

# Who wants to be an entrepreneur?

## Financial development and occupational choice

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### **Abstract**

Theory suggests that access to finance facilitates entrepreneurship. However, evidence from randomized surveys of over one million individuals in India show instead that financial access shifts workers away from entrepreneurship into wage employment. Identifying access to finance using bank branch location determined by government policy, we find that individuals living in a district with greater access to finance are on average significantly less likely to be entrepreneurs in micro-enterprises and more likely to be formally employed. This shift is more pronounced for more educated workers. The results also show that individuals are paid higher wages on average in districts with more bank branches, and this effect is driven by those engaged in formal employment. To establish the firm-level channel, we use randomized surveys of over 400,000 service sector firms, and find that firms located in districts with more bank branches have significantly higher bank loans. The results indicate that firms in more financially developed districts are more productive, employ more workers, and pay higher wages on average, with the benefits mostly accruing to larger, formal sector firms. Our results suggests a mechanism by which financial development facilitates economic growth: by moving workers out of less productive, informal entrepreneurial activity into formal jobs in more productive firms.

Keywords: Financial development; Entrepreneurship; Banking

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*“It’s important to distinguish between entrepreneurial zeal and self-employed desperation.”*

Robert Reich (Former Secretary of Labor), “Entrepreneur or Unemployed?” June 1, 2010, *The New York Times*.

## **1. Introduction**

Schumpeter (1942) emphasized the important role played by entrepreneurs in facilitating economic growth, and contended that well-functioning banks spur technological innovation by identifying entrepreneurs with the best chance of success. Consequently, theoretical models of occupational choice argue that when capital markets are imperfect, individual wealth determines the choice between self-employment and wage employment (see for example Greenwood and Jovanovic, 1990 and Buera et al., 2011). Consistent with this view, a fast growing literature has documented a positive relationship between access to finance and entrepreneurship.<sup>1</sup> But what are the effects of easing financial constraints when entrepreneurship is a response to the absence of wage employment opportunities?<sup>2</sup>

Micro-enterprises in the informal sector account for a large proportion of economic activity in emerging markets, employing more than 50% of the labor force on average (La Porta and Shleifer, 2008).<sup>3</sup> The conventional view is that these firms are potential sources of income growth that are inhibited by a lack of access to finance and infrastructure (De Soto, 1989, 2000). In line with this view, a growing literature has argued that targeted credit to

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<sup>1</sup> For example, see Evans and Jovanovic (1989), King and Levine (1993), Black and Strahan, (2002), Guiso, Sapienza, and Zingales (2004), Klapper, Laeven, and Rajan (2006), Bertrand, Schoar, and Thesmar (2007), and, Adelino, Schoar, and Severino (2013), among others.

<sup>2</sup> Recent evidence suggests that during the Great Recession, U.S. entrepreneurship rates were higher in regions with high local unemployment (Fairlie, 2013).

<sup>3</sup> The informal sector refers to firms that are not registered with the government (La Porta and Shleifer, 2008), and micro-enterprises in developing economies are typically informal. Activities in the informal sector are not necessarily performed with the intention of evading taxes. According to La Porta and Shleifer (2014), informal firms are simply too small to pay taxes or undertake the costs of registration.

micro-enterprises is a key policy instrument for facilitating economic growth and reducing poverty (see for example, Bruhn and Love, 2014).

An alternative view claims that the self-employed in emerging markets are engaged in unproductive economic activities (Rauch, 1991, Schoar, 2010). For example, La Porta and Shleifer (2008, 2014) show that informal firms on average add just 20% of the value added per worker of formal firms, and that economic growth comes from the formal sector. The literature has also shown that micro-enterprises in developing countries have lower employment growth on average (Karlan and Zinman, 2011), and rarely transition into the formal sector (Schoar, 2010, and de Mel et al., 2013). In fact, randomized trials of microfinance programs have failed to find evidence that microcredit to poor individuals increases the likelihood of starting a new business, and any positive effects on profits appear only for the largest of these enterprises (see for example, Banerjee et al., 2015 and the studies cited within), leading Crepon et al. (2015) to argue that a plausible interpretation of the absence of such evidence is that on average, micro-enterprises have lower marginal productivity of capital.<sup>4</sup> The welfare implication of policies promoting micro-entrepreneurship thus crucially depends on the productivity of these firms, since targeted lending to unproductive enterprises may divert scarce capital away from more productive firms, especially in emerging markets where even formal sector firms are likely to be credit constrained.

Using data from India, we consider the effect of access to credit on the choice of individuals to engage in entrepreneurship versus seeking formal wage employment. To

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<sup>4</sup> We do not argue that all micro-enterprises are unproductive. For example de Mel, McKenzie and Woodruff (2008) examine the effect of randomized grants to Sri Lankan micro-enterprises, and find an average real return to capital is between 4.6% and 5.3% per month for these firms.

examine this question, we use data from two rounds of the Employment and Unemployment Surveys conducted in 1999 and 2004 by the National Sample Survey Organization (NSSO), a division of the Ministry of Statistics and Programme Implementation of the Government of India. These surveys are primary sources of data on various indicators of the labor force at the national and regional level, which are used for policy formulation and statistical analysis by the government.

The Employment and Unemployment survey covers over 1.2 million randomly selected individuals from the entire nation with the exception of a few territories. We use two rounds of the survey conducted in 1999 and 2004, providing a large, repeated cross-section of individual-level data. We restrict the data to individuals between the ages of 10 and 70, and the average age of individuals in the data is 27. About 26% of individuals in the survey are engaged in enterprises in the informal sector (referred to as household firms in the survey) as self-employed, employers with at least one employee, and workers.<sup>5,6</sup> Another 18% of individuals have formal wage-paying jobs, 25% are enrolled in educational institutions, and the rest are either not in the labor force (26%), or are unemployed (2%). The average household enterprise employs 1.4 workers, and just 0.6% of individuals employed in these firms report being paid wages.<sup>7</sup>

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<sup>5</sup> The Government of India defines the informal sector as all enterprises other than those registered with the government, and those run by government-owned firms. Within the informal sector, a household firm is defined as one run by members of one or more households. Formal sector firms operate outside of the household and are owned by government-owned firms, private corporations, cooperatives, and trusts. (NSSO, 2000).

<sup>6</sup> For comparison note that about 20% of workers in OECD economies are either self-employed or work for the self-employed, and two-fifths of the U.S. workforce experiences at least one spell of self-employment (Parker, 2009, page 11.)

<sup>7</sup> Household firms operate in a range of industries including agriculture and allied activities, mining, manufacturing, and services. Examples of activities include small farmers, animal husbandry, fishermen, brick-kilns, construction, tobacco products, incense sticks, local transport, retail shops,

To directly examine whether firm-level borrowing and employment decisions are correlated with access to finance, we use data from two rounds of a nationally representative survey, conducted by the NSSO in 2001 and 2006, of over 400,000 randomly selected service sector firms in a broad range of activities. These surveys collect information on bank loans and employment characteristics of both formal and informal enterprises, with a focus on micro-enterprises in the service sector.<sup>8</sup> We note that the service sector was the main driver of economic growth following the economic reforms, and accounted for 52% of GDP in 2004 (Panagariya, 2008, page 13).<sup>9</sup> The average firm in these data has bank loans of about INR 700,000 (\$14,000 at 2001 exchange rates), annual value added of about \$1,600, and employs 1.8 workers.

To measure access to finance, we use the number of government bank branches and credit extended by government banks across more than 500 Indian districts. We use a three-pronged identification strategy to measure access to finance relying on (1) government policy governing bank branch location, (2) historical location of government-owned bank branches, and, (3) unanticipated growth of the service sector in India (Panagariya 2008).

Prior to the economic reforms of 1991, Indian commercial banks were required to obtain a license from the central bank, the Reserve Bank of India, to open a new branch.<sup>10</sup> This licensing policy, which was in effect between 1977 and 1990, required commercial

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restaurants, hotels, domestic servants, street cleaning, street vendors, garbage collectors, and garment workers, among others.

<sup>8</sup> Focusing on the service sector to examine micro-enterprises is useful because small firms are less common in the manufacturing sector due to greater capital and scale requirements.

<sup>9</sup> In contrast, the manufacturing sector accounted for 17% of GDP in 2004 (Panagariya, 2008, page 13).

<sup>10</sup> See for example Gormley (2010) for a discussion of the Indian banking sector prior to the liberalization reforms of 1991.

banks to open four branches in unbanked locations before they could obtain a license to open a branch in a location with existing commercial bank presence, commonly referred to as the 4:1 rule (Burgess and Pande, 2005, Panagariya, 2006). In addition, the government set population targets for bank branch coverage (Panagariya, 2006). The location rule was discontinued following the economic reforms of 1991.

We measure access to finance using the pre-liberalization location of government-owned bank branches at the district level in 1991. The identification strategy is based on the argument that historical access is correlated with current branch location and is less endogenous than the contemporaneous location of bank branches.<sup>11</sup> Our identification strategy is similar to Guiso, Sapienza, and Zingales (2004), who use the historic location of Italian banks to identify the effect of financial access on new firm creation, Gormley (2010) who uses the pre-liberalization location of foreign banks in India to identify the effect of foreign bank entry on domestic credit access and firm performance, and Burgess and Pande (2005) who use the 4:1 bank branch location rule to identify the effect of branch expansion on rural poverty in India.

Using government bank branch location in 1991 helps our identification strategy in two critical ways. First, the 4:1 policy that determined bank branch location in 1991 reduced the number of branches that could be opened based on regional growth. Second, since our dependent variables are from 1999 and 2004, this reduces the possibility that bank location in 1991 is correlated with the income and growth prospects of districts more than a decade

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<sup>11</sup> An equivalent approach would be to use historical bank branch location as an instrument for contemporaneous branch location.

later. Note that we focus on government-owned banks because they are likely to be more influenced by government policy, and account for over 70% of loans and deposits on average.

We also investigate the validity of our identification strategy under a plausible selection mechanism, where banks in the early 1990s selected to locate in districts that were high growth at that time. Specifically, we examine the correlation between district-level growth in wages, total employment, share of formal employment, manufacturing employment, and education of workers, between 1989 and 1999, and between 1999 and 2004. For all the variables except for wages, which is uncorrelated with future within-district growth, we observe a negative correlation between past growth in 1987-1999 and future growth in 1999-2004. If the number of bank branches is endogenously based on profit-seeking location choice (which we believe is unlikely in 1991 given the 4:1 licensing rule), then it is likely to be negatively selected, with additional branches located in districts that experience poor growth opportunities in the period we study. This would bias our results away from finding a positive impact of financial development on wages and occupational choice between 1999 and 2004.

The results from the Employment and Unemployment Survey suggest that individuals are significantly less likely to be either self-employed, an employer, or an employee in an informal sector enterprise in districts with more bank branches. For example, moving from a district with the mean number of government-owned bank branches (about 24.5) to a district with twice the mean number of branches, lowers the likelihood of being an entrepreneur by about 11.6% relative to the sample mean of 18%. The changes are greater for more educated individuals (moving from a district with the mean number of branches to a district with twice the mean number of branches, lowers the

likelihood of entrepreneurship for individuals with middle school and higher education by 21% relative to the sample mean, with no difference for illiterate individuals), and entrepreneurs in larger household firms (21% lower likelihood relative to the sample mean, with no difference for smaller enterprises). The specifications control for individual characteristics including age and gender, district population, year, industry, and state fixed-effects, which would address the concern that banks may be more likely to locate in wealthier states that also have more employment opportunities. Note that all the results are robust to using an alternative measure of financial access, loans from government-owned banks at the district level.

