credit card debt. Although credit card debt is not yet widespread in Ecuador (representing only 4 per cent of the source of debts, Table 9), in Ghana and Karnataka it was not reported sufficiently to be included as a source.31

Formal consumer credit facilities in Ghana (referred to as 'hire purchases') are becoming more common for the purchase of appliances and electronics; however, these types of loans are usually provided by microfinance institutions or leasing companies and not stores per se, hence are not revealed in Table 9. It is primarily salaried workers, a relatively small share of the population, who can avail themselves of these facilities. In Karnataka, formal consumer non-bank credit is still not very common, reflecting the fact that modern retail represents a very low share of total retail trade in India, an estimated 7 per cent in 2011 (Booz & Company 2013).

Figure 1 provides a sense of the relative importance of the volume of credit from these different sources, considering the initial value of these loans. As expected, in all three countries the formal sector makes up a larger share of the total value than the total share of loans, i.e., the mean size of loans is greater in the formal sector.







What stands out—and is new in this analysis—is how the relative importance of formal sector loans is magnified for female borrowers in all three countries when considering the total value of loans versus the share of loans. In Ecuador, the formal sector constitutes 88 per cent of the value of total loans for which women are responsible yet represents only 66 per cent of their total loans; the figures for Ghana and India are 39 vs. 10 per cent and 42 vs. 17 per cent, respectively. Thus, by value, banks in Ghana represent 25 per cent of the total value of loans for which women are responsible and are the second most important source of financing to women alone, after friends. In Karnataka, state banks granted 27 per cent of the total value of women's loans and now appear as the leading source of loans to them. For Ecuador, in contrast, it is private banks that now appear as the leading source of loans to women alone, displacing store credit in the ranking.

In all three countries, once the value of loans is considered, the informal sector appears to be relatively more important to men who are solely responsible for loans than to their female counterparts, but for different reasons. In Ecuador this is partly because of the reliance of men on informal loans from employers, a source to which women have less ready access. In Ghana, men seem to rely on shop credit and friends. In Karnataka men rely more heavily on moneylenders, the traditional source of finance.

5.2.3.
Who decides to borrow?

A question that is rarely addressed in quantitative surveys is the decision-making process behind taking out a loan. In several qualitative evaluations of microfinance projects (especially in South Asia), women have reported that their husband pushed them to take out a loan for his use because he himself could not borrow (Goetz and Sen Gupta 1996; Kabeer 2001).

Table 10 presents data for the three countries on who decided to borrow by who is responsible for the loan. In Ecuador and Ghana, loans for which a woman alone is responsible are much more likely to have been decided upon by the woman alone than loans for which a man alone is responsible. This suggests that in these two countries men are more likely than women to decide jointly with someone else to take out their individual loan. This could be because women who have loans in their own names are more likely non-partnered females, compared to men who have loans in their own names who are more likely to be part of a couple.

TABLE 10.
Who decided to take out the loans by who is responsible for its repayment (%)

	Person(s) responsible made the decision to take the loan			
	Man alone	Woman alone	Joint couple	Other
Ecuador	65.8	83.2	92.5	62.0
Ghana	79.3	86.4	76.2	12.0
Karnataka	54.1	53.4	91.4	82.5

Karnataka shows a contrasting pattern, with a much lower share of loans where the individual responsible made the decision alone to take out the loan. In other words, here there appears to be more joint decision-making on individual loans, irrespective of whether a woman or a man is responsible for its repayment. Karnataka also has the lowest share of non-partnered female households among the three countries, with the great majority of both women and men being part of a couple.

We also examined decision-making on loans for which couples are responsible and find that the decision to take out the loan was made by the woman and man together in the majority of cases in all three countries (Table 10). Ghana reports the lowest share of joint decision-making on these joint loans; where the decision was made by just one person, it was more likely to have been the man (14.3 per cent) than the woman (4.8 per cent) alone (these latter results are not shown). Similarly, in Karnataka, the share of these joint loans where the decision was made by the man (5.4 per cent) exceeds those made by the woman (2.6 per cent) alone. In Ecuador, we find just the opposite trend. In the few cases where the couple together did not make the decision, it was slightly more likely that the decision was made by the woman alone (3.5 per cent) than the man alone (2.9 per cent).

Joint loans with others represent a relatively small share of total loans in all three countries. An example of this type of loan is one co-signed by a parent for an adult child. If the parent put up the collateral (making him/her co-responsible for repayment), but was not a party to the initial decision to take out the loan, this would be reported in the table as not having participated in the decision. This type of situation appears

to be particularly common in Ghana, where in a large majority of the joint loans taken out with others the respondent reported not participating in the decision to take out the loan.

Overall, we find scant evidence to support the argument in the literature, usually made with respect to South Asia, that women are not involved in the decisions to take out the loans for which they are responsible. In Karnataka, in the case of the loans for which women alone are responsible, if these women did not decide on the loan alone, they did so jointly with their husbands; in only 1.3 per cent of the cases did they not participate at all in the decision. The comparable figure for men is 0.5 per cent. In fact, such a situation is slightly more common in Ecuador, albeit only in 2.1 per cent of women's loans and 2.7 per cent of men's loans.32

5.3
Debt-to-wealth ratios

We now turn to the debt-to-wealth ratios of women and men. Analysts have pointed out that debt has a bright side when it allows individuals or households to smooth consumption and a dark side when they carry too much debt relative to their income or assets, the usual definitions of over-indebtedness (Campbell and Mankiw 1991; Jappelli 1990).33 Some analysts are also concerned that women might face greater debt burdens than men relative to their income or wealth.

As noted earlier, our surveys did not collect income data, thus Table 11 presents the debt-to-wealth ratio by sex in the three countries. In each country, the aggregate debt-to-wealth ratio (where wealth includes the value of gross physical and financial assets) is lower than 0.15, suggesting that, in the aggregate, over-indebtedness is not a problem. The female-male differences in the aggregate ratios are not substantial in any of the countries.

TABLE 11.

Debt-to-wealth ratios by sex

Sex	Aggregate debt/ wealth ratio[a]	Mean debt/ wealth ratio[b]	n	*pc*
Ecuador				
Men	0.06	1.15	880	0.380
Women	0.05	0.73	913	
Total	0.06	0.94	1,793	
Ghana				
Men	0.01	0.66	293	0.298
Women	0.01	0.41	332	
Total	0.01	0.53	623	

Sex	Aggregate debt/ wealth ratio[a]	Mean debt/ wealth ratio[b]	n	*pc*
Karnataka				
Men	0.15	5.96	2,148	0.260
Women	0.14	9.18	1,256	
Total	0.15	7.15	3,404	

Notes:
a Defined as total debt/total wealth across sample of respondents.
b Average of individual debt-to-wealth ratios conditional on having debt and positive wealth.
c Based on regression such that *y* = individual debt/wealth and *x* = sex, standard errors adjusted for clustering within households.

The second column presents the mean debt-to-wealth ratios, conditional on having debt and positive wealth. Considering the average of the individual debt-to-wealth ratios, the three countries present quite contrasting situations, with the estimates for Karnataka being much greater than in the other two countries and women's debt-to-wealth ratio exceeding that of men. Nonetheless, in none of the three countries are the gender differences statistically significant.

Table 12 presents the mean debt-to-wealth ratios by quintiles. A consistent pattern emerges across the three countries: debt-to-wealth ratios are highest in the poorest wealth quintile and lowest in the wealthiest quintile. In addition, in all three countries the greatest debt burden is found among men in quintile 1.

TABLE 12.
Mean debt-to-wealth ratios by sex and quintile

Sex	Quintile				
	Q1	Q2	Q3	Q4	Q5
Ecuador					
Men	5.40	0.75	0.83	0.25	0.18
Women	2.09	0.70	0.56	0.41	0.16
Total	**3.49**	**0.73**	**0.69**	**0.33**	**0.17**
Ghana					
Men	5.19	0.34	0.23	0.17	0.06
Women	0.89	0.59	0.36	0.19	0.12
Total	**2.36**	**0.47**	**0.31**	**0.18**	**0.08**

Karnataka					
Men	17.5	3.84	1.1	1.37	0.63
Women	6.09	4.02	2.5	2.21	0.69
Total	**10.64**	**3.94**	**1.82**	**1.8**	**0.66**

Note: See Table 11 for totals and n's.

Table 13 presents the distribution of debt-to-wealth ratios by sex, including those who have no debt. It gives a somewhat fuller picture of debt burdens, since women are over-represented among those with no debt. In all three countries the gender differences are statistically significant. In Ecuador and Karnataka, women are less likely to have debt and men are more likely to be over-represented among those with the greatest debt/wealth ratios. Ghana appears as the anomaly.