Individuals in more financially developed districts are also significantly less likely to be employed in a micro-enterprise. For example, an individual moving from a district with the mean number of government-owned bank branches to a district with twice the mean number of branches has a 46% lower likelihood of working for a household firm, relative to the sample mean of 12%.

The results also suggest that individuals are significantly more likely to be employed in the formal sector in districts with more bank branches. For instance, an individual moving from a district with the mean number of government-owned bank branches to a district with twice the mean number of branches has a 27% higher likelihood of being formally employed for wages, relative to the sample mean of 10%. The effect is greater for more educated workers (41% higher likelihood relative to the sample mean for individuals with middle school or higher education), and those employed by larger firms (27% higher likelihood relative to the sample mean).

Examining if there is a corresponding pattern for wages, we find that moving from a district with the mean number of government-owned bank branches to a district with twice the mean number of bank branches is associated with a 4% increase in wages, relative to the sample mean of INR 30,837 (approximately \$685 at 1999 exchange rates). Moreover this result is driven by workers engaged in formal employment, and not entrepreneurs in micro-enterprises.

The results indicate that the likelihood of being unemployed is not significantly different in more financially developed districts, but the likelihood of being a student increases significantly. Compared to a district with the mean number of government-owned bank branches, an individual living in a district with twice the mean number of branches has a 12% higher likelihood of being enrolled in an educational institution relative to the sample mean of 18%.

Women and minorities typically have limited access to credit through formal lending institutions. We find some evidence corroborating this view. In particular, our results show that men and non-disadvantaged social groups benefit more from financial access, in that they are less likely to be entrepreneurs and more likely to be formally employed in districts with more government bank branches.<sup>12</sup> However, we find that women and individuals belonging to disadvantaged social groups are also significantly less likely to be employed in a micro-enterprise, more likely to be employed in the formal sector, more likely to be students, and earn higher wages on average in more financially developed districts. While

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<sup>12</sup> In a recent study, Fisman, Paravisini, and Vig (2015) use Indian data to show that cultural proximity between loan officers and borrowers, captured by religion and caste, increases access to credit.

financial access may benefit men and non-disadvantaged groups more, there also appear to be benefits for women and disadvantaged social groups.

In emerging markets where most firms are likely to be credit constrained, individuals may engage in entrepreneurship in the informal sector due to a lack of wage employment opportunities, and the average micro-enterprise may not be very productive (see for example, Schoar, 2010 and La Porta and Shleifer, 2008, 2014). For example, just 0.6% of entrepreneurs and employees of household firms are paid wages in our data. Our results thus describe a mechanism by which financial development may facilitate economic growth: by allowing productive, financially constrained firms to expand employment and pay higher wages thereby shifting workers out of unproductive activities. This is consistent with the canonical dual economy model (Lewis, 1954), where the informal economy survives when labor force growth is high, but economic growth comes from the more productive formal sector (Pagano and Pica, 2012, La Porta and Shleifer, 2008, 2014). For example, in Pagano and Pica's (2012) two-sector model, financial development allows more profitable firms to attract more workers by bidding up wages, thereby inducing labor reallocation from the weaker to the more productive sector.

The underlying mechanism by which access to finance shifts individual occupation choice is by easing financial constraints for firms, and thereby affecting firm-level employment decisions.<sup>13</sup> To investigate this assumption, we use firm-level data from two rounds of a randomized survey of over 400,000 service sector firms to examine the

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<sup>13</sup> Benmelech, Bergman, and Seru (2015) argue that financial constraints affect employment because firms rely on working capital to finance labor costs; there are adjustment costs to hiring and firing workers; and, due to capital labor complementarities in the production function.

relationship between access to finance and bank borrowing and employment decisions of firms.

The service sector survey is useful for several reasons. First, it allows us to examine the relationship between access to finance and borrowing at the firm-level; Second, the survey includes both formal and informal sector firms, allowing a comparison between the two sectors; Third, since the service sector has been the main contributor to economic growth since the economic reforms, these data offer a unique opportunity to examine the role of financial development in facilitating growth. Lastly, a critical advantage of focusing on service sector firms is that the rapid growth in this sector was unanticipated prior to the economic reforms, which reduces the potential for endogenous location of bank branches based on the future characteristics of service sector firms in a region.<sup>14</sup>

The results show that service sector firms located in districts with more government-owned bank branches borrow more from banks on average. For instance, compared to a district with the mean number of government-owned bank branches (about 37 branches), a firm located in a district with twice the mean number of branches borrows 10% more on average relative to the average loan of INR 700,000 (about \$14,000 at 2001 exchange rates). Note that the specifications control for district population, year, industry, and state fixed-effects. The difference is larger for formal sector firms (9% more loans relative to the mean) than informal firms, which do not borrow more in districts with more bank branches.

Increased access to finance is also found to be associated with higher firm-level employment. For example, compared to a district with the mean number of government

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<sup>14</sup> Panagariya (2008) notes that the high, unanticipated growth in the service sector “poses a major puzzle for economists” as it was not accompanied by similar growth in manufacturing (page 12).

bank branches, a firm located in a district with twice the mean number of branches hires 14% more workers on average relative to the sample mean of 2.6 workers. The economic magnitudes are higher for formal firms (23% more relative to mean) compared to informal firms (6% more relative to mean).

We also observe that firms located in districts with more government bank branches are more productive on average. Compared to a firm located in a district with the mean number of government bank branches, the value added per worker of a firm located in a district with twice the mean number of branches is 3% higher relative to the sample mean of INR 74,424 (about \$1,600). The difference is greater for formal sector firms (5% higher relative to the mean) than informal firms (no significant difference).

Lastly, we find a significant and positive association between firm-level wages and the number of government-owned bank branches in a district. Specifically, compared to a district with the mean number of government-owned bank branches, a firm located in a district with twice the mean number of branches pays 6% more in wages on average relative to the sample mean. The results also suggest that formal sector and large firms pay higher wages in districts with more banks compared to districts with fewer banks, but there is no significant difference for informal sector and small firms.

The service sector firm results are consistent with the view that increased access to finance is associated with a significant easing of firm-level financial constraints, particularly in productive, formal sector firms. This provides corroborative evidence that by easing financial constraints, financial development shifts individuals out of entrepreneurship in less productive endeavors, into wage employment in productive enterprises.

Our paper contributes to the literature on financial development and economic growth. A now widely accepted argument, proposed by Goldsmith (1969), McKinnon (1973), and Shaw (1973), supported by a growing empirical literature on this topic, suggests a first-order relationship between financial market development and economic growth (see for example, Rajan and Zingales (1998), Fisman and Love (2004), and Gupta and Yuan (2009) for industry-level evidence, and, Bekaert, Harvey, and Lundblad (2005) for country-level evidence). Although the preponderance of the macroeconomic evidence suggests that financial market development promotes economic growth, the channels by which growth occurs remains a matter of considerable debate. Our results suggest that one channel by which financial development facilitates economic growth is by moving workers out of less productive entrepreneurship into formal employment in productive firms.

This paper is also related to the large literature examining the effects of access to credit and bank deregulation, which finds that bank entry may affect firms' access to credit (Petersen and Rajan, 1995; Beck, Demirguc-Kunt, and Maksimovic, 2004), economic growth (Jayaratne and Strahan, 1996; Cetorelli and Gambera, 2001), and, entrepreneurship (Black and Strahan, 2002). Our study finds that access to credit is associated with a shift in the occupational choice of individuals in the labor market, which has potentially important implications for both economic growth, and the labor market decisions of firms and workers.

The remainder of the paper is organized as follows: Section 2 describes our identification strategy and bank branch location policies, Section 3 describes the data, Section 4 describes the main results from the Employment-Unemployment surveys; Section 5 describes the results from the Service sector surveys; and, Section 6 concludes.

## **2. India's bank branch location policy**

In this section we describe our identification strategy, which relies on the Indian central bank's policies governing bank branch location. Prior to 1991, India's central bank, the Reserve Bank of India (RBI), required all Indian commercial banks to obtain a license before opening a bank branch, and stipulated that banks had to open a specified ratio of branches in unbanked locations versus regions with existing bank branches.

The licensing policy originated in 1962, when the RBI required Indian commercial banks to open two branches in a location without any banks for every branch opened in an already banked location, or a 2:1 ratio in favor of unbanked regions (Panagariya, 2006). This policy underwent a number of modifications, and was changed in 1970 to 2:1 in the case of banks that had more than 60% of their offices in rural and semi-urban regions, and in the case of other banks to 3:1 in favor of unbanked locations. Finally, on January 1, 1977, the RBI adopted the rule whereby a commercial bank had to open 4 branches in an unbanked rural area to get an entitlement to open one office in a metropolitan/port town and one office in an already banked location, the so-called 4:1 licensing rule.

To address the problem that banks may respond by stopping all expansion in order to avoid having to open branches in rural areas, in 1979 the RBI introduced the Bank Licensing Program (BLP), which in addition to the 4:1 rule, set a population target per branch in each district. From 1979 to 1981 the population target per branch was set at 20,000, and in 1982 the target was lowered to 17,000 people per bank branch (Panagariya, 2006). Following the balance of payments crisis in 1991, the 4:1 rule and population target policies were both overturned.

In the empirical analysis we identify access to finance using the location of government-owned bank branches at the district level. Our identification strategy is based on two arguments: (1) Historical financial access is correlated to current branch location, and (2) Past bank branch location is less endogenous than the contemporaneous location of bank branches, which may be correlated with district level growth. From the bank branch data (described in Section 3.3 below) we show that the correlation in bank location between 1991 and 1992 is equal to 0.99, between 1991 and 1999 (the first year of the Employment and Unemployment Survey) is equal to 0.88, and between 1999 and 2004 is equal to 0.84. This indicates that bank branch location in 1991 is a good proxy for bank location in the early 2000s, the time period of the individual and firm-level surveys. With the 1991 data we therefore capture that part of access to credit that was determined by the 4:1 bank branch location policy rather than by economic growth within districts in the early 2000s.

We also investigate the validity of our identification strategy under a plausible selection mechanism where banks in the early 1990s selected to locate in districts that were high growth at that time. Specifically, we examine the correlation between district-level growth in wages, total employment, share of formal employment, manufacturing employment, and the education level of workers between 1989 and 1999, and between 1999 and 2004 using the 1987 NSSO Employment-Unemployment Survey (described in Section 3.1 below). We then examine the correlation between district-level wages, employment, and education growth from 1987 to 1999 and from 1999 to 2004. The results are presented in Figures 1A-1E.

Figure 1A shows that wage growth from 1987 to 1999 is not a statistically significant predictor of wage growth between 1999 and 2004. In Figure 1B we find a negative

correlation between total employment growth between the two periods. A similar pattern is observed in Figures 1C-1E for the growth in the share of formal employment in total employment, manufacturing employment, and education. Since past growth opportunities are negatively correlated with growth opportunities in the mid-2000s, if government-owned bank branch location in 1991 is endogenously based on the growth opportunities at the time (which we consider unlikely given the location policies), then it is likely to be negatively selected, with additional branches located in districts that have poor growth opportunities in the period we study. This would bias our results away from finding a positive impact of financial development on occupational choice and firm growth after 1999.