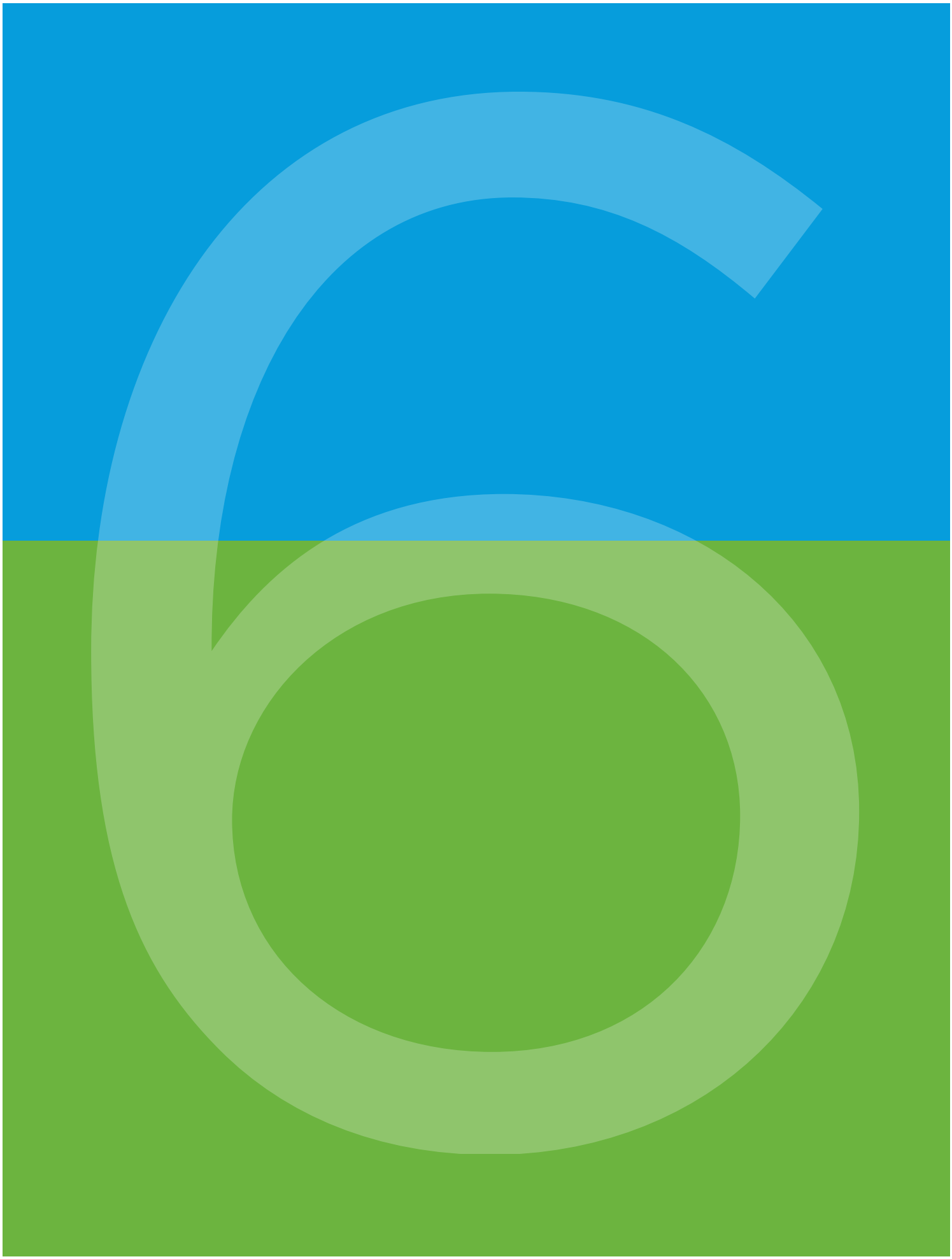
TABLE 13.
Distribution of debt-to-wealth ratios by sex

Sex	Interval				Total	n	*pa*
	No debt	<0.09	0.09-0.29	Above .29			
Ecuador							
Men	55.9	17.1	12.4	14.6	100	1,996	
Women	65.5	15.9	9.2	9.4	100	2,647	
Total	**61.4**	**16.4**	**10.6**	**11.7**	**100**	**4,643**	**0.000**
Ghana							
Men	79.9	12.7	3.3	4.1	100	1,464	
Women	81.5	9.9	3.7	4.8	100	1,782	
Total	**80.8**	**11.2**	**3.5**	**4.5**	**100**	**3,246**	**0.057**
Karnataka							
Men	35.4	19.3	16.6	28.7	100	3,322	
Women	66.5	4.9	5.0	23.6	100	3,753	
Total	**51.9**	**11.7**	**10.4**	**26.0**	**100**	**7,075**	**0.000**

Notes: Estimates exclude those individuals reporting no wealth. Such cases represent less than 1% of the sample in Ecuador and Karnataka and 2.1% of the sample in Ghana.
a Since observations are not always independent, based on the Chi-sq. for the logit regression.

Finally, in concluding this section, it is worth noting that group membership differs notably in the three countries and often by gender. Men and women in Ghana are far more likely to participate in at least one social group (62 and 57 per cent, respectively) than they are in Ecuador (18 and 25 per cent) or Karnataka (36 and 14 per cent) (Appendix Table A11).

In Ecuador and Ghana, the great majority of groups that women belong to are religious groups, which would be unrelated directly to the ability to acquire a loan. In contrast, in Karnataka most women who are group members are in either formal or informal microfinance groups. Men in Karnataka tend to be members of a broad array of other groups and are about as likely to belong to a self-help group (organized around a watershed, water supply and sanitation, etc.) as a microfinance group. In Ecuador, men also belong to different groups than women, with unions and sports associations the most frequent, followed by religious groups. Only in Ghana is the most frequent type of group men belong to similar to that of women: religious groups, followed by neighbourhood organizations.



6.

REGRESSION RESULTS

We now turn to a regression analysis of three questions: Which women and men borrow? What are the characteristics of women who borrow from formal sources compared to those who borrow only from informal sources and those who do not borrow? And what are the correlates of having current asset debt for women and for men?

We are particularly interested in the relationship between the use of credit and asset ownership. In line with the descriptive analysis presented in section 5, we hypothesize that individuals in wealthier households and those who are partnered are more likely to borrow. However, holding all else equal, we also expect a woman's individual ownership of assets to be associated with her ability to borrow and accrue debt. This is because a household's wealth status may not be sufficient for a woman to borrow; it may depend on her having assets of her own that can serve as collateral and/or assure the lender of her ability to repay the loan. With respect to the second question, we hypothesize that being an asset owner helps women access formal sources of credit, controlling for other factors that also likely influence borrowing from formal versus informal sources. Assets are an important source of collateral, which is demanded by most formal sources of credit. Finally, with respect to question three, we expect that men are more likely than women to borrow for asset accumulation.

In addition to asset ownership and household wealth, we are also interested in the role that social networks play in individuals having debt. We measure social networks by whether an individual is a member of any kind of group. We would expect group members to have broader sources of information about loan opportunities and how these are acquired.

In line with previous literature, we employ logistic regression analysis to answer our questions.34 Each of the regressions includes controls for individual and household level characteristics. Education is measured by less than primary, completed primary, some secondary or completed secondary, or beyond secondary (with no education as the base—except for Ecuador where, given the higher level of schooling attainment, the base is not having completed primary). Individuals with higher levels of education are expected to have greater debt and be more likely to borrow from formal financial sources. We also control for age and include a squared term to account for non-linearity. While age is expected to have a positive relationship with outstanding debt, the relationship may be non-linear, turning negative at older ages when individuals no longer engage in paid employment or because debts are more likely to have already been paid off. The regressions also include controls for employment status (being self-employed or employer, various types of wage workers and unpaid, contributing family worker, with the base being not economically active). Being an employer or self-employed or being in wage work are expected to be positively associated with debt relative to being unemployed. Marital status is represented by being never married (single) or previously married (separated, divorced, widowed) and being in a consensual union, with currently married as the base. Marital status, such as being married, might increase the probability of having debt because it implies greater household financial obligations; it may also increase the individual's capacity to carry debt if there are two income earners within the household or due to economies of scale with respect to household expenses. Depending on the country, we include variables relating to ethnicity, race, caste and religion, as appropriate.

In terms of household level variables, a dummy is included for urban residence. Geographic barriers

may exist for formal credit sources (e.g., rural areas may have fewer bank branches than urban areas) but may be less prevalent for informal sources of credit. We also control for household size and, as noted above, for the household wealth quintile, measured in terms of the gross value of physical and financial assets. The descriptive statistics are presented in Appendix Table A11.

6.1
Correlates of who borrows

We first estimate the correlates of holding any debt (irrespective of source or purpose) for women and men respectively. We estimate a binary logit model since the dependent variable is binary in nature (has a loan or does not). The regression is estimated separately for women and men as the impact of the variables of interest on having any debt is likely to differ by sex. Given our interest in understanding the effect of household wealth, individual asset ownership and group membership on borrowing, we undertake a stepwise regression whereby the key variables of interest are introduced sequentially. Each additional variable improves model fit (as suggested by the Pseudo R-squared) for both the women's and men's models across countries.35 The models are largely robust to the inclusion of new variables since the coefficient estimates are relatively stable and the results are qualitatively similar to the full model. Tables 14a and b present the results of the full model.36 The first two columns under each country report the average marginal effects while the third column notes the level of significance.37 The Wald test indicates that each of the regressions is significant overall.

TABLE 14A.
Correlates of female debt

Variable	Ecuador			Ghana			Karnataka		
	Marginal effect	Std. error	Sig.	Marginal effect	Std. error	Sig.	Marginal effect	Std. error	Sig.
Age (mean centred)	-0.004	0.001	***	0.001	0.001	**	0.000	0.001	
Age squared (mean centred)	NA	NA		NA	NA		NA	NA	
Some primary	NA	NA		0.023	0.030		0.032	0.049	
Completed primary	0.058	0.026	**	0.022	0.029		-0.005	0.019	
Some or completed secondary	0.090	0.028	***	0.011	0.025		-0.045	0.024	*
Beyond secondary	0.095	0.037	**	0.062	0.041		-0.067	0.030	**
Koranic/ special education	NA	NA		0.003	0.114		NA	NA	
Consensual union	-0.057	0.022	***	0.114	0.033	***	NA	NA	
Never married	-0.067	0.043		0.180	0.050	***	NA	NA	

Variable	Ecuador			Ghana			Karnataka		
	Marginal effect	Std. error	Sig.	Marginal effect	Std. error	Sig.	Marginal effect	Std. error	Sig.
Widowed/ divorced/ separated	0.039	0.025		0.034	0.025		NA	NA	
Currently single	NA	NA		NA	NA		-0.032	0.023	
Self-employed/ employer	0.172	0.022	***	0.04	0.027		0.122	0.040	***
Wage worker	NA	NA		-0.05	0.043		0.054	0.020	***
Public wage worker	0.198	0.052	***	NA	NA		NA	NA	
Private wage worker	0.142	0.026	***	NA	NA		NA	NA	
Casual/ domestic	NA	NA		0.023	0.07		0.138	0.034	***
Unpaid family worker	0.008	0.036		-0.012	0.039		0.025	0.024	
Urban	-0.007	0.021		0.038	0.021	*	-0.025	0.018	
Indigenous	0.057	0.042		NA	NA		NA	NA	
Afro-descendant	0.127	0.045	***	NA	NA		NA	NA	
Muslim	NA	NA		NA	NA		0.029	0.037	
Christian	NA	NA		NA	NA		0.030	0.045	
Forward caste	NA	NA		NA	NA		-0.025	0.035	
Backward caste	NA	NA		NA	NA		-0.017	0.019	
Group member	0.102	0.024	***	0.064	0.019	***	0.219	0.017	***
Asset owner	0.032	0.022		0.066	0.023	***	0.197	0.022	***
Wealth Q2	-0.015	0.029		-0.041	0.032		-0.057	0.025	**
Wealth Q3	0.005	0.031		0.026	0.033		-0.052	0.025	**
Wealth Q4	0.020	0.032		-0.031	0.034		-0.030	0.026	
Wealth Q5	0.110	0.037	***	-0.077	0.034	***	-0.065	0.027	**
Household size	-0.001	0.005		0.005	0.004		0.006	0.003	*
n	2,656			1,774			3,750		
Wald chi-sq	248.6	***		100.3	***		387.37	***	
Degrees of freedom	22			22			23		
Pseudo R-sq	0.085			0.065			0.091		

Notes: * p < .10; ** p < .05; *** p < .01

As can be seen in Table 14a, women in all three countries are more likely to borrow if they are a member of a group. The marginal effect is largest in Karnataka (22 per cent), where group membership is generally linked to a formal or informal credit group. In Ghana and Karnataka, women who are asset owners are more likely to borrow relative to non-asset owners (for Ghana, 7 percentage points more, and for Karnataka, 20 percentage points more); in Ecuador this coefficient is not significant although positively signed. With respect to their household's socio-economic status, women in Ecuador in the wealthiest quintile are more likely to borrow compared to those in the poorest quintile, while those in the wealthiest quintile in Ghana are less likely to borrow than those in the poorest quintile. In Karnataka, those in the wealthiest quintile, along with those in quintiles 2 and 3, are less likely to borrow than those in quintile 1, reflecting the fact that group microfinance programmes have targeted the poorest women. Most of these programmes are located in rural areas, which is reflected in the negative sign on the coefficient for urban locale. In Ghana, in contrast, those residing in urban areas are more likely to borrow, while in Ecuador location has no significant effect.

In Karnataka, women who are in any occupational category except unpaid family worker are more likely to borrow compared to homemakers. Similarly in Ecuador, women who are self-employed or wage workers (whether public or private) are more likely to borrow than those who are not economically active. In Ghana, employment status is not significant, perhaps because women are more likely to be entrepreneurs.

The important role of education stands out in Ecuador. Women who have completed primary and any level above that are more likely to hold debt than those who have not completed the primary level. In Karnataka, women with some or completed secondary education are more likely to borrow than those with no education. In Ghana, however, schooling is not significant.

Although the marginal effects are small, in Ghana having any loan is positively associated with a woman's age compared to the average, in Ecuador it is negatively so associated, and in Karnataka it is not significant. In Ecuador, being in a consensual union is negatively associated with having any loan compared to being married. In Ghana, being in a consensual union or never having married are both positively associated with current indebtedness. In Karnataka, marital status does not impact on the likelihood of women having a loan. Of the country-specific variables, only for Ecuador is one worth noting: being an Afro-Ecuadorian woman as opposed to white or mestizo is positively associated with outstanding debt.

Table 14b reports the results for men.38 In terms of our variables of interest, the pattern across countries is even more diverse than for women. Being an asset owner increases the likelihood of having any loan in Ecuador and Karnataka, as does being a member of a group. In Ghana, however, these variables are not significant. In Ecuador and Ghana, men in households in the wealthiest quintile are more likely than men in households in the poorest quintile to have borrowed. In Karnataka, only those in quintile 2 are less likely than the poorest to have borrowed, a finding that also holds for Ghana.

TABLE 14B.

Correlates of male debt

Variable	Ecuador			Ghana			Karnataka		
	Marginal effect	Std. error	Sig.	Marginal effect	Std. error	Sig.	Marginal effect	Std. error	Sig.
Age (mean centred)	-0.007	0.001	***	-0.002	0.001	**	-0.002	0.001	***
Age squared (mean centred)	NA	NA		NA	NA		NA	NA	
Some primary	NA	NA		0.067	0.039	*	-0.017	0.052	
Completed primary	0.035	0.034		0.054	0.041		0.021	0.022	
Some or completed secondary	0.063	0.036	*	0.039	0.029		-0.007	0.026	
Beyond secondary	0.075	0.045	*	0.082	0.037	**	-0.023	0.029	***
Koranic/ special education	NA	NA		-0.011	0.105		NA	NA	
Consensual union	-0.080	0.025	***	0.056	0.034	*	NA	NA	
Never married	-0.235	0.062	***	-0.114	0.031	***	NA	NA	
Widowed/ divorced/ separated	-0.050	0.048		0.007	0.045		NA	NA	
Currently single	NA	NA					-0.100	0.033	***
Self-employed/ employer	-0.018	0.050		0.086	0.039	**	0.103	0.040	***
Wage worker				0.146	0.044	***	0.080	0.037	**
Public wage worker	0.103	0.063	*	NA	NA		NA	NA	
Private wage worker	-0.042	0.051		NA	NA		NA	NA	
Casual/ domestic	NA	NA		-0.025	0.069		0.197	0.035	***
Unpaid family worker	0.037	0.087		NA	NA		NA	NA	
Urban	0.038	0.025		-0.037	0.024		-0.135	0.021	***
Indigenous	0.030	0.047		NA	NA		NA	NA	
Afro-descendant	0.053	0.047		NA	NA		NA	NA	
Muslim	NA	NA		NA	NA		0.079	0.037	**
Christian	NA	NA		NA	NA		0.073	0.046	
Forward caste	NA	NA		NA	NA		-0.063	0.039	
Backward caste	NA	NA		NA	NA		-0.011	0.020	
Group member	0.105	0.025	***	-0.001	0.022		0.074	0.023	***
Asset owner	0.047	0.029	*	-0.050	0.027		0.125	0.025	***

Variable	Ecuador			Ghana			Karnataka		
	Marginal effect	Std. error	Sig.	Marginal effect	Std. error	Sig.	Marginal effect	Std. error	Sig.
Wealth Q2	0.038	0.035		-0.026	0.035	*	-0.062	0.031	**
Wealth Q3	0.068	0.038	*	0.020	0.037		0.003	0.032	
Wealth Q4	0.104	0.042	**	0.071	0.039		0.015	0.033	
Wealth Q5	0.160	0.046	***	0.063	0.042	*	0.075	0.035	**
Household size	0.007	0.006		-0.002	0.004		0.002	0.004	
n	2,012			1,454			3,308		
Wald chi-sq	181.23	***		87.40	***		321.33	***	
Degrees of freedom	22			21			22		
Pseudo R-sq	0.079			0.070			0.082		

Notes: * p < .10; ** p < .05; *** p < .01

In all three countries, at the average age of the sample the probability of having borrowed decreases. In Ecuador, men with some secondary education and above are more likely than those who have not completed primary to have outstanding debt. In Ghana, those with more than a secondary education as well as those with only some primary are more likely than those with no schooling to have borrowed, while the opposite is true for men who have some secondary schooling in Karnataka. Turning to marital status, never-married men in both Ecuador and Ghana and currently single men in Karnataka are less likely than married men to have outstanding debt. In Ecuador, men in a consensual union are also less likely to have borrowed.

In Ghana and Karnataka, men who are self-employed and those who are wage workers are more likely than those who are not economically active to have outstanding debt. In addition, in Karnataka, those who are casual workers are also more likely to have borrowed. In Ecuador, the coefficient for public wage workers is positive and weakly significant. In Karnataka, those who reside in urban areas are less likely than those in rural areas to have borrowed.

Turning to gender differences in our variables of interest, across the three countries women's borrowing is positively and significantly associated with group membership, while for men this results holds for only Ecuador and Karnataka. Being an asset owner is positively associated with having outstanding debt for both women and men in Karnataka, while in Ghana this result holds only for women and in Ecuador only for men.

Within each country there is sometimes more consistency, as well as interesting gender differences, in the control variables. In Ecuador, besides membership in a group, the correlates of women's and men's borrowing coincide: they are positively associated with belonging to the wealthiest quintile and negatively associated with living in a consensual union. The finding that the borrowing of both women and men is positively associated with their household's socio-economic status, in contrast to the other two countries, is largely explained by the much greater weight of both formal borrowing in Ecuador (Table 9) and its attendant need for collateral, and borrowing for asset accumulation (Table 2), each of which is more likely among those in wealthier households.

The most interesting gender differences for Ecuador are with respect to education and employment. Whereas completing any level of schooling is positively associated with women's borrowing, for men it is some secondary education and beyond secondary that is

positively so associated. Whereas being self-employed or a public or private wage worker is positively associated with women's borrowing, for men it is only being a public wage worker.

In the case of Ghana, the only similarity in the women's and men's regressions is the positive relationship between being in a consensual union or in the wealthiest quintile and borrowing. Among the main gender differences are the various levels of schooling that are associated with men's, but not women's, borrowing.

The results for Karnataka show the greatest similarity for women and men. As well as being a member of a group and an asset owner, most forms of employment are all positively related to borrowing for both sexes, while being currently single and an urban resident are negatively associated but significant only for men. An intriguing result is that, for women, being in a household in any quintile above the poorest group (except for quintile 4) is negatively associated with borrowing, while for men only being in a household in quintile 2 is so associated. The negative sign for women in the wealthiest quintile is possibly because the poorest quintile is dominated by single women, who are the default loan takers in their households, whereas in the higher quintiles there are other household members (men mostly) who are taking out the loans.

6.2
Outstanding formal versus informal debt

Are the characteristics of women who borrow from formal sources different than those who borrow from informal sources, relative to those who do not borrow? Given our concern with gender inequality, we are specifically interested in whether being an asset owner helps women access both formal and informal credit, controlling for other factors that are also likely to influence borrowing from formal versus informal sources. We estimate a multinomial logit model for women borrowers in the three countries since the outcomes of interest are partitioned into three mutually exclusive categories (borrowing from formal source, borrowing from informal source or not borrowing at all). The sources of debt discussed in section 5 are classified into having any outstanding formal debt and having only outstanding informal debt following the categorizations for each country presented in Table 9. The regression results for any outstanding formal debt and only informal debt are presented separately in Tables 15a and 15b, respectively, for the convenience of comparing the same outcome across countries. The first column reports the average marginal effect, followed by the standard error and the level of significance. The Wald test indicates that overall these regressions are statistically significant.

TABLE 15A.