### **3. Data**

#### **3.1 Employment and Unemployment Surveys**

The data on individual occupational choice and service sector firms are from nationwide, randomized surveys conducted by the National Sample Survey Organization (NSSO), a division of the Ministry of Statistics and Program Implementation of the Government of India. For the Employment and Unemployment surveys, the NSSO conducts national surveys on the employment and unemployment status of a large sample of randomly selected households every five years. These surveys are primary sources of data on various indicators of the labor force that are used both by policy makers and researchers.

The employment surveys have been conducted quinquennially from 1972 and measure the extent of employment and unemployment disaggregated by household and population characteristics. They cover the entire nation except for politically sensitive or inaccessible districts in the states of Jammu & Kashmir (border of Pakistan), Nagaland (north-east), and the Andaman and Nicobar Islands (located in the Bay of Bengal). Villages

that are uninhabited according to 1991 census were also left out in 1999. The survey uses the interview method of data collection from a sample of randomly selected households. Members of the household are drawn from the population in a two-stage stratified sample design. In the first stage, villages are selected, and individual households within these villages are sampled in the second stage.

Given the timing of our data on banking and credit activities, we use rounds 55 and 61 of the employment surveys conducted in 1999 and 2004, respectively, yielding a repeated cross-section of individuals. The 55<sup>th</sup> round of the Employment and Unemployment Survey in 1999 was the first nationwide survey of the informal sector, which is described by the NSSO as follows: “The informal sector may be broadly characterized as consisting of units engaged in the production of goods and services with the primary objective of generating employment and incomes to the persons concerned. These units typically operate at a low level of organization, with little or no division between labor and capital as factors of production and on a small scale,” (NSSO, 2000). Informal firms are identified by the government as all enterprises excluding those that are registered under the Factories Act, 1948 and Bidi and Cigar Workers Act, 1966, and those run by the government or government-owned firms (NSSO, 2000).

The NSSO defines a household enterprise in the informal sector as one run by one or more members of a household or jointly by two or more households, including all proprietary and partnership enterprises. Non-household enterprises are typically in the formal sector, and are owned by governments, government-owned firms, private corporations, cooperatives, and, trusts. (NSSO, 2000). Household enterprises are further defined as “units engaged in the production of goods or services, which are not constituted as separate legal entities independently of the households or household members that own them, and for which no complete sets of

accounts are available which would permit a clear distinction of the production activities of the enterprises from the other activities of their owners” (NSSO, 2000). We note that activities performed by these informal sector household firms are not necessarily performed with the intention of evading taxes, and are therefore distinct from the underground economy.

We use data on the work status and activity pursued by households during the preceding year. Any activity resulting in the production of goods and services that add value to the national product is considered an economic activity (NSSO, 2000). The data divide individuals into those working within household firms (micro-enterprises in the informal sector); as regular salaried workers outside the household (formal); or as part-time workers also outside the household (formal part-time). Since the employment surveys cover the working conditions of individuals, we do not directly observe whether the individuals working outside of the household are doing so in formal sector firms, and instead use the nature of the employment relationship to identify the type of firm. Specifically, the employment status is defined as *de facto* formal if the individual is a salaried worker working outside of the household, and *de facto* informal if the individual works in a household firm.

Surveyed households work in a range of industries including agriculture and related activities, mining and quarrying, manufacturing, construction, trading and repair services, hotels & restaurants, transport, storage and communications, financial intermediation, real estate, renting and business activities, education, health and social work and other community, social & personal service sectors. About 68% of individuals work in primary sector occupations, including agriculture and related activities, mining, quarrying, etc., about 5% are in manufacturing, and about 26% are in the service sector including utilities.

We restrict our sample to individuals between the ages of 10 and 70 (the lower bound of 10 allows for child labor if prevalent). The average age of the labor force is 27, with an almost even split between men and women. In terms of geographical location, workers are identified by district, and the data further notes whether the districts are located in urban or rural areas.

We define an individual as an entrepreneur (*Household Enterprise Employer*) if the individual is recorded as the owner of an Own Account Enterprise (an undertaking run by household labor, usually without any hired workers employed on a “fairly regular basis” (NSSO, 2000)), or as an employer in a household firm with more than one employee. From the summary statistics described in Table 1 we note that 15% of individuals report being an entrepreneur in a micro-enterprise (about 189,000 individuals). We also define *Household enterprise worker* as an individual who is an employee in a household firm. About 139,000 individuals are household employees, or 11% of the sample. We define *Formal employee* as an individual who is employed for wages outside of the household, and *Formal casual employee* refers to individuals working part-time for wages in the formal sector. The distribution of activities shows that around one quarter of workers are in household firms either as the sole entrepreneur or as employees, and another 18% of workers represent having a full or part-time formal, salaried job. We code those who normally work in one of the previous activities but are not doing so at the time of the survey due to sickness as belonging to their usual employment category.

We identify two additional measures of occupation including those who are not working but looking for work as *Unemployed*, and those who are currently attending educational institutions, defined as *Student*. Unemployment is low, at 2.4%, but lacking

employment, the poor often work in household firms. More than one quarter of the sample report they are attending educational institutions. The survey codes education as a categorical variable, including illiterate, literate without formal school, and various degrees of formal schooling up to a post-secondary degree. Education ranges from illiteracy for 31% of the population, some degree of primary for 28% of the population, to middle school or more advanced degree for 41% of the population.

In addition, we code individuals who are not in the labor force as *Not in Labor Force*, constituting about 26% of the sample. This category includes individuals engaged in domestic duties only; in the free collection of goods for domestic use (vegetables, firewood, etc.), sewing, tailoring, etc.; not able to work due to disability; receiving pensions, rents, and remittances; and beggars and sex workers (NSSO, 2000).

The surveys also record *Wages* defined as weekly wages or salary, which we normalize to an annualized wage. For round 51, we deflate nominal values to 1999 values using the Consumer Price Index. Annual wages are INR 30,837, or approximately USD 685 at 1999 exchange rates.

### **3.2 Service Sector Surveys**

The National Sample Survey Organization conducted the first nationwide survey of non-agricultural micro-enterprises in the service sector in 2001. This survey gathers information on both formal and informal sector firms, which allows for a comparison of the two sectors. We use data from two rounds of the survey of service sector firms, round 57 (2001-02) and round 63 (2006-2007), yielding a large, repeated cross-section of firm-level data. Note that micro-enterprises are more common in the service sector because of the

capital and scale related entry barriers in manufacturing. Moreover, the service sector accounted for 54% of GDP in 2004, whereas manufacturing was 17% (Panagariya, 2008).

The service sector surveys cover a broad range of service sector activities including hotels and restaurants; transport, storage, and communications; real estate, renting, and business activities; education; health and social work; and other community, social, and personal activities. The 63rd round includes financial intermediation as well, but since these services are not included in the 57th round, we exclude them from the analysis. Also excluded from both rounds of surveys are the wholesale and retail sector; public administration and defense; production activities of private households; extraterritorial organizations; and government-owned firms. The geographic coverage is for the whole nation and covers the same regions as the Employment and Unemployment survey described in the previous section. The surveys use a two stage stratified sampling design. In the first stage villages in rural areas and localities in urban areas are sampled, and enterprises are sampled in the second stage (NSSO, 2003).

Table 2 presents summary statistics for the key variables in the survey. There are over 440,000 firms surveyed over the two rounds. The average firm has 1.8 employees, with a single owner-proprietor being the modal size. *Gross Value Added*, defined as total receipts less total operating expenses, is equal to INR 74,000 per firm, approximately \$1600 at 2001 exchange rates. Both variables are skewed, with the largest firm employing over 75,000 workers and with an annual gross value added of over \$1 billion. The survey also reports that 11.6% of firms have an outstanding bank loan with an average loan size of approximately Rs. 700,000, or \$14,000 for the sample of firms reporting positive loans. *Wages* are defined as total salary, wages, allowances, and other individual benefits (cash &

kind including bonus, retirement benefits etc., apportioned for the month), in addition to the imputed value of group benefits for the month (including employer's contribution towards cafeteria food, sports, insurance, etc.). We scale wages to an annual reference, and deflate all financial variables in Round 63 to 2001 values.

### **3.3 Banking Data**

The data on bank entry and ownership is published by India's central bank, the Reserve Bank of India. These quarterly data provide the loans and number of branches in each district by bank ownership group. We use data on government-owned bank branches and loans in a district, which includes state, nationalized and rural banks. These data are from the fourth quarter of 1991, the year prior to the economic reforms when bank branch location was still governed by the 4:1 rule described in Section 2 above. We merge the district identifier from the four NSSO surveys with the identifiers from our banking data. From 588 total districts in our banking data, we are able to merge 364 districts into the services data and 465 districts into the employment-unemployment surveys. The number of districts is different when matched with the surveys because of changes in the geographic boundaries of districts and states during this period for political reasons. Table 3 describes the banking data. On average, based on the Employment and Unemployment survey, there are about 26 government-owned bank branches per district.

Figures 2A-2C provide district-level maps of India describing the distribution of bank branches, entrepreneurs, and individuals employed in formal firms. In Figure 2A we denote districts in the bottom (0-9 branches), middle (10-26 branches), and top (27-268 branches) terciles of bank branches. Higher concentration of banks are denoted by lighter colors. We note that districts in the western and southern states (Gujarat, Maharashtra, Andhra

Pradesh) have the highest concentration of government-owned banks, whereas districts in the north and north-east (Uttar Pradesh, Madhya Pradesh, Bihar, Assam) have the lowest bank presence.

Figure 2B indicates districts in the top (17%-100%), middle (13%-17%), and bottom third (0%-13%) terciles of the likelihood of being an entrepreneur. Districts with more entrepreneurs are denoted by lighter colors. The map indicates that there are more entrepreneurs in districts in northern states (Uttar Pradesh, Rajasthan, Assam), and fewer in the western and southern states (Gujarat, Maharashtra, Tamil Nadu).

Figure 2C provides a map of districts based on the distribution of individuals working full time in the formal sector. The map indicates districts in the bottom (0-3%), middle (3%-6%), and top (6%-100%) terciles of the likelihood of formal sector employment. Lighter colors indicate districts with more formal employment. As can be seen from the map, districts in northern states (Uttar Pradesh, Bihar, Orissa) have the lowest share of formal employment, whereas districts in the western and southern states (Gujarat, Maharashtra, Tamil Nadu) have more formal workers.

Figure 2D describes a bivariate map denoting districts with either above median number of bank branches and below median entrepreneurship (dark gray), or below median number of bank branches and above median entrepreneurs (light gray). The blank districts fall into the remaining categories (above-above or below-below). From the map we note that districts with more branches and fewer entrepreneurs are located in the southern and western regions, whereas districts with fewer banks and more entrepreneurs are in the north and north-east. About 57% of districts fall into one of these two categories. The correlation between number of government-owned bank branches in a district and the likelihood of being an entrepreneur in that district is -15%, with a p-value of 0.0003,

suggesting that entrepreneurship is negatively correlated with access to finance.

We describe the correlation between formal sector employment and bank branch location in Figure 2E. The map denotes districts with above median number of bank branches and above median entrepreneurship (dark gray), and below median number of bank branches and below median entrepreneurs (light gray). As can be seen from the map, districts with more bank branches and more formal workers are located in the western and southern states, whereas districts with both fewer branches and fewer formal workers are located in the northern states. About 61% of districts fall into one of these two categories, and the correlation between bank branches and formal employment is 20% with a p-value of 0.000, suggesting a positive correlation between formal employment and access to finance.

#### **4. Access to finance and individual occupational choice**

##### **4.1 The likelihood of being an entrepreneur**

We start by examining the probability of being either self-employed or an employer in a micro-enterprise using data from the Employment and Unemployment survey described in Section 3.1. Specifically, we estimate the following logit specification with state and two-digit industry fixed effects using data on more than 1 million individuals from two rounds of the Employment and Unemployment Surveys in 1999 and 2004:

$$\Pr(\text{Household Firm Employer}_{it} = 1) = \Phi(\beta_1 \text{Log}(\text{Government Bank Branches}_{1991,d}) + \beta_2 \text{Age}_{it} + \beta_3 \text{Male}_{it} + \beta_4 \text{Population}_{dt} + \alpha_{Year} + \alpha_{Ind} + \alpha_{State}), \quad (1)$$

where  $\Phi(z)$  is the cumulative logistic distribution,  $i$  refers to the individual,  $t$  refers to the round of the survey (1999 or 2004), and  $d$  refers to the district. Note that here and below the

estimated coefficients report marginal effects from the logit regressions. The dependent variable is equal to one if the individual is either self-employed in a micro-enterprise that has no employees, or is the boss of such an enterprise with at least one employee. The specification controls for the individual's age and gender, population at the district level, two-digit industry fixed effects (using the National Industrial Classification), year dummies for the year of the survey, and state fixed effects. As discussed in Section 2, to address potential endogeneity in the financial access variable we use the number of government-owned bank branches in 1991, when branch location was determined by government policy.<sup>15</sup> All standard errors are clustered at the district level. We also estimate this specification for different subsamples based on firm size and individual characteristics.

The results are reported in Table 4, Panels A and B. In Panel A, column (1) we report the results from estimating specification (1) for the entire sample, in columns (2)-(4) we consider different subsamples based on the education level of the individual, and in columns (5) and (6) we consider two subsamples based on whether the enterprise employs fewer or more than 6 workers. The remaining tables adopt a similar structure.

The results reported in Table 4 Panel A, column (1) for the full sample suggest that an individual is significantly less likely to be an entrepreneur in a micro-enterprise in districts with more bank branches. These effects are also economically significant. For example, from column (1) we note that an individual moving from a district with the mean number of government-owned bank branches (24.5 branches in the regression sample) to a district

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<sup>15</sup> Since *Government Bank Branches* is time-invariant at the district level we cannot include district level fixed-effects.

with twice the mean number of branches, has a 12% lower likelihood of being an entrepreneur, relative to the sample mean likelihood of 18%.<sup>16</sup>

We also find that more educated individuals living in a district with greater access to finance are significantly less likely to be entrepreneurs. For instance, from Panel A, column (6) we note that an individual with middle school or higher education moving from a district with the mean number of government bank branches (about 26 branches) to a district with twice the mean number of branches, has a 21% lower likelihood of being an entrepreneur relative to the sample mean of 18%. In contrast, the occupational choice of illiterate individuals does not appear to vary based on financial access.

The likelihood of being an entrepreneur of a larger enterprise employing 6 or more workers is also significantly lower in districts with more bank branches. From Panel A, column (6) we note that an individual moving from a district with the mean number of branches (about 24 branches) to a district with twice the mean number of branches has a 20% lower likelihood of being an entrepreneur of a firm with 6 or more workers, relative to the mean of 15%. This result suggests that access to finance may either accelerate the transformation of larger enterprises out of the household and into the formal sector, or increase employment opportunities for more talented entrepreneurs of larger firms.

We observe similar results in Panel B using an alternative measure of financial development, loans provided by government-owned banks at the district level in 1991.

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<sup>16</sup> To obtain the percentage change relative to the mean, in Table 4 column (1) we multiply the coefficient of *Log (Government Bank Branches in 1991)* equal to  $-.0065$ , with the mean value of log bank branches (equal to 3.2), and divide by the mean value of the dependent variable, the likelihood of being a household firm employer (17.8%). All % changes relative to the mean described in the paper are calculated similarly.

## 4.2 The likelihood of being employed in a micro-enterprise

To investigate if access to finance affects the decision of individuals to work for a micro-enterprise we estimate a logit specification similar to equation (1) above, where the dependent variable is equal to 1 for an individual who works in a micro-enterprise in the informal sector. The regressions control for individual age, gender, district population, year, industry, and state fixed effects.

The results reported in Table 5, Panel A, suggest that the likelihood of being employed in a household firm is significantly lower in districts with more bank branches. For example, from Panel A, column (1) we note that in the full sample, an individual moving from a district with the mean number of government-owned bank branches (about 24.5 branches) to a district with twice the mean number of branches has a 46% lower likelihood of being an employee in a household firm, relative to the sample mean of 12.4%.

An increase in the number of government bank branches in a district is associated with a significantly lower likelihood of being employed in a micro-enterprise for all education levels (see columns (4)-(6)), and for both large and small enterprises (columns (5) and (6)). From Table 5, Panel B we note that the results are similar when access to finance is identified using credit provided by government-owned bank branches in the district.

The negative relationship between entrepreneurship and access to finance is consistent with the view that micro-entrepreneurship may be a response to the absence of other employment opportunities. Moreover, this may not simply be an emerging markets phenomenon. Fairlie (2013) for example, finds that higher local unemployment rates increase the probability that individuals start businesses in the United States. If formal firms are also credit-constrained, financial development may ease constraints for these firms,

facilitating the movement of workers out of micro-enterprises into wage employment. Below, we examine the relationship between access to finance and employment in the formal sector.

### **4.3 The likelihood of formal employment**

Using the individual level data from the Employment and Unemployment survey we estimate a logit specification similar to equation (1), where the dependent variable is equal to one if the individual is formally employed for wages outside of the household. The regressions control for individual age, gender, district population, and year, industry, and state fixed effects. The results are reported in Table 6.

From Table 6, Panel A we note that the likelihood of being formally employed is significantly higher for individuals located in districts with more bank branches. For instance, for the results reported for the full sample in column (1) we note that an individual moving from a district with the mean number of government-owned branches (about 24.5 branches) to a district with twice the mean number has a 27% higher likelihood of being formally employed relative to the sample mean of 9.6%.

Considering sub-samples of the data based on individual and firm characteristics, we find that the likelihood of being employed in the formal sector is higher at all education levels in districts with more government bank branches (columns (2)-(4)), although it is highest for the least educated. For instance, from Panel A, column (2) we note that for an illiterate individual, moving from a district with the mean number of branches (about 23.6 branches) to a district with twice the mean number of branches is associated with an increase in the likelihood of being formally employed by about 63%, relative to the sample mean of 4.6%. For comparison, the equivalent change relative to the mean is about 41% for individuals with

middle school and higher education (column (4)). From columns (5) and (6) we note that the likelihood of being a formal sector employee is higher for individuals working for larger firms located in districts with more banks. The results are similar in Table 6, Panel B, where we use government bank credit in a district as an alternative measure of financial access.

We also observe part-time workers in the formal sector, and find similar, albeit less statistically significant results. In particular, part-time employment in the formal sector is significantly higher in smaller firms that employ fewer than 6 workers in districts with more government-owned bank branches. While the estimated coefficient signs are similar to Table 6, we do not observe a statistically significant change in part-time employment in the formal sector for the full sample. To save space, we do not report these results.

#### 4.4 Wages

The results suggest that access to finance is associated with a shift from entrepreneurship in micro-enterprises to employment in the formal sector. We next examine whether access to finance eases financial constraints for more productive firms, enabling them to pay higher wages and thereby attract workers from less productive enterprises. Specifically, we estimate the following linear specification using annual data on wages from the Employment and Unemployment survey:

$$\begin{aligned} \text{Log}(Wages_{it}) = & \beta_1 \text{Log}(\text{Government Bank Branches}_{1991,d}) + \beta_2 \text{Age}_{it} + \beta_3 \text{Male}_{it} + \\ & \beta_4 \text{Population}_{dt} + \alpha_{year} + \alpha_{Ind} + \alpha_{State} + \varepsilon_{idt} \end{aligned}$$

The results reported in Table 7, Panel A, suggest that on average, wages are significantly higher in districts with more bank branches. For example, from the results reported for the full sample in column (1), we note that moving from a district with the mean

number of branches (28 branches) to a district with twice the mean number, increases wages by about 4%, relative to mean wages of INR 30,837 (about \$685 at 1999 exchange rates).

Considering sub-samples, we find that more educated workers earn more on average in districts with more government bank branches. For instance, from Panel A, column (4) we note that for an individual with middle school and higher education, moving from a district with the mean number of branches to a district with twice the mean number of branches, increases wages by 5% on average relative to the mean. Individuals earn higher wages in both small and large firms, although the latter pay slightly more in districts with more bank branches (columns (5) and (6)). The results are similar in Table 7, Panel B using government bank credit instead of branches.

In Table 7, Panel C, we compare wages in household firms to the formal sector. Since most household firms do not pay regular wages, the sample size is small. Among entrepreneurs and employees of micro-enterprises, we observe an increase in wages paid to employees but not to entrepreneurs in districts with more bank branches (columns (1) and (2)). In contrast, the results in columns (3) and (4) show that in districts with more bank branches, both full-time and part-time formal sector employees earn higher wages on average. For example, from Panel C, column (3) we note that a full-time formal sector employee moving from a district with the mean number of government-owned bank branches (about 30 branches) to a district with twice the mean number of branches, earns about 5% more relative to the sample mean. In columns (5)-(8) of Panel C we use loans from government-owned bank branches at the district level and find similar results.

The wage results provide additional evidence that financial development may facilitate productive formal sector firms to expand employment and pay higher wages, thereby moving individuals out of micro-enterprises into salaried employment.

#### **4.5 Education and Unemployment**

We next examine the relationship between access to credit and the probability of being unemployed, and of being enrolled in an educational institution. The results reported in Table 8 suggest that the likelihood of being unemployed is not significantly different in districts with more bank branches, however, the likelihood of being a student increases significantly. For example, moving from a district with the mean number of bank branches (about 24.5 branches) to a district with twice the mean number of branches is associated with a 12% higher likelihood of being a student, relative the mean likelihood of 18% (column (3)). Intuitively, more individuals may enroll in educational institutions if, as we observe, access to finance increases returns to human capital by improving job opportunities and wages for more educated workers.

#### **4.6 Women and Disadvantaged Social Groups**

The micro-credit literature has noted that women and minorities are unlikely to benefit from an expansion of credit through formal lending institutions because of historic discrimination, or lack of information. In Table 9, we examine the effects for women, and individuals belonging to social groups that have faced historic discrimination (Scheduled Tribes, Scheduled Castes, Other Backward Castes).<sup>17</sup> We find some evidence corroborating

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<sup>17</sup> Scheduled Castes and Scheduled Tribes are official designations given to various historically disadvantaged population groups. In recent decades, Scheduled Castes are sometimes referred to as

this view. For example, in Table 9, Panel A we observe that men and individuals in the Other category (individuals belonging to higher caste groups or not in the caste system) are on average less likely to be entrepreneurs and more likely to be formally employed in districts with more government bank branches (Panel A, columns (4) and (6)), whereas the results are not statistically significant for women and minority groups.