Multinomial regression results for women: Correlates of formal debt

Variable	Ecuador			Ghana			Karnataka		
	Marginal effect	Std. error	Sig.	Marginal effect	Std. error	Sig.	Marginal effect	Std. error	Sig.
Age (mean centred)	-0.003	0.001	***	0.000	0.000		0.000	0.000	
Age squared (mean centred)	NA	NA		NA	NA		NA	NA	
Some primary	NA	NA		0.000	0.010		-0.008	0.020	
Completed primary	0.037	0.024		-0.006	0.008		0.010	0.009	
Some or completed secondary	0.081	0.025	***	-0.003	0.007		0.018	0.013	
Beyond secondary	0.080	0.034	**	0.035	0.023		0.016	0.019	
Koranic/ special education	NA	NA		0.086	0.091		NA	NA	
Consensual union	-0.064	0.020	***	-0.004	0.010		NA	NA	
Never married	-0.089	0.037	**	0.005	0.016		NA	NA	
Widowed/ divorced/ separated	0.000	0.023		-0.001	0.008		NA	NA	
Currently single	NA	NA		NA	NA		-0.015	0.011	
Self-employed/ employer	0.128	0.020	***	0.014	0.006	**	0.016	0.021	
Wage worker	NA	NA		0.012	0.010		-0.007	0.011	
Public wage worker	0.192	0.049	***	NA	NA		NA	NA	
Private wage worker	0.138	0.024	***	NA	NA		NA	NA	
Casual/ domestic	NA	NA		-0.005	0.005		0.007	0.017	
Unpaid family worker	0.036	0.032		0.030	0.021		-0.020	0.012	*
Urban	-0.012	0.019		0.001	0.007		-0.012	0.009	
Indigenous	0.034	0.039		NA	NA		NA	NA	
Afro-descendant	0.069	0.042	*	NA	NA		NA	NA	
Muslim	NA	NA		NA	NA		-0.012	0.015	
Christian	NA	NA		NA	NA		0.027	0.026	
Forward caste	NA	NA		NA	NA		0.017	0.019	
Backward caste	NA	NA		NA	NA		0.007	0.009	
Group member	0.074	0.022	***	0.008	0.006		0.081	0.010	***

Variable	Ecuador			Ghana			Karnataka		
	Marginal effect	Std. error	Sig.	Marginal effect	Std. error	Sig.	Marginal effect	Std. error	Sig.
Asset owner	0.030	0.020		0.003	0.007		0.023	0.012	*
Wealth Q2	0.029	0.026		-0.008	0.008		-0.026	0.013	**
Wealth Q3	0.046	0.027	*	0.025	0.012	**	-0.002	0.014	
Wealth Q4	0.056	0.029	**	0.005	0.010		-0.025	0.014	*
Wealth Q5	0.163	0.034	***	0.001	0.010		-0.030	0.015	**
Household size	0.002	0.005		-0.003	0.002	*	-0.001	0.002	
n	2,656			1,774			3, 750		
Wald chi-sq	316.24	***		635.12	***		413.23	***	
Degrees of freedom	44			44			46		
Pseudo R-sq	0.081			0.075			0.077		

Notes: * p < .10; ** p < .05; *** p < .01

As Table 15a shows, only in Karnataka is asset ownership positively and significantly associated with outstanding formal debt for women. In fact, no variables consistently increase the probability of having any outstanding formal debt across the three countries. Being a member of a group increases the likelihood of having outstanding formal debt by 7 per cent in Ecuador and 8 per cent in Karnataka, but not in Ghana. For Ecuador, the probability of women having outstanding formal debt increases with the household's socio-economic position so that those in the wealthiest quintile have a 16 percentage point greater chance of having formal debt than those in the poorest quintile; for Ghana, this positive relationship holds only for the middle quintile compared to the poorest quintile. In contrast, in Karnataka, women in just about every quintile above quintile 1 have a lower probability of having outstanding formal debt than those in the poorest quintile.

In Ecuador and Ghana, being self-employed is positively related to having outstanding formal debt, while in the former country being either a public or private wage worker is positively so associated as well. In Karnataka, being an unpaid family worker is negatively associated with formal borrowing. In addition, in Ecuador, having completed some secondary education or schooling above that level is positively associated with women having outstanding formal debt. Age and being in a consensual union or never married are negatively so associated.

Turning to informal borrowing, Table 15b shows that in all three countries group membership is positively associated with holding outstanding informal debt, with the marginal effects being particularly large in Karnataka. Another commonality across the three countries is that being a member of a household in the wealthiest quintile is negatively associated with outstanding informal debt. In Ecuador, all other quintiles have a lower probability of having outstanding informal debt than the poorest quintile. Being an asset owner is positively associated with a woman holding outstanding informal debt only in Ghana, increasing outstanding informal debt by 6 per cent compared to not being an asset owner.

TABLE 15B.

Multinomial regression results for women: Correlates of only informal debt

Variable	Ecuador			Ghana			Karnataka		
	Marginal effect	Std. error	Sig.	Marginal effect	Std. error	Sig.	Marginal effect	Std. error	Sig.
Age (mean centred)	-0.001	0.000		0.001	0.001		0.000	0.001	
Age squared (mean centred)	NA	NA		NA	NA		NA	NA	
Some primary	NA	NA		0.014	0.029		0.049	0.046	
Completed primary	0.017	0.016		0.009	0.029		-0.032	0.018	*
Some or completed secondary	0.011	0.017		0.002	0.024		-0.066	0.022	***
Beyond secondary	0.018	0.022		-0.005	0.035		-0.124	0.026	***
Koranic/ special education	NA	NA		-0.070	0.084		NA	NA	
Consensual union	0.006	0.013		0.114	0.033	***	NA	NA	
Never married	0.031	0.030		0.171	0.052	***	NA	NA	
Widowed/ divorced/ separated	0.036	0.017	**	0.029	0.023		NA	NA	
Currently single	NA	NA		NA	NA		0.006	0.021	
Self-employed/ employer	0.044	0.015	***	0.012	0.028		0.107	0.039	***
Wage worker	NA	NA		-0.042	0.040		0.051	0.018	***
Public wage worker	0.016	0.030		NA	NA		NA	NA	
Private wage worker	0.008	0.015		NA	NA		NA	NA	
Casual/ domestic	NA	NA		0.017	0.070		0.068	0.031	**
Unpaid family worker	-0.045	0.016	***	-0.044	0.037		0.038	0.022	*
Urban	-0.005	0.013		0.041	0.020	**	-0.012	0.017	
Indigenous	0.016	0.028		NA	NA		NA	NA	
Afro-descendant	0.019	0.028		NA	NA		NA	NA	
Muslim	NA	NA		NA	NA		0.037	0.035	
Christian	NA	NA		NA	NA		0.003	0.041	
Forward caste	NA	NA		NA	NA		-0.058	0.031	*

Variable	Ecuador			Ghana			Karnataka		
	Marginal effect	Std. error	Sig.	Marginal effect	Std. error	Sig.	Marginal effect	Std. error	Sig.
Backward caste	NA	NA		NA	NA		-0.037	0.018	**
Group member	0.029	0.015	*	0.052	0.018	***	0.141	0.015	***
Asset owner	-0.006	0.014		0.062	0.023	***	0.022	0.019	
Wealth Q2	-0.037	0.020	*	-0.033	0.031		-0.010	0.023	
Wealth Q3	-0.046	0.021	**	0.001	0.032		-0.045	0.023	**
Wealth Q4	-0.042	0.023	*	-0.049	0.032		-0.016	0.024	
Wealth Q5	-0.071	0.023	***	-0.075	0.033	**	-0.066	0.025	***
Household size	-0.002	0.003		0.008	0.004	**	0.006	0.003	**
n	2,656			1,774			3,750		
Wald chi-sq	316.24	***		635.12	***		413.23	***	
Degrees of freedom	44			44			46		
Pseudo R-sq	0.081			0.075			0.077		

Notes: * p < .10; ** p < .05; *** p < .01

In Ecuador and Karnataka, women who are self-employed (and, in Karnataka, women in any other occupational category) are more likely to have outstanding informal debt than those who are not economically active. In contrast, female unpaid family workers in Ecuador are less likely to have outstanding informal debt, while being widowed, divorced or separated is positively associated with outstanding informal debt. In Ghana, being never married or in a consensual union, as well as living in an urban area, are positively associated with having outstanding informal debt.

In Karnataka, women who have completed any level of education from primary up are significantly less likely to have outstanding informal debt. In addition, being from a forward or backward caste compared to the historically oppressed and disadvantaged Scheduled Castes and Scheduled Tribes is also negatively associated with borrowing informally. In Karnataka as well as Ghana, household size has a positive if very small impact on the probability of having outstanding informal debt.

In sum, the factors that affect the probability of having outstanding informal debt are different from those associated with outstanding formal debt in the three countries. This is particularly the case in terms of the importance of women being asset owners, which was positively associated with outstanding formal debt only in the case of Karnataka and with outstanding informal debt only in the case of Ghana.

Given the heterogeneity of informal sources of debt, it is somewhat surprising that there was more consistency in the significance of the correlates across the three countries for this type of debt than for formal debt. The main message here is about the importance of group membership in holding outstanding informal debt; however, for Ecuador and Karnataka, social networks do not help explain holding formal versus outstanding informal debt since this variable was positively associated with outstanding formal debt as well.

6.3
Correlates of who borrows to accumulate assets

Given our previous research on the gender asset gap (Doss et al. 2011a) we are particularly interested in the role of credit in facilitating women's and men's ownership of physical assets. Previously, we saw that in Ecuador and Karnataka men were significantly more likely than women to borrow for the purpose of asset acquisition, while in Ghana there was no difference by gender (Table 6). Here we consider whether the women and men who borrow for the purpose of asset accumulation have similar or different characteristics. This analysis is carried out only for Ecuador and Ghana, since the number of observations where the purpose of the loan is unknown in Karnataka is too large to carry out this analysis with confidence (Table 1).

Tables 16a and 16b show the results of a logit regression examining the correlates of outstanding asset debt for women and men, respectively. The specification is similar to that for any debt in Tables 14a and 14b, where the dependent variable is a binary variable taking the value of 1 for any asset debt and 0 for no asset debt. In addition to the same set of individual and household-level independent variables, this specification adds a binary independent variable for whether the individual has outstanding expenditure debt. The expected sign on this variable is indeterminate. It could be that individuals with outstanding expense debt are more likely to also have outstanding asset debt, since a credit history could facilitate loans for asset accumulation; or it could be that those with outstanding expense debt are less likely to have asset debt since they are only using credit to meet household emergencies.39 The first two columns under each country in Tables 16a and 16b report the average marginal effects while the third column notes the level of significance. The Wald Chi-square statistic suggests that these regressions are significant overall.