However, from Table 9, Panel B we note that women and individuals belonging to Scheduled Castes and Other Backward Castes are also significantly less likely to be employed in a micro-enterprise in districts with more bank branches (columns (2), (3), and (5)). We observe similar effects in Panel C of Table 9. Women and individuals belonging to disadvantaged social groups are more likely to be employed in the formal sector in districts with more government-owned bank branches, although the marginal effect is larger for men and individuals belonging to non-disadvantaged groups (Table 9, Panel C). From Panels D and E we note that women earn higher wages on average and are significantly more likely to be enrolled as students in districts with greater access to credit. Similarly, individuals belonging to disadvantaged social groups (Scheduled Castes and Other Backward Castes) earn higher wages on average in districts with more bank branches. While access to formal credit appears to benefit men and dominant social groups more, the results suggest that expansion in the employment and wages of formal sector firms in districts with more bank branches may also facilitate a change in labor market outcomes of women and disadvantaged groups.

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“Dalits”. Scheduled Tribes are the official term used to denote a heterogeneous set of ethnic and tribal groups.

## 5. Access to Finance and Service Sector Firms

The assumption underlying our analysis is that access to finance affects firm-level financial constraints. Using the NSSO survey of service sector firms we investigate the relationship between access to finance and firm-level borrowing and employment decisions of firms. We also compare formal and informal sector firms. As described previously, the data are a repeated cross-section of firms from two rounds of surveys conducted in 2001 and 2006, and, cover 440,000 firms operating in a broad range of service activities.

We start by examining the relationship between firm-level bank loans and financial development in that district, and report the results in Table 10. Specifically, we estimate a linear specification using firm-level data, and controlling for two-digit industry, year, and state-fixed effects:

$$\begin{aligned} \text{Log}(\text{Firm characteristic})_{i,d,t} = & \beta_1 \text{Log}(\text{Government Bank Branches}_{1991,d}) + \\ & \beta_2 \text{Labor\_Post} + \beta_4 \text{Population}_{dt} + \alpha_{year} + \alpha_{Ind} + \alpha_{State} + \varepsilon_{idt}, \end{aligned}$$

where *Firm characteristic* includes annual firm-level bank loans, total workers, gross value added per worker, and, wages; and *Labor\_Post* is the interaction between labor regulations at the state-level and a year dummy. The labor regulations measure is from Besley and Burgess (2004) and captures state specific text amendments to the Industrial Disputes Act of 1947, which may be pro-employer, anti-employer, or may not affect the bargaining power of either workers or employers. We include this variable to capture state-level institutional differences in the business environment. Additional controls include district population and state, industry, and year fixed effects, and the standard errors are clustered at the district level.

From Table 10 Panel A, we observe that in the full sample, firms located in more financially developed districts have significantly higher bank loans. For instance, from column (1) we note that compared to a district with the mean number of government-owned bank branches (about 37 branches), a firm located in a district with twice the mean number of branches borrows about 10% more, relative to the sample mean loan of INR 700,000 (about \$14,000 at 2001 exchange rates). Considering sub-samples of the data based on firm characteristics, we observe that larger firms that employ more workers, and firms located in urban areas, have higher loans on average in districts with more bank branches (columns (3) and (5)), whereas smaller and rural firms do not borrow more in districts with more branches (columns (2) and (4)).

We also find that formal sector firms borrow significantly more from banks in districts with more government bank branches, whereas informal sector firms do not. For instance, from column (7) we note that compared to a district with the mean number of bank branches (about 39 branches), a formal sector firm located in a district with twice the mean number of branches borrows 9% more on average relative to the sample mean loan. In Table 10, Panel B we use government bank credit as an alternative measure of financial development and obtain similar results.

We examine whether the employment decisions of service sector firms vary based on access to finance and report the results in Table 11. From Panel A, we observe that for the full sample, firms located in districts with greater access to finance hire more workers on average (column (1)). For example, compared to a district with the mean number of branches (about 30 branches), a firm located in a district with twice the mean number of branches hires 14% more workers on average relative to the sample mean of 2.62 workers.

Considering sub-samples based on firm size, location, and formality, the results reported in Table 11, Panel A suggest that these effects are present for large and small firms, firms in urban but not rural areas, and both formal and informal sector firms. However, compared to a district with the mean number of bank branches, an informal firm in a district with twice the mean number of branches hires 6% more workers on average relative to the sample mean, whereas a formal firm hires 23% more workers on average relative to the sample mean (columns (6) and (7)). The results are similar using government bank credit in Table 11, Panel B.

In Table 12 we examine firm-level productivity, measured by annual gross value added per worker, and find that firms located in districts with more government-owned bank branches are more productive on average. Considering sub-samples based on firm characteristics, we show that both small and large firms are more productive in districts with more branches (columns (2) and (3)), while firms in urban areas are more productive in districts with more bank branches, whereas rural firms are not (columns (4) and (5)). The results also suggest that formal firms are more productive in more financially developed districts, while informal sector firms are not (columns (6) and (7)). For example, from Panel A, column (7) we note that compared to a district with the mean number of branches (31.5 branches), the gross value added per worker for a formal sector firm located in a district with twice the number of branches is about 5% higher relative to the sample mean. The results are similar when we use government bank credit at the district level.

Lastly, in Table 13, we find that service sector firms pay higher wages on average in more financially developed districts, and this effect is concentrated among larger firms, firms located in urban areas, and formal sector firms. For example, from column (7) of Table 12,

Panel A, we note that compared to a district with the mean number of government-owned bank branches (31.5 branches), a formal sector firm located in a district with twice the mean number of branches pays 5% higher wages on average, relative to the sample mean.

The service sector firm-level results suggest that firms borrow more in districts with more government-owned bank branches. Greater access to finance is associated with an increase in employment, wages, and worker productivity at the firm level. The results also suggest that formal sector firms, larger firms, and firms located in urban areas benefit more on average from increased financial access relative to informal, rural, and smaller firms.

## **6. Concluding remarks**

Using survey data on over one million individuals, we show that access to finance is correlated with the decision to be an entrepreneur in an emerging market. In a departure from the extant literature on the topic, we observe that greater access to credit through formal lending channels is associated with a decrease in entrepreneurship in micro-enterprises. Instead, individuals in more financially developed districts are more likely to be formally employed for wages.

While the literature has focused on the benefits of easing financial constraints for entrepreneurs, for example through micro-credit programs, we find evidence suggesting that entrepreneurship may be a response to the absence of employment opportunities, particularly in emerging markets. Our results highlight a mechanism by which financial development facilitates economic growth: Increased access to finance through formal lending channels eases financial constraints for more productive firms, and facilitates a shift from entrepreneurship in unproductive endeavors to better paid jobs in more productive firms.

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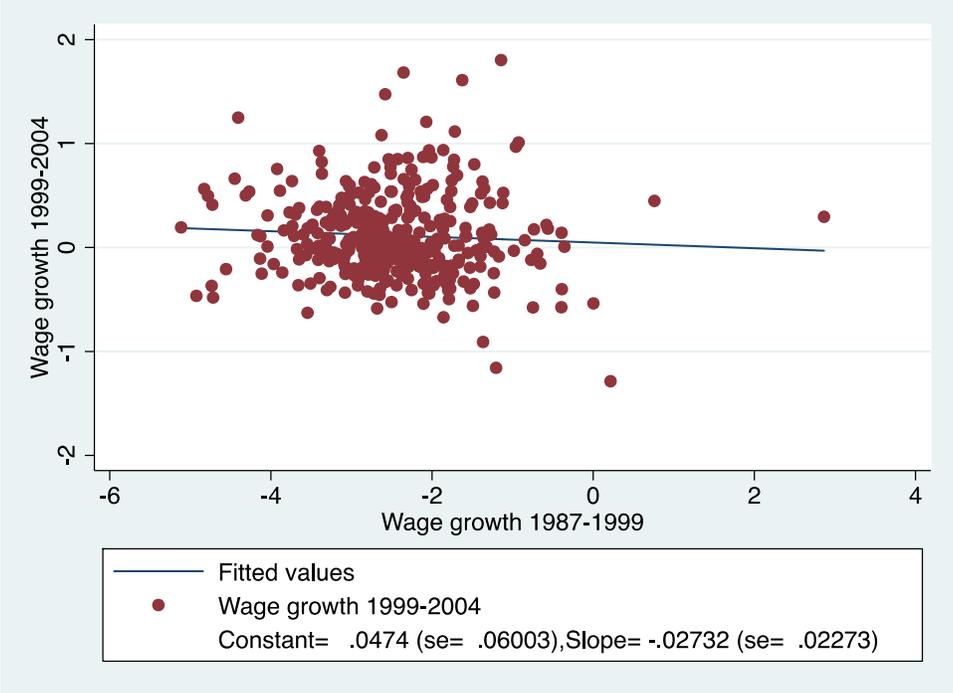
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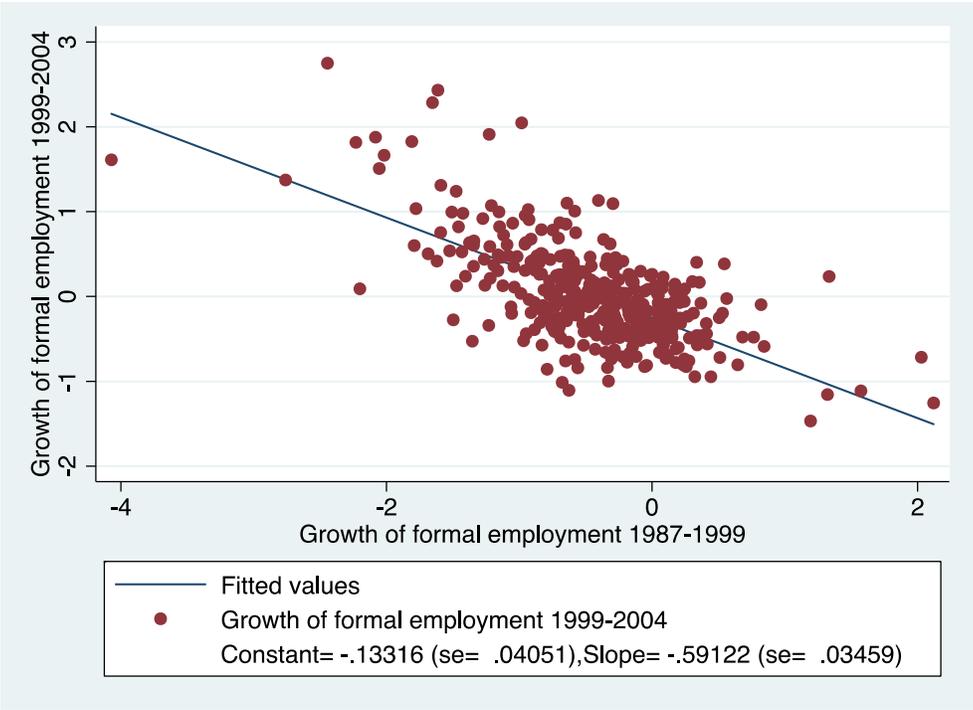
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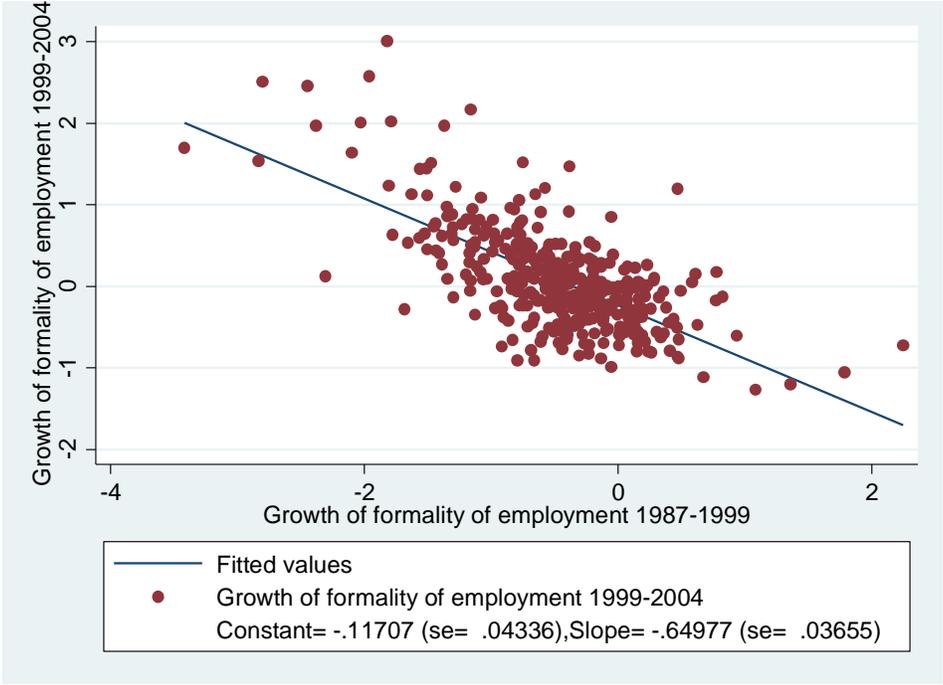
**Figure 1A: Correlation between Wage Growth in 1987-1999 and 1999-2004**



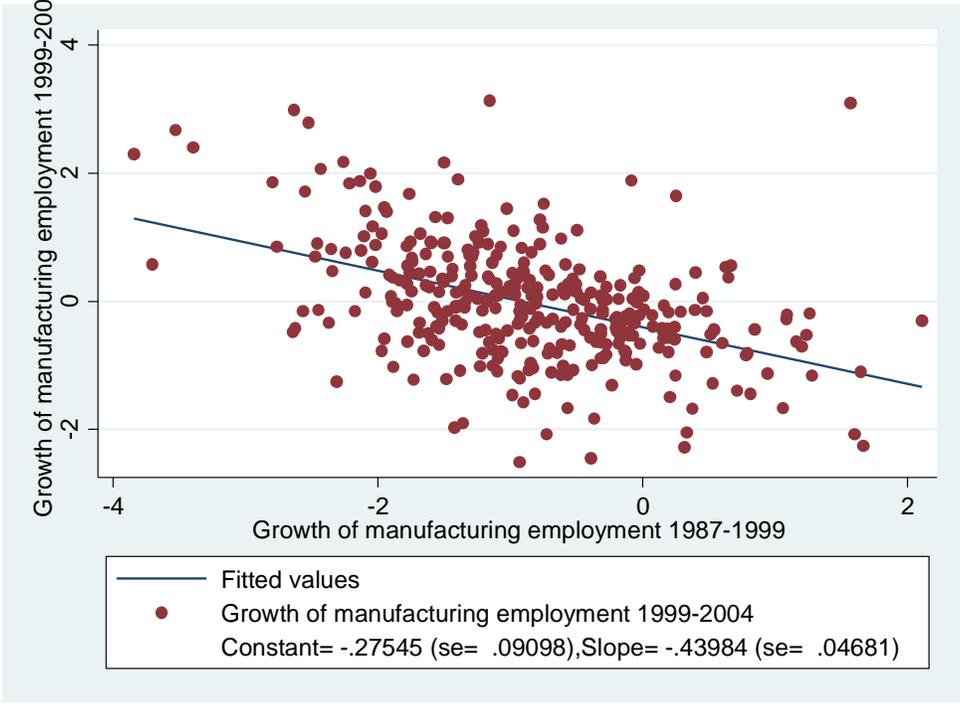
**Figure 1B: Correlation between Employment Growth in 1987-1999 and 1999-2004**



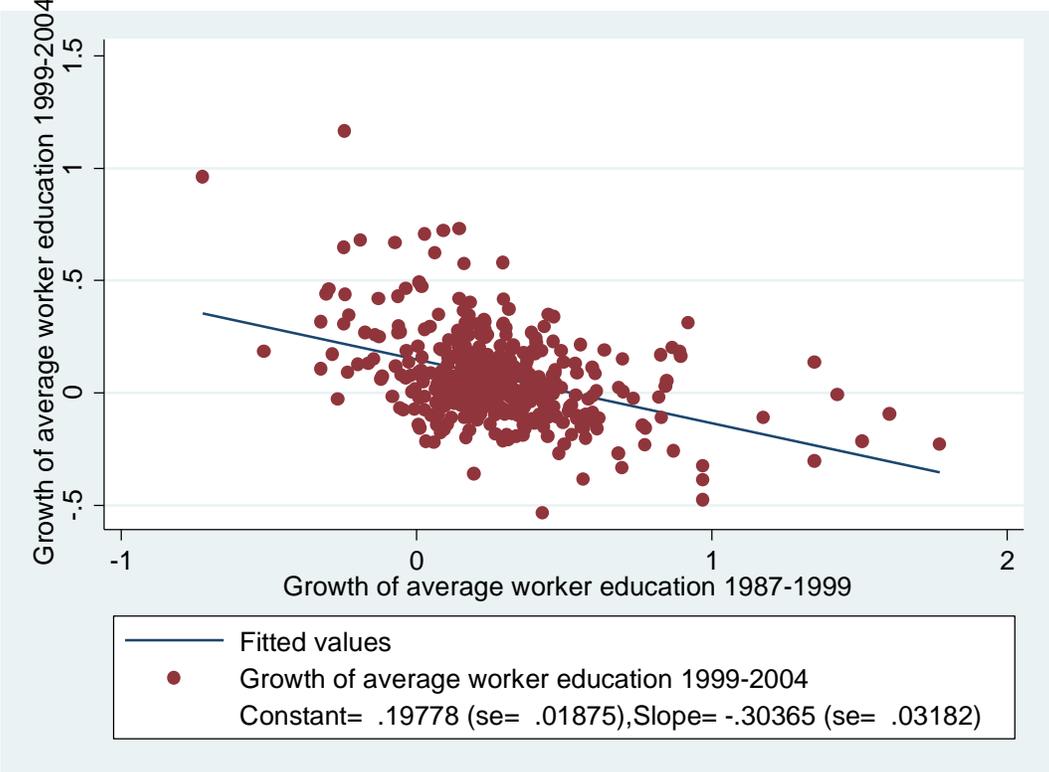
**Figure 1C: Correlation between Growth in Formal Employment/Total Employment in 1987-1999 and 1999-2004**