TABLE 16A.
Correlates of female asset debt

Variable	Ecuador			Ghana		
	Marginal Effect	Std. Error	Sig.	Marginal Effect	Std. Error	Sig.
Age (mean centred)	-0.003	0.001	***	0.001	0.001	
Age squared (mean centred)	NA	NA		NA	NA	
Some primary	NA	NA		0.025	0.026	
Completed primary	0.048	0.024	**	0.009	0.025	
Some or completed secondary	0.075	0.025	***	0.000	0.021	
Beyond secondary	0.063	0.033	*	0.035	0.034	
Koranic/ special education	NA	NA		0.063	0.117	
Consensual union	-0.025	0.021		0.080	0.029	***
Never married	-0.085	0.035	**	0.126	0.047	***

Variable	Ecuador			Ghana		
	Marginal Effect	Std. Error	Sig.	Marginal Effect	Std. Error	Sig.
Widowed/ divorced/ separated	0.003	0.022		NA	NA	
Currently single	NA	NA		NA	NA	
Self-employed/ employer	0.179	0.020	***	0.056	0.021	***
Wage worker	NA	NA		-0.018	0.028	
Public wage worker	0.129	0.043	***	NA	NA	
Private wage worker	0.117	0.023	***	NA	NA	
Casual/ domestic	NA	NA		0.009	0.050	
Unpaid family worker	0.030	0.030		0.024	0.033	
Urban	-0.002	0.019		0.041	0.018	**
Indigenous	0.093	0.040	**	NA	NA	
Afro-descendant	0.082	0.043	*	NA	NA	
Group member	0.074	0.021	***	0.037	0.016	**
Asset owner	0.054	0.020	***	0.052	0.020	**
Expense debt	-0.018	0.023		-0.046	0.023	**
Wealth Q2	0.017	0.025		-0.021	0.027	
Wealth Q3	0.056	0.027	**	0.026	0.027	
Wealth Q4	0.084	0.028	***	0.011	0.029	
Wealth Q5	0.189	0.033	***	-0.017	0.028	
Household size	-0.001	-0.001		0.001	0.004	
n	2,656			1,774		
Wald chi-sq	248.33	***		78.10	***	
Degrees of freedom	23			23		
Pseudo R-sq	0.097			0.070		

Notes: * p < .10; ** p < .05; *** p < .01

Examining Table 16a reveals some commonalities for women across countries. In Ecuador and Ghana, already being an asset owner, a member of a group or self-employed are all positively and significantly associated with outstanding asset debt. While the marginal effect of a woman being an asset owner is similar in the two countries at around 5 per cent, the impact of these other variables is much larger in Ecuador. Being self-employed increases the likelihood of accumulating debt for asset accumulation by 18 per cent in Ecuador

compared to 6 per cent in Ghana; in Ecuador, being a public or private wage worker also notably increases the probability of asset debt compared to not being economically active, by 13 and 12 percentage points, respectively.

However, some correlates are significant with different signs. In Ecuador, never-married women are less likely to have outstanding asset debt than married women, while in Ghana, they are more likely to have an outstanding asset debt; in the latter country, women in a consensual union are also more likely to have borrowed for asset accumulation.

A number of additional variables beyond those mentioned above are associated with women having outstanding asset debt. In Ecuador, having completed primary and some secondary education or beyond and being in quintiles 3, 4 and 5 are positively associated with outstanding asset debt, as is being indigenous or Afro-Ecuadorian compared to white or mestizo. In Ghana, living in an urban area is positively associated with outstanding asset debt while having expense debt is negatively related to outstanding asset debt. This could suggest that those women with outstanding expense debt may not be sufficiently creditworthy to qualify for asset loans.

The correlates of outstanding male asset debt show somewhat more consistency across the two countries. As shown in Table 16b, the main variables that are positively and significantly associated with outstanding male asset debt are being in the two highest wealth quintiles and being a wage worker (although only a public wage worker in Ecuador). Having outstanding expenditure debt is negatively related to outstanding asset debt in both countries, as is age and having never been married.

TABLE 16B.

Correlates of male asset debt

Variable	Ecuador			Ghana		
	Marginal effect	Std. error	Sig.	Marginal effect	Std. error	Sig.
Age (mean centred)	-0.007	0.001	***	-0.002	0.001	**
Age squared (mean centred)	NA	NA		NA	NA	
Some primary	NA	NA		0.036	0.028	
Completed primary	0.036	0.032		0.064	0.035	*
Some or completed secondary	0.050	0.034		0.042	0.024	*
Beyond secondary	0.053	0.041		0.066	0.030	**
Koranic/ special education	NA	NA		-0.010	0.064	
Consensual union	-0.059	0.024	**	-0.008	0.024	
Never married	-0.234	0.048	***	-0.060	0.024	**
Widowed/ divorced/ separated	-0.026	0.047		0.017	0.037	
Currently single	NA	NA		NA	NA	
Self-employed/ employer	0.058	0.046		0.071	0.027	***
Wage worker	NA	NA		0.093	0.033	***
Public wage worker	0.124	0.058	**	NA	NA	
Private wage worker	-0.005	0.046		NA	NA	
Casual/ domestic	NA	NA		0.046	0.062	
Unpaid family worker	0.092	0.089		NA	NA	
Urban	0.000	0.023		-0.019	0.017	
Indigenous	0.013	0.045		NA	NA	
Afro-descendant	0.079	0.047	*	NA	NA	
Group member	0.103	0.024	***	-0.012	0.018	
Asset owner	0.055	0.027	**	-0.026	0.025	

Variable	Ecuador			Ghana		
	Marginal effect	Std. error	Sig.	Marginal effect	Std. error	Sig.
Expense debt	-0.088	0.026	***	-0.064	0.021	***
Wealth Q2	0.074	0.031	**	-0.012	0.025	
Wealth Q3	0.118	0.034	***	0.024	0.027	
Wealth Q4	0.164	0.037	***	0.082	0.032	***
Wealth Q5	0.236	0.042	***	0.084	0.036	**
Household size	0.005	0.006		0.000	0.004	
n	2,012			1,454		
Wald Chi2	208.82	***		75.99	**	
Degrees of freedom	23			22		
Pseudo R squared	0.102			0.086		

Notes: * p < .10; ** p < .05; *** p < .01

The coefficients for being an asset owner and a member of a group are positive and significant only in Ecuador, increasing the probability of men having outstanding asset debt by 6 per cent and 10 per cent, respectively. In Ghana, other factors positively associated with men having outstanding asset debt are completing primary or any level of schooling above this level and being self-employed.

In sum, the factors associated with women's as compared to men's borrowing to accumulate assets differ. For women in both countries, borrowing for asset accumulation is positively related to being an asset owner, a member of a social network and self-employed; for men, the common factors include being in a household in the wealthiest quintiles. Also, in both cases, having outstanding expense debt is negatively associated with men's outstanding asset debt, as is age and having never been married.

In Ecuador, there are a number of similarities in the women's and men's regressions. For both, being an asset owner, a member of a group and in a middle quintile to wealthy household are positively related to borrowing for asset accumulation. Whereas the impact of being an asset owner is similar (around 5 per cent), the impact of being a group member is somewhat larger for men (10 per cent) than for women (7 per cent), as is that of belonging to successively wealthier quintiles.

In addition, for both women and men, being an Afro-Ecuadorian is positively associated with borrowing for this purpose, a somewhat surprising result since this minority (7 per cent of the population) is usually considered to be the most marginalized. This result may be a reflection of the small sample size of this group. In the women's regression, being indigenous is also positively associated with asset borrowing, suggesting that perhaps Ecuador's microfinance institutions are relatively successful in reaching previously excluded social groups. Negatively associated with borrowing for asset accumulation for both sexes is age and never having been married; for men, but not women, being in a consensual union is also negatively related. Once again, one of the major gender differences is with respect to the role of education, serving a positive role for women but not for men in terms of borrowing for asset accumulation.

In the case of Ghana, the main similarity in men's and women's asset borrowing is the positive association with being self-employed. In addition, for both sexes, it is negatively associated with holding outstanding expense debt. Several correlates have different signs for women and men: never having married is positively related to women's asset borrowing but negatively so related for men. The association between age and the probability of borrowing for assets is non-linear both for males and females: the probability for men at the average age of the sample is decreasing, while for women it is increasing. Worth noting is the positive role that schooling plays for men, but not women, in borrowing for this purpose, which is opposite to the result found for Ecuador.

Comparing women's borrowing for asset accumulation versus borrowing for any purpose, the most interesting result is that in Ghana, women's ownership of assets is positively associated with both, whereas in Ecuador, it only seems to make a difference in explaining women's borrowing for asset accumulation. In Ghana, men's asset ownership does not increase the likelihood of their borrowing for assets or any purpose. In contrast, in Ecuador, men's asset ownership is positively associated with their borrowing for both assets and any purpose.

7

7.

CONCLUSION AND IMPLICATIONS FOR POLICY AND FUTURE RESEARCH

This study has explored individual and household debt in Ecuador, Ghana and Karnataka, India. It reveals several commonalities among the three countries on who borrows, for what purposes, from where and who is responsible for the loan.

First, with respect to household level debt, the share of households holding asset debt in Ghana and Ecuador exceeds the share with expense debt, while in Karnataka the shares are approximately the same. In all three countries, wealthier households are more likely to hold any debt compared to poorer households, particularly a greater share of asset debt, which reinforces the pattern found in Allen et al. (2012) and others. Particularly worrisome is that poorer households in all three countries tend to hold a greater share of expense debt than asset debt. This finding reinforces that of Demirgüç-Kunt and Klapper (2013), who also report that households in the poorest quintile are more likely to have taken out loans for health or other emergencies than adults in richer households. Since expense debt (with the possible exception of loans for education) is unlikely to generate future income streams, the composition of debt among the poor points to potential cycles of indebtedness.

Our investigation of debt by household type confirms that more partnered than non-partnered households hold any debt, asset debt and expense debt. Comparing the three countries, no trends emerge as to differences between non-partnered female versus male households. Nonetheless, the hypothesis that the poorest (quintile 1) non-partnered women are more likely than their male counterparts to hold any debt is supported across the three countries, and in Ecuador and Ghana for both quintiles 1 and 2. The countries differ on whether this holds for both asset and expense debt in the poorest quintiles.

Turning to individual level debt—and who in the household is responsible for these loans—a greater share of men than women in all three countries hold debt for any purpose, whether it is to accumulate assets or cover expenses. Our descriptive statistics confirm the pattern found in other studies (Demirgüç-Kunt and Klapper 2013). Similarly, across these countries, men hold a greater mean amount of debt—total, asset and expense—than women.

How debt is held—individually vs. jointly—has rarely been investigated in the literature. Jointly held loans constitute a larger share in Ecuador than in the other two countries, particularly in Ghana, where these are negligible. In Ghana, women alone hold more than half of asset loans; in contrast, in Karnataka, men alone hold more than half of asset loans and women alone less than a fifth, a pattern that is similar in Ecuador, although the gender difference is less extreme.

We would have expected a greater share of joint loans in Ecuador than in the other two countries

since this country is characterized by a partial community property marital regime, where all assets acquired during the marriage legally belong to the couple.40 Moreover, couples are legally responsible for each other's debts unless the collateral provided is individual rather than joint property. Ghana and India are characterized by the separation of property marital regime, and we would have expected fewer loans to be held in the name of the couple. Notwithstanding, our results suggest that in Karnataka it is common social practice for couples to consider debt as a joint obligation.

Turning to the source of loans, debt from informal sources predominates among the borrowers in Ghana and Karnataka but represents only around a quarter of loans in Ecuador, where the formal financial sector is more developed. Compared to findings for Ecuador from earlier studies (Jácome 2005; Floro and Messier 2011), women's individual borrowing from formal sources now seems to approximate men's. This could be related to the expansion in the number of S&L cooperatives over the past decade along with instalment credit. Nonetheless, with the exception of business/store credit, formal credit seems to privilege loans to couples over individual loans.

Finally, the aggregate debt-to-wealth ratio in all three countries is relatively small, less than .15, compared to that in developed countries (Shorrocks et al. 2012: Table 1). This result is surprising, especially in Ecuador, which has a more developed financial sector than the other two countries and where we would have expected the ratio to be larger.41 The analysis of mean debt-to-wealth ratios among those who hold debt suggests that there are no statistically significant differences by sex. Analysing the distribution of the mean debt-to-wealth ratios by quintiles suggests that in all three countries these are greatest among the poorest groups, particularly men in quintile 1. Once we consider the broader distribution of debt-to-wealth ratios, including those with no debt, women have smaller ratios in all three countries, and in Ecuador and Karnataka men are over-represented among those with the largest ratios.

This study also explored analytically the correlates of having debt, the likelihood of borrowing from formal and informal sources and having asset debt. There is more consistency in results, as well as interesting gender differences, within than across countries. In all three countries, women's borrowing is positively and significantly associated with being a member of a group and living in a household in the wealthiest quintile, while men's borrowing is only significantly, but negatively, associated with age.

The factors that affect the probability of having outstanding formal debt are different than those that affect the probability of having outstanding informal debt in the three countries. This is particularly the case in terms of the importance of women being asset owners, which was positively associated for women with outstanding formal debt only in the case of Karnataka and with outstanding informal debt only in the case of Ghana.

Our most important analytical results are with respect to borrowing for asset accumulation. The factors associated with women's borrowing for assets in both Ecuador and Ghana are being an asset owner, a member of a group and self-employed. For men, by contrast, only being in a household in the wealthiest quintiles is positively associated with asset borrowing while having expense debt is negatively associated with asset debt. Moreover, only in Ecuador are men's borrowing for asset accumulation also positively related to their own asset ownership. These results suggest that wealth may beget wealth. They also point to the potentially important role of women's ownership of assets and the role of networks in enhancing their access to credit.

7.1
Limitations of this study

Collecting both individual and household-level debt in the same study is challenging. As we noted in section 4 on our survey methodology, a major failing of our instrument was not having unique identifiers for each individual loan. That would have required asking questions regarding all loans in the household questionnaire (ideally with both respondents present to have the most complete inventory) and then following that up in the individual module with questions on whether there were any additional loans held by the individual that they previously had not wanted to disclose. This was in fact the procedure that we followed with respect to physical asset ownership, where each asset had a unique identifier assigned in the household inventory, which was then transposed to the individual questionnaire. Analysing this data ex post, we learned that, overall, very few assets were uncovered in the individual questionnaire that had not been previously reported (Doss et al. 2013). In retrospect, it might have been better to follow a similar procedure in the case of loans, assigning them a unique identifier initially.

While we asked about debt held for the acquisition of immovable property and businesses in the household inventory (and in the case of Karnataka, for debt held against these assets as collateral), the estimates are probably an underestimate, given the results for Ecuador, which showed that more loans were reported for these assets in the individual debt module than in the household inventory. This confirms that our intuition, that individuals are more likely to report debt when guaranteed privacy, may be correct.

7.2
Policy implications and directions for future research

Our results regarding the relationship between group membership and borrowing reinforce the insight identified by the microfinance industry many years ago about the importance of groups. The nuance in our findings is not that one needs to be part of a borrowing group, since the incidence of those are rather low; rather what we would infer is the role that group membership may play, especially for women, in transmitting information about local credit market conditions. There may be a case for brokering stronger relations between financial institutions and a broad range of social organizations to help women accumulate assets.

Our analysis also provides some interesting questions that need further research in order to be useful for policy. First, as noted above, households in the poorest wealth quintiles have relatively more expense debt than asset debt, and this is a concern for policy because it suggests the poor are less able to accumulate assets through the use of credit than the rich. Also, the poorest non-partnered female households are more likely to hold any debt compared to non-partnered male households, although among those with debt, the poorest men tend to carry the largest debt-to-wealth ratios. This may suggest the need for other financial instruments targeted to these types of households in the poorest quintiles.

Second, while owning immovable property—land, other real estate, a home/lot—is related to having outstanding asset debt, we need to know more about the terms of the loan, including such issues as collateral requirements, interest rates, repayment schedules and debt service ratios, in order to reach specific policy implications. Unfortunately, our debt module did not collect such information.

Finally, credit is only one component of a household's financial portfolio and ideally would be part of a more comprehensive exploration of the relationship between savings and debt among individual women and men within households. A study that looks at financial inclusion within households could provide important information to the financial sector about a comprehensive range of instruments and products for different groups and women and men within them.

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APPENDIX

TABLE A1.

Ecuador: Volume of loans outstanding in the private financial system, December 2013

Type	Number of institutions	Volume (US$ billion)	Distribution (%)
Private banks	24	17.3	82.0
Savings & loan cooperatives	39	1.9	8.9
Mutualism societies	4	0.4	1.9
Financial societies	10	1.3	6.0
Credit cards	2	0.3	1.3
Total	79	21.1	100

Source: Compiled from BCE 2013.

TABLE A2.

Ecuador: Distribution of loans by purpose, private banks vs. savings and loan cooperatives by size, June 2013 (%)

Institution	n	Commercial	Consumption	Housing	Micro-enterprise	Total
Private banks	24	48.0	35.7	8.5	7.8	100 $16.3 b.
Cooperatives						
Segment 4	40	4.0	51.2	7.3	37.5	100 $ 3.3 b.
Segment 3	78	0.9	49.5	8.8	40.8	100 $ 1.2 b.
Segment 2	296	4.9	39	2	54	100 $ 0.46 b.
Segment 1	359	9.3	37.7	1.5	52.4	100 $ 0.07b.
Total	**773**	**3.4**	**49.5**	**7.1**	**40**	**100** **$ 5.0 b.**

Note: A fifth category not included in the table is loans for education, which amount to less than 1% of the total portfolio.
Sources: Compiled from SBS 2013 and SEPS 2013.

TABLE A3.

Ecuador: Loan portfolio and share of female clients, institutions affiliated with the Rural Finance Network, December 2013

Institution	n	Loan portfolio	No. of clients	Female clients (%)
Private banks	6	$1,597,623,603	680,031	56.2
Savings & loan cooperatives	29	$1,414,726,133	374,091	44.0
NGOs	11	$154,915,938	162,772	69.0
Total	46	$3,267,265,674	1,216,894	54.2

Source: Compiled from RFR (2013).

TABLE A4.

Maximum interest rates, Ecuador, December 2010 (%)

Purpose	Interest ratea
Commercial	
Corporate[b]	9.3
Small & medium businessesc	11.8
Housing	11.3
Consumption	16.3
Microcreditd	
Loans $8,500 & above	25.5
Loans between $600 and $8,500	27.5
Loans less than $600	30.5

a These same maximum interest rates held through 2014.
b Firms with annual sales above $5 million.
c Firms with annual sales between $100,000 and $5 million.
d Firms with annual sales less than $100,000.

Source: Compiled from BCE 2011: Graph 58.

TABLE A5.

Interest rates of commercial banks, Ghana, 2010 (%)

Purpose	Range per annum[a]	Average per annum
Commercial	24.75-40.00	27.63
Microcreditb		
Business loan	119-128	
Group micro loan	118-120.5	

a Interest rates are not regulated, thus different banks provide different rates.
b This is the rate for one microfinance institution, for illustrative purposes. Flat rates are charged per month on the initial amount taken out. Annualized rates of some companies can be as high as 400%.
Sources: Bank of Ghana 2011; for microcredit, from http://data.mftransparency.org/data/institutions/464.

TABLE A6.

India: Incidence of indebtedness of households to institutional and non-institutional credit agencies disaggregated by state (%)

State	Rural			Urban		
	Institutional[a]	Non-institutional[b]	All	Institutional[a]	Non-institutional[b]	All
Karnataka	16.1	17.8	31.3	10.6	8.6	18.6
Andhra Pradesh	14.9	32.9	42.3	10.8	20.8	29.8
Kerala	32.8	11.6	39.4	31.3	10.6	37.3
Tamil Nadu	13.9	21.3	31.3	11.1	16.4	25.5
India	13.4	15.5	26.5	9.3	9.4	17.8

Notes:
a Institutional credit includes credit from government agencies, co-operative agencies, commercial banks including regional rural banks, insurance, provident funds, financial corporations/ institutions and financial companies.
b Non-institutional credit includes credit from landlords, agriculturist moneylenders, professional moneylenders, traders, relatives and friends, doctors, lawyers and other professionals.
Source: AIDIS 2005.

TABLE A7.