**Figure 1D: Correlation between Growth in Manufacturing Employment in 1987-1999 and 1999-2004**

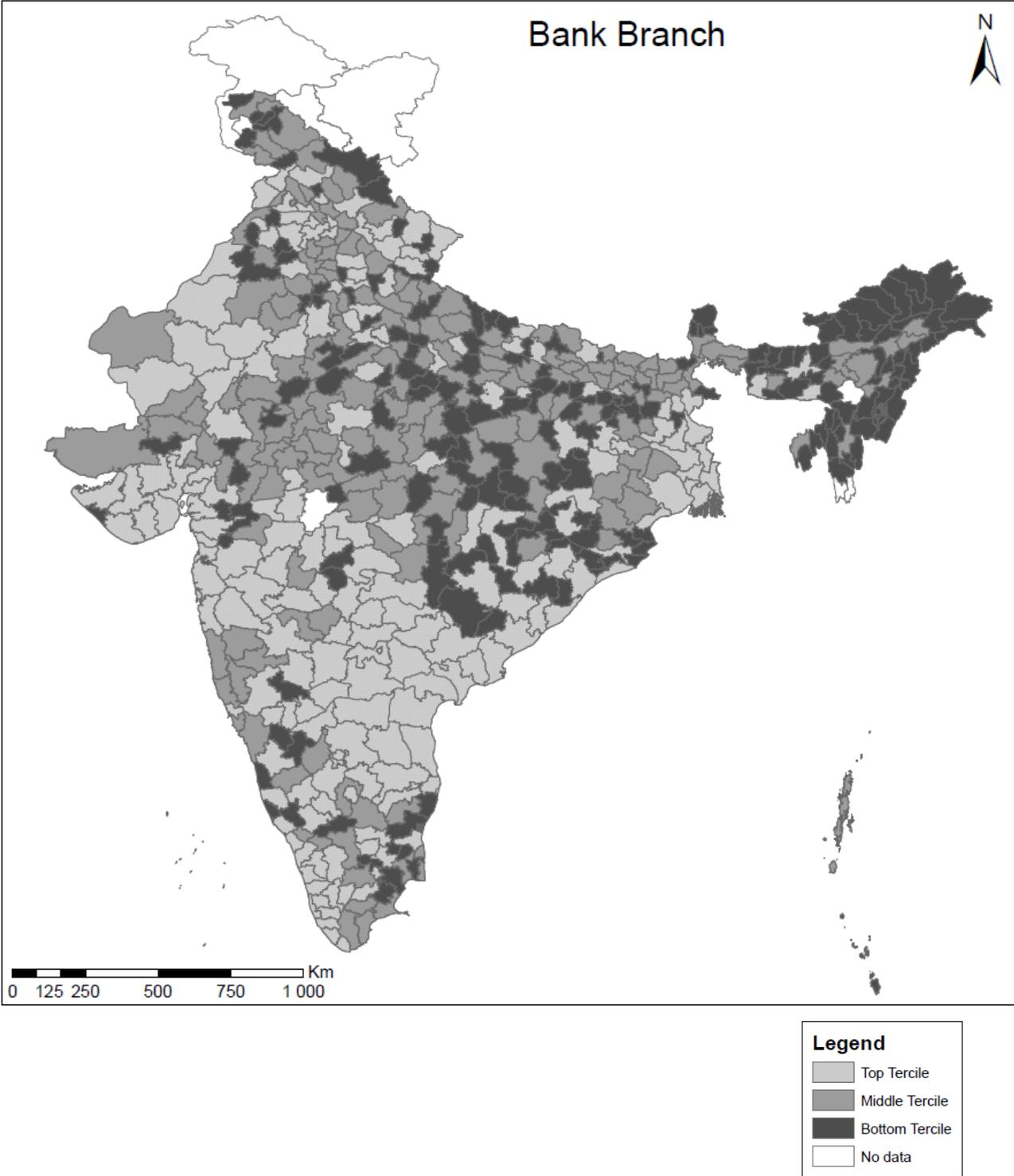


**Figure 1E: Correlation between Growth in Average Worker Education in 1987-1999 and 1999-2004**



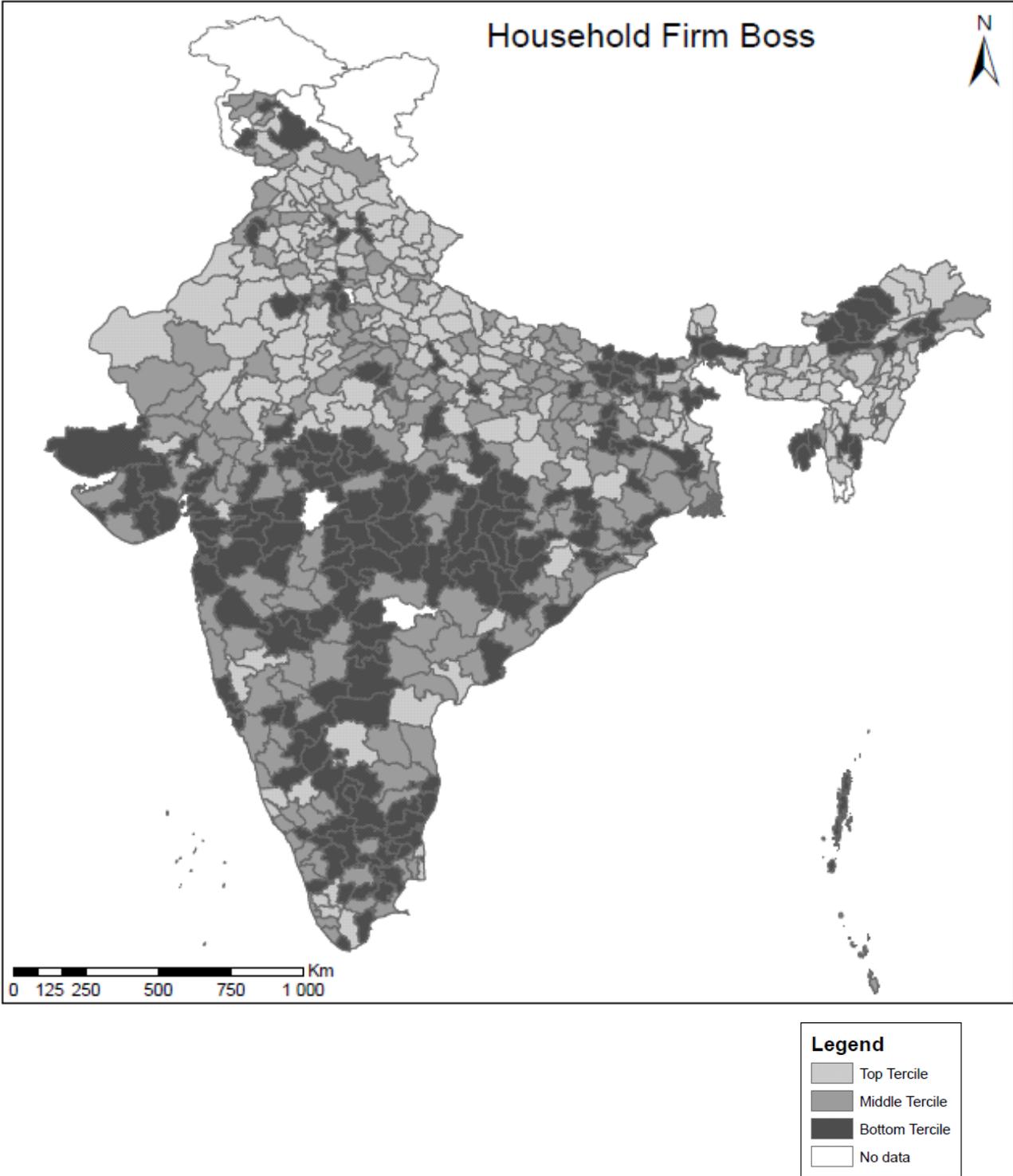
**Figure 2A: District-level distribution of Government-owned Bank Branches**

The map shows the distribution of government-owned bank branches across Indian districts, where we denote whether a district is in the top third, middle, or bottom third of the sample in terms of the total number of government-owned bank branches.



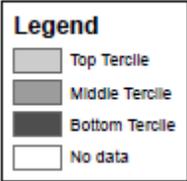
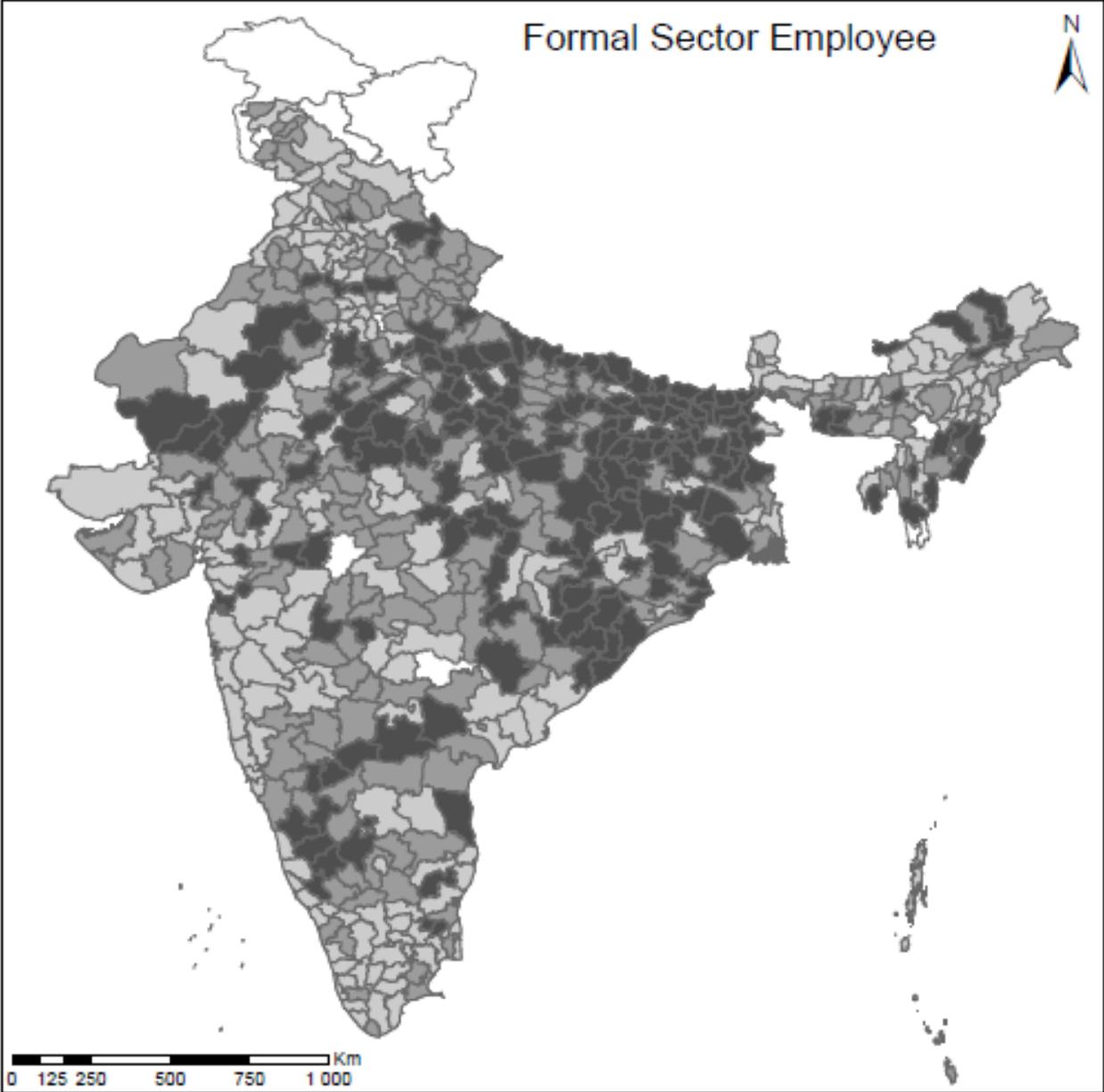
**Figure 2B: District-level distribution of entrepreneurs**

The map shows the likelihood of an individual being an entrepreneur in a micro-enterprise in a district, where we denote whether a district is in the top third, middle, or bottom third of the sample in terms of this probability.



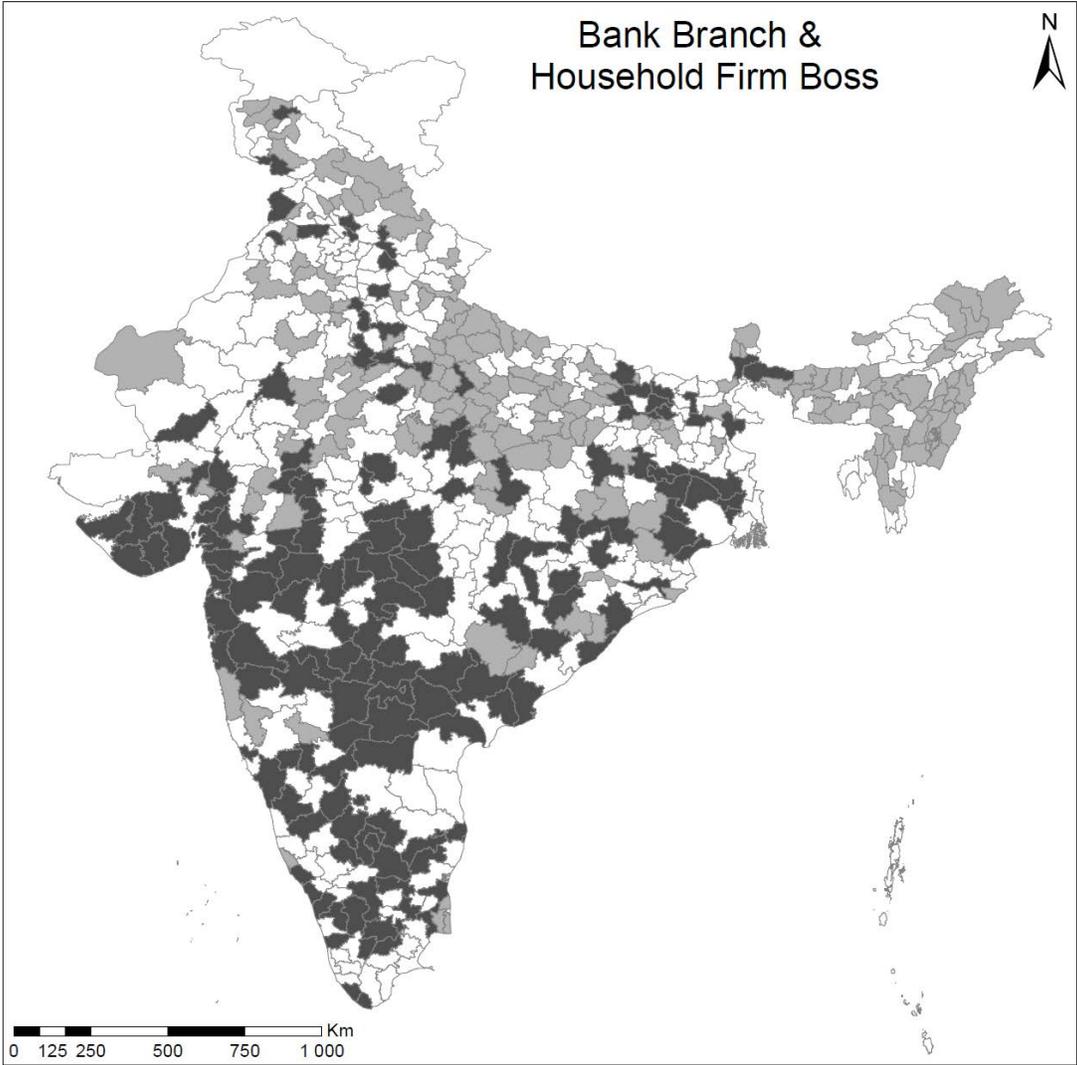
**Figure 2C: District-level distribution of formal employment**

The map shows the likelihood of an individual being employed in a formal firm in a district, where we denote whether a district is in the top third, middle, or bottom third of the sample in terms of this probability.