Interest rates, India, 2010 (%)

Purpose	Interest rate	
Bank groupa	Range per annum	Median
Public sector	7.5 - 8.25	8
Private sector	7.0 - 8.75	7.88
Foreign	6.25 - 11.75	7.25
Microcredit	Range per annum	Averageb
Housing	23.6 - 45.3	34.43
Emergency	20.5 - 45.3	34.24
Consumption	25.8 - 45.3	37.12
Education	20.1 - 45.3	33.42
Business	17.1 - 52.7	33.98
Unspecified	11.8 - 44.2	32.03

Notes:

a Base rate of scheduled commercial banks, introduced by the Reserve Bank of India effective 1 July 2010; data are for the quarter ending September 2010, to be comparable with the data for microfinance institutions. Base rate is the minimum rate for all loans. Actual lending rates can be decided by banks by including other customer-specific charges as appropriate. The base rate is reviewed every quarter.

b Based on annual percentage rate (APR), a mathematical formula used to express the true price as a standard measure that allows for the comparison of credit charges among different loan products. This calculation includes most mandatory fees (i.e., processing fee, service charge, etc.) as well as mandatory security deposits collected upfront (also referred to as compulsory savings or cash security) or advance collection (or 'upfront interest'). Based on data collected in May 2010 from 82 national microfinance institutions.

Sources: For commercial banks: Reserve Bank of India undated; for microfinance institutions: MFTransparency 2011b.

TABLE A8.

Percentage of households reporting expense debt by quintile and purpose (%)

Purpose	Quintile					Total
	Q1	Q2	Q3	Q4	Q5	
Ecuador						
Daily needs	9.0	10.0	6.4	6.7	5.5	7.5
Health	7.1	6.2	5.4	3.3	3.6	5.1
Education	3.6	5.2	3.1	3.1	4.3	3.9
Celebrations	0.9	0.5	0.5	1.2	0.3	0.7
Debt repayment	2.8	3.6	3.5	3.5	3.8	3.4
Other	2.4	2.6	3.1	2.6	1.7	2.5
Any expense debt	**23.3**	**22.5**	**18.5**	**16.9**	**15.7**	**19.4**
Ghana						
Daily needs	3.0	3.0	5.1	3.0	2.1	3.2
Health	3.7	4.8	3.0	1.8	1.6	3.0
Education	2.3	3.2	2.1	2.5	3.2	2.7
Celebrations	1.6	1.6	2.8	3.5	1.4	2.2
Debt repayment	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.2	0.5	1.6	0.9	1.8	1.0
Any expense debt	**10.2**	**12.2**	**14.3**	**11.3**	**9.9**	**11.6**
Karnataka						
Daily needs	2.9	2.6	3.3	2.0	1.8	3.2
Health	18.5	17.3	15.4	13.7	7.2	14.1
Education	7.8	8.3	5.7	8.1	7.9	7.5
Celebrations	13.1	13.0	16.5	15.7	11.1	13.6
Debt repayment	2.2	0.6	0.8	0.8	0.1	1.2
Other	0.0	0.0	0.0	0.0	0.0	0.0
Any expense debt	**33.2**	**32.7**	**33.9**	**27.5**	**21.1**	**29.7**

TABLE A9.

Incidence of outstanding debt by quintile, household type and purpose (%)

Household type	Purpose	Quintile					Total
		Q1	Q2	Q3	Q4	Q5	
Ecuador							
Non-partnered males	Asset debt	5.4	28.1	16.2	22.2	35.7	21.8
	Expense debt	13.5	6.3	10.8	15.6	9.5	11.4
	Any debt	18.9	31.3	24.3	37.8	40.5	31.1
Non-partnered females	Asset debt	18	21	27.5	20.5	34.6	23.8
	Expense debt	20.2	18.5	17.4	14.6	11.8	16.7
	Any debt	36.6	34.5	39.9	33.8	43.3	37.5
Partnered	Asset debt	23.1	34	37	44.4	54.5	38.9
	Expense debt	25.9	24.8	19.6	18	17.6	21.2
	Any debt	42.1	49.9	49.9	53.8	63.1	51.9
Ghana							
Non-partnered males	Asset debt	9	5.6	11.9	14.7	15.6	10.6
	Expense debt	8.1	14.9	9.5	1.5	12.5	9.7
	Any debt	16.2	21.5	23.8	17.7	26.6	20.7
Non-partnered females	Asset debt	9.8	13.3	24.3	20.4	11.3	14.9
	Expense debt	9.4	12	11	8.3	8.8	10
	Any debt	19.1	24.7	33.1	18.7	21.3	24.6
Partnered	Asset debt	13.2	14.8	19.6	25.6	26.9	21.9
	Expense debt	15.8	10.7	18.2	15.1	9.7	13.5
	Any debt	26.3	22.5	35.1	36.4	34.8	32.6
Karnataka							
Non-partnered males	Asset debt	7.1	25.2	29.8	8.7	26.4	26.8
	Expense debt	22.2	27.4	30.6	31.2	16.4	28.7
	Any debt	33.3	66.7	67.4	70.3	67.9	58.5
Non-partnered females	Asset debt	12.7	12.5	14.8	16.7	22.6	17.2
	Expense debt	21.5	19.5	28.91	27.5	14.2	23.4
	Any debt	40	39.5	48.4	57.7	59.4	43.2
Partnered	Asset debt	21.1	26.2	33.5	32.5	34.8	29.7
	Expense debt	36.1	35.2	33.3	29.6	19.3	30.2
	Any debt	59.1	62.8	72.9	76.4	75	69.1

TABLE A10.

Incidence by source and purpose of outstanding loans in past year, by sex, for Ecuador, Ghana and India, 2011 (%)

Indicator	Ecuador	Ghana	India
Loan in the past year	27.3	34.6	30.6
Female	28.6	35.4	28.3
Male	25.9	33.8	32.9
Urban	22.8	31.6	30.4
Rural	31.9	35.1	30.7
Loan source			
Credit card	10.2	2.2	1.8
Female	7.7	1.6	1.0
Male	12.7	2.9	2.5
Financial institution	10.6	5.8	7.7
Female	9.9	5.8	6.7
Male	11.3	5.7	8.6
Other private lender	4.6	3.4	6.6
Female	6.7	4.6	6.4
Male	2.4	2.1	6.8
Employer	3.2	3.0	5.4
Female	1.7	2.8	5.1
Male	4.7	3.3	5.6
Family or friends	15.4	28.8	19.7
Female	14.9	27.9	17.8
Male	15.8	29.7	21.6
Store credit	4.8	5.3	6.6
Female	5.7	6.2	6.3
Male	3.9	4.5	7.0
Loan purpose			
Funeral or wedding	1.1	4.3	3.4
Female	0.5	3.3	3.6

Indicator	Ecuador	Ghana	India
Male	1.8	5.3	3.1
Health or emergencies	9.1	6.9	14.2
Female	9.8	6.6	12.6
Male	8.3	7.2	15.7
School fees	4.8	7.8	5.6
Female	4.1	7.8	6.0
Male	5.5	7.8	5.1
Home construction	4.1	6.0	3.7
Female	4.4	5.6	3.2
Male	3.7	6.5	4.3
Home purchase	1.2	2.1	2.3
Female	2.0	2.5	2.3
Male	2.9	3.0	2.4

Note: Refers to respondents age 15 and over.
Source: Compiled from Findex 2011.

ABLE A11.

Descriptive statistics for Tables 12a and 12b (categories as %)

Variable	Ecuador		Ghana		Karnataka	
	Women	Men	Women	Men	Women	Men
No debt	65.3	55.7	80.9	79.1	66.2	38.4
Any debt	34.7	44.3	19.1	20.9	33.8	61.6
Age	43.71	46.19	43.99	46.17	40.59	45.11
No schooling	NA	NA	41.0	25.9	46.4	28.4
Some primarya	22.1	18.1	12.4	9.7	2.6	2.7
Completed primary	28.6	31.0	12.9	9.6	25.8	29.6
Some or completed secondary	35.4	35.4	23.2	33.0	16.6	21.2
Beyond secondary	13.9	15.5	9.9	20.8	8.7	18.2
Koranic/ special education	NA	NA	0.6	1.0	NA	NA
Married	47.6	58.7	54.1	65.4	80.7	90.6
Consensual union	26.1	31.9	11.9	12.6	NA	NA

Variable	Ecuador		Ghana		Karnataka	
	Women	Men	Women	Men	Women	Men
Never married	4.0	2.5	6.7	12.2	NA	NA
Widowed/ divorced/ separated	22.3	6.9	27.3	9.8	NA	NA
Currently single	NA	NA	NA	NA	19.3	9.4
Not employed	33.8	8.2	15.8	11.0	40.2	8.4
Self-employed/ employer	35.8	35.8	66.6	67.0	6.5	39.2
Wage worker	NA	NA	5.7	20.2	4.8	15.2
Public wage worker	4.3	7.4	NA	NA	NA	NA
Private wage worker	19.2	47.1	NA	NA	NA	NA
Casual/ domestic	NA	NA	1.7	1.8	33.8	37.2
Unpaid family worker	6.9	1.5	10.2	NA	14.8	NA
Urban	67.1	65.9	35.6	34.0	35.4	33.8
White/mestizo	90.7	90.1	NA	NA	NA	NA
Indigenous	4.8	4.9	NA	NA	NA	NA
Afro-descendant	4.6	5.0	NA	NA	NA	NA
Hindu	NA	NA	NA	NA	82.4	82.7
Muslim	NA	NA	NA	NA	14.1	13.9
Christian	NA	NA	NA	NA	3.5	3.5
Scheduled caste/unscheduled tribe	NA	NA	NA	NA	25.0	24.3
Forward caste	NA	NA	NA	NA	20.0	19.9
Backward caste	NA	NA	NA	NA	55.0	55.8
Group member	18.3	25.2	61.8	57.1	35.6	13.7
Asset owner	55.3	58.7	30.7	62.1	25.1	73.0
Wealth Q1	20.2	17.9	18.5	13.5	18.5	13.7
Wealth Q2	20.4	21.4	18.6	19.1	20.1	19.5
Wealth Q3	20.0	20.8	20.7	20.6	21.6	22.6
Wealth Q4	19.8	19.6	21.3	22.1	21.1	22.9
Wealth Q5	19.6	20.2	21.0	24.7	18.8	21.3
Household size	4.29	4.37	4.2	4.1	4.67	4.95
n	2,656	2,012	1,774	1,454	3,750	3,308

Note:
a For Ecuador, the relatively few cases of no schooling have been combined in this category.

ENDNOTES

1 See Demirgüç-Kunt et al. (2008) for a discussion of the distinction between use and access.

2 The Gender Asset Gap survey did not collect information on the terms of the contract—the interest rate, the loan terms, repayment rates or other features. Nor did it obtain information on whether a household member attempted to borrow but was not successful.

3 A Rotating Saving and Credit Association (ROSCA) is formed by a group of people who contribute an agreed amount to a common savings pool each period. A member of the group receives the amount accumulated during each period. The cycle restarts or the group dissolves after each person has received the accumulated amount once.

4 Bardasi et al. (2011: 430) point out that "Female entrepreneurs may be less likely to apply for bank loans than male entrepreneurs (if, for example, they are more risk averse). They may also be less likely than male entrepreneurs to obtain bank loans if, for example, there are cultural barriers (in terms of property rights or perhaps discrimination) or women's firms are supposedly considered to be less creditworthy." We do not pursue these issues in this paper.

5 FinScope is a specialized household survey in 14 African countries and Pakistan carried out in the mid-2000s. It surveyed four different population segments: (i) users of formal banking services; (ii) users of other formal financial services, such as insurance companies, mobile phone services and regulated microfinance institutions; (iii) users of informal financial services, including unregulated Savings and Credit Cooperative Organizations (SACCO), Accumulating Savings and Credit Associations (ASCA) and Rotating Savings and Credit Associations (ROSCA); and (iv) individuals excluded from any service.

6 The survey methodology for the Global Findex data is that used for the Gallup World Poll, relying primarily on telephone interviews with more than 150,000 nationally representative and randomly selected adults, except in those areas without telephone coverage, in which case interviews are conducted in person.

7 The data are based on more than 38,000 interviews in 38 countries in sub-Saharan Africa.

8 Informal borrowing was particularly prevalent in sub-Saharan Africa. Only 5 per cent of the sample reported having originated a new loan from a formal financial institution (Aggarwal et al. 2012). Also relevant to this paper, but using a much smaller dataset, Collins et al. (2009) found that informal borrowing accounted for 94 per cent of borrowing in India.

9 A 2002 census of the S&L cooperatives and communal banks and funds in Ecuador revealed that at that time there were 26 regulated cooperatives (reporting to the SEB) and 350 non-regulated institutions reporting to the Ministry of Social and Economic Inclusion; the latter had over half a million members (Jácome and Cordovez 2004).

10 Included in the S&L cooperatives (mainly in segment 1 & 2) are what are known as communal banks or funds (often averaging only 25 to 30 members) and other local-level microfinance groups organized by NGOs. SEPS aims to help these institutions evolve into full-blown S&L cooperatives or branches of existing cooperatives. A main distinction among these various forms, besides their size and geographic spread, is that while S&L cooperatives can take deposits from non-cooperative members, these other forms can only hold the savings of their members. The distinction between S&L cooperatives and private banks is that the former can only make loans to their members and cannot sell shares on the stock market (Government of Ecuador 2014).

11 The main microfinance banks in Ecuador include the Banco Solidario, established in 1995 and linked to Acción International; Credife, established in 1999 as a subsidiary of the largest private bank, the Bank of Pichincha; and Procredit, established in 2001.

12 Susu is a form of savings whereby daily payments are made to a collector over the period of a month. A small fee is charged, usually the equivalent of one day's savings, for the services provided. Deposits are collected at the work place or home of clients.

13 Figures from the more recent round of the AIDIS are not available yet since the survey has just concluded and the reports and data are not yet in the public domain.

14 See Doss et al. (2011a).

15 For more details on the methodology see Doss et al. (2011b).

16 In Ecuador, the protocol for the household questionnaire was to interview the principle couple together whenever possible and then each separately for the individual questionnaire. See Deere and Catanzarite (2014) on the rationale.

17 The module was administered to each individual separately in order to ensure privacy so that the respondent could feel safe in revealing information about hidden assets and loans.

18 The information on collateral was not consistently reported in the case of Ecuador and Ghana, and hence the use of collateral is not analysed in this monograph. In the Ecuador instrument, the gateway question on collateral only referred to the use of property as collateral; thus the use of signed documents against the asset being acquired with the loan, including those signed by a third party, were under-reported.

19 The reconciliation process for Ecuador, for example, proceeded as follows. First, where debt information was reported in both the household inventory and individual debt module, the purposes and amounts provided were compared. If there was an exact match, the debt was considered to be the same; if they differed on either criterion, the case was flagged for further inspection. Next, in households with two respondents reporting debt, their individual responses in the debt module were compared with respect to reported purposes, initial or remaining amounts or who was reported as responsible for the debts in order to determine if they were reporting separate loans or the same one. If discrepancies appeared, these cases were also flagged. The final phase involved reviewing all flagged cases by hand and considering all information available to make a determination as to how best reconcile that particular case. The following rules were applied: If there was a discrepancy in amounts, but other information provided significant evidence that two respondents were referring to the same loan, we took the larger amount of debt reported. If the discrepancy was with respect to who was responsible for the loan or involved in the decision to take it out, but all other information was the same, our rule was to be inclusive, i.e., to consider this a joint debt of both respondents. If the discrepancy was with respect to the source of the loan, we favoured the response of the owner of the asset or the response that best reflected the insights from the qualitative fieldwork.

20 Business inputs were included in assets since respondents in Ecuador and India found it difficult to distinguish between business acquisition and input acquisition. Respondents in Ghana were able to distinguish the business as an asset along with inputs of assets in the business, but for consistency these categories were combined in the analysis.

21 All percentages reported in the text and tables are unweighted. These figures for Ecuador differ considerably from previous estimates. A 2003 representative survey of 2,392 urban households in the three largest cities (Quito, Guayaquil and Cuenca) found that only 12.5 per cent of total households had access to credit in that year (Jácome 2005). The 2006 Ecuador Living Standards Survey, which is nationally representative, also found that only 12.5 per cent of households received a loan in the previous year (Guachamín Andrade 2010: 24).

22 Wealth quintiles were constructed based on the value of gross physical and financial assets of households.

23 For Ecuador, loans to repay a debt for a household member to migrate internationally were included in the category 'other' since very few of these were reported; cases of refinancing this type of debt were more common and are reported under debt repayment. Ecuador's heaviest period of international migration was in the late 1990s and early 2000s, coinciding with its major financial crisis. Since debt to finance such trips is usually repaid as soon as possible, usually in the initial two to three years abroad, Deere et al. (2014) found that the migration debt made up only 2 per cent of the total uses of remittances in the 2010 EAFF-Ecuador Household Asset Survey.

24 In Ecuador and Ghana, household type corresponds to household headship, with 'traditional male-headed households' being disaggregated into those that parallel female-headed households, i.e., those with no partner versus those where an adult couple is present.

25 Wealth studies in the United States have consistently found that married-couple households have substantially greater net worth than non-partnered households, with the difference being much greater than might be accounted for by the number of adults (Deere and Doss 2006; Schmidt and Sevak 2006; Yamokoski and Keisler 2006).

26 Individuals here are respondents to the individual questionnaire in each country with respect to whether they themselves hold debt, either by themselves or jointly with their partner or someone else.

27 For comparison purposes, we use the Findex data to tabulate the incidence, purpose and source of outstanding loans for individuals

in Ecuador, Ghana and India (see Appendix Table A10). More individuals in India report outstanding loans for health or emergencies than in Ecuador and Ghana, and more men than women report outstanding loans for these purposes in India and Ghana whereas it is the reverse in Ecuador.

28 This calculation excludes respondents who had debt but did not know the amount of the debt.

29 For Ecuador, the category of business/store credit includes direct financing by developers for the purchase of dwellings.

30 The Findex data does not contain information on all sources of loans and the categories are not exactly the same; nonetheless, Appendix Table A10 shows that in Ecuador, 11 per cent of males and 10 per cent of females borrowed from a financial institution in the past year. The percentages are lower in Ghana and India (6 per cent of both men and women report borrowing from a financial institution in Ghana, and 7 and 9 per cent, respectively, in India). This is far lower than those who report borrowing from informal sources: in Ecuador, 15 per cent of women and 16 per cent of men report borrowing from family or friends and 6 females and 4 per cent of males report using store credit. In Ghana, 28 per cent of women and 30 per cent of men borrow from family or friends (and 6 and 4 per cent, respectively, have used store credit) in the past year. In India, 18 per cent of women and 22 per cent of men have taken a loan from family and friends and 6 and 7 per cent, respectively, have used store credit in the past year.

31 In Latin America, retailers such as department store chains have played the leading role in offering consumer credit to medium- and low-income groups. The trend in the larger economies of the region has been for instalment loans for the purchase of appliances to evolve into store cards and then co-branded credit cards with banks (Capizzani et al. 2012). In Ecuador, instalment loans still predominate.

32 This information is not available for Ghana.

33 Households may take on too much debt and become over-indebted if they are overoptimistic and/or lack basic financial literacy (Lusardi and Tufano 2009), expect to be bailed out (moral hazard) or have too much debt pushed onto them by banks.

34 We did not pursue analysis of the amount of debt held by individuals, in part because individuals could pay off their loan at different rates for reasons not associated with the amount of the debt. Moreover, we do not have information on the terms of these debts. Also, we do not have information on loans that were taken out during the survey year that have already been repaid.

35 Pseudo R-squares are useful in evaluating multiple models predicting the same outcome on the same dataset. While we report them in the tables, our primary interest is in the Wald statistic, which tests the significance of each statistic in the model.

36 The results of the step-wise regressions are available from the authors.

37 We follow the convention in the economics literature, which tends to report marginal effects over odds ratios (Norton 2012), partly because they are largely unaffected by unobserved heterogeneity, unlike odds ratios. In each case, we report robust standard errors and, where appropriate, standard errors that adjust for clustering within households.

38 In the men's regression for Ghana, in the categorical variable for occupations, being an unpaid family worker is dropped due to the few observations in this category. In the case of Karnataka, being an unpaid family worker has been included in the base with not being economically active for a similar reason.

39 Messier (2005), for example, shows that among households with informal sector enterprises in urban Ecuador, those who borrowed to meet consumption needs have lower levels of investment in their enterprises than those who borrowed for investment purposes or did not borrow.

40 See Deere et al. (2013) on how marital and inheritance regimes explain the large gender asset gap among spouses in Ghana and Karnataka as compared to Ecuador.

41 Floro and Messier (2011) report a mean debt service ratio (monthly debt payment to monthly income) that is much higher for women than men among urban, informal sector workers in two cities in Ecuador. This is not directly comparable to our data since we did not collect information on the debt service ratio.

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