**Figure 2D: Bivariate district-level distribution of Entrepreneurs and Government-owned Bank Branches**

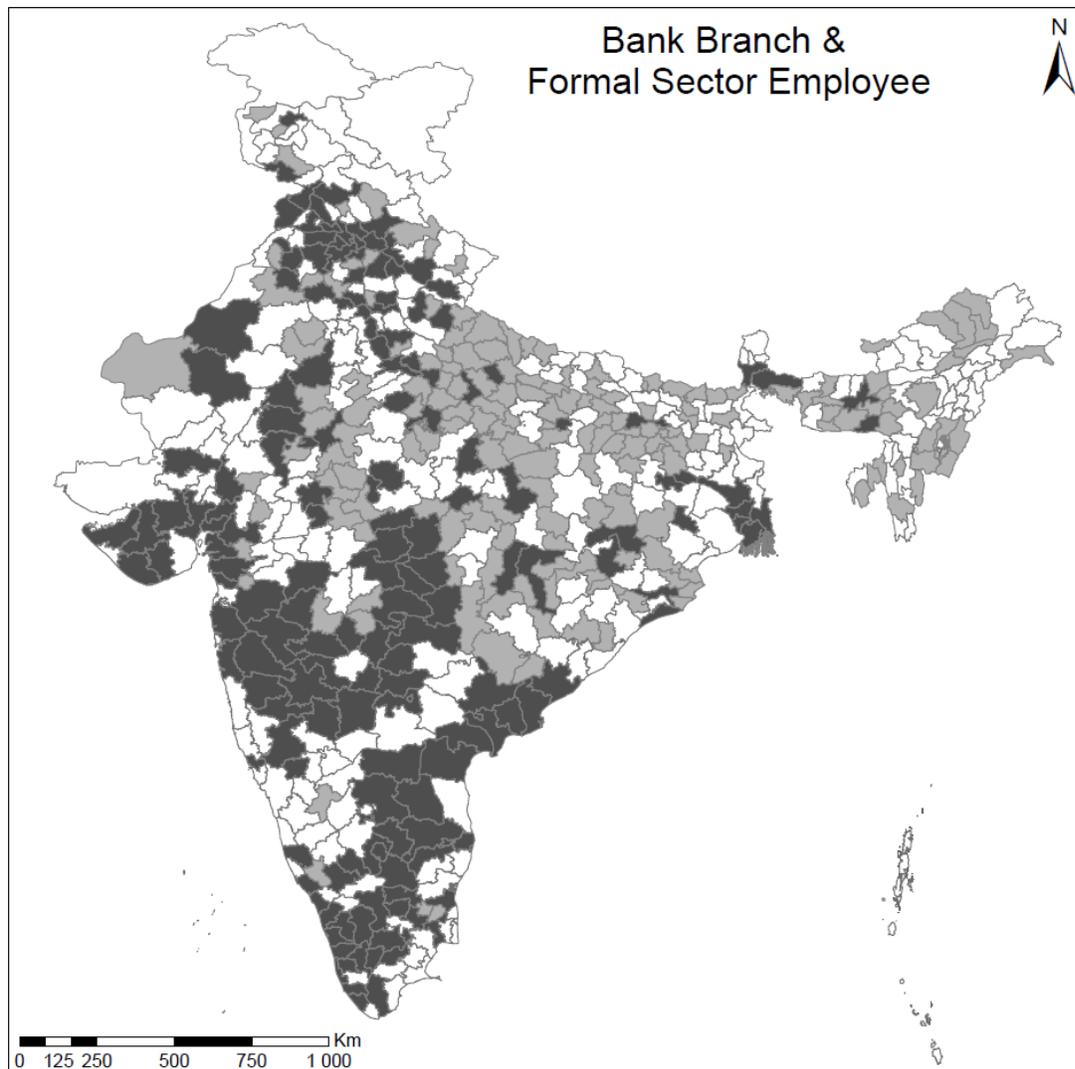
The bivariate map shows the distribution of government-owned bank branches and the likelihood of being an entrepreneur in a micro-enterprise across districts, where we denote district with above median (below median) number of bank branches and below median (above median) likelihood of entrepreneurship.



Legend	Distribution of Districts	
	Household Enterprise Employer	
Bank Branches	Above Median	Below Median
Above Median	22.6%	29.3%
Below Median	27.4%	20.7%

**Figure 2E: Bivariate district-level distribution of Formal Employment and Government-owned Bank Branches**

The bivariate map shows the distribution of government-owned bank branches and the likelihood of working in the formal sector across districts, where we denote district with above median (below median) number of bank branches and below median (above median) likelihood of formal employment.



Legend	Distribution of Districts	
	Formal Employment	
Bank Branches	Above Median	Below Median
Above Median	31.7%	20.2%
Below Median	18.3%	29.8%

**Table 1: Describing Individual Characteristics from the Employment and Unemployment Surveys**

Using data from Rounds 55 and 61 of the NSSO Employment and Unemployment Survey, we present summary statistics describing the data. Individuals are identified as *Entrepreneur in a household firm* if they are either self-employed in an informal sector Own Account Enterprise (OAE), which has no employees, or are the boss of an informal sector household firm with at least one employee; *Employee in a household firm* if they work for an informal sector household firm; *Formal sector employee* if they are formally employed for wages in a non-household firm; *Formal sector part-time employee* if they work part-time for wages in a firm outside of the household; *Student* if they are enrolled in an educational institution; *Unemployed* if they are not working but looking for work; *Not in Labor Force* if they are not engaged in economic activity. *Log Wages* is the log value of annual salary; *Age* is the age of the individual in decades; *Male* is the gender; *Illiterate*, *Literate*; and *Educate* describe the educational levels.

	Mean	Min	Max	Standard Deviation	Number of Observations
<i>Entrepreneur in household firm</i>	15.10%	0	1	35.80%	1,260,113
<i>Employee in household firm</i>	11.10%	0	1	31.40%	1,260,113
<i>Formal sector employee</i>	8.34%	0	1	27.70%	1,260,113
<i>Formal sector part-time employee</i>	9.70%	0	1	29.60%	1,260,113
<i>Student</i>	24.55%	0	1	43.04%	1,260,113
<i>Unemployed</i>	2.41%	0	1	15.30%	1,260,113
<i>Not in Labor Force</i>	26.10%	0	1	43.90%	1,260,113
<i>Log Wages</i>	9.86	5.05	16.60	1.07	194,349
<i>Age (in decades)</i>	2.75	0	11.5	1.86	1,383,432
<i>Male</i>	47.80%	1	2	50.00%	1,383,941
<i>Illiterate</i>	31.20%	0	1	46.30%	1,606,913
<i>Literate: primary or less</i>	27.50%	0	1	44.70%	1,606,913
<i>Educated: middle school and higher</i>	41.20%	0	1	49.20%	1,606,913

**Table 2: Describing Firm Characteristics from the Service Sector Surveys**

Using data from Rounds 57 and 63 of the NSSO Service Sector Firm Surveys, we present summary statistics describing the data. *Loans* are annual loans from banks; *Annual Gross Value Added* is defined as annual total receipts less total operating expenses; *Total Employment* is the number of workers employed in the firm; *Gross Value Added per Worker* is the ratio of *Gross Value Added* to *Total Employment*; *Wages* are defined as total salary, wages, allowances, and other individual benefits in addition to the imputed value of group benefits for the month scaled to an annual reference; *Wages per worker* are the ratio of *Wages* to *Total Employment*.

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	Mean	Min	Max	Standard Dev	Observations
Have an outstanding loan	11.60%	0	1	32.00%	446,883
Value of outstanding loans	701019	0	2.5037E+11	210364749	55,676
Log (Value of outstanding loans >0)	9.171	1.619	26.25	2.505	55,676
Loan in hundred thousand USD	0.14	0	50074.1	42.07	55,684
Annual Gross Value Added	74424.3	-30128382	5.9008E+10	24117383.6	446,426
Log (Annual Gross Value Added)	10.02	2.998	24.8	1.117	442,659
Log (Gross Value Added Per Worker)	9.677	1.378	18.47	0.977	442,659
Total Employment	1.836	1	75052	27.16	446,877
Annual Wages per Worker	8094.6	7.355	9244473	22420.8	142,926
Log (Annual Wages per Worker)	8.092	1.995	16.04	1.554	142,926

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**Table 3: Describing Banking Data**

We merge banking data by district to the NSSO Employment and Unemployment Surveys and Service Sector Firm Surveys. These quarterly data provide the loans and number of branches in each district for government-owned banks, which includes state, nationalized and rural banks. The data are from the fourth quarter of 1991.

Panel A: Districts merged to Employment-Unemployment Survey

	Mean	Min	Max	Standard Dev	Observations
<i>Government Bank Branches in 1991 by District</i>	26.35	0	268.00	25.72	461
<i>Log (Government Bank Branches in 1991)</i>	3.19	0	5.60	0.92	461
<i>Government Bank Credit in 1991 by District</i>	178.20	0	6048.20	660.40	461
<i>Log (Government Bank Credit in 1991)</i>	3.77	0	8.71	1.47	461

Panel B: Districts merged to Service Sector Firm Surveys

	Mean	Min	Max	Standard Dev	Observations
<i>Government Bank Branches in 1991 by District</i>	26.42	3	175	21.8	364
<i>Log (Government Bank Branches in 1991)</i>	3.081	1.386	5.17	0.662	364
<i>Government Bank Credit in 1991 by District</i>	83.62	1.11	5218	238.8	364
<i>Log (Government Bank Credit in 1991)</i>	3.623	0.747	8.56	1.074	364

**Table 4: Likelihood of Entrepreneurship**

Using individual-level data from the Employment and Unemployment Survey, this table provides results from a logit specification where the dependent variable is equal to one if the individual is either self-employed in an Own Account Enterprise (OAE), which has no employees, or is the employer of a household enterprise with at least one employee. In Panel A, *Log (Government Bank Branches in 1991)* is the log of the number of government-owned bank branches in a district in 1991 + 1; *Age* is the age of the individual in decades; *Male* is the gender; and *District Population* is the population at the district level from 2001. The specification controls for year, state, and industry effects, and standard errors are clustered at the district level. In Panel B, we use *Log (Government Bank Credit in 1991)* which is the total credit given by government-owned bank branches in that district in 1991 + 1. \*\*\*indicates significance at the 1% level; \*\* indicates significance at the 5% level, and \* indicates significance at the 10% level.

Variables	Panel A					
	All Firms	Employer education			Firm size	
		Illiterate	Less than primary schooling	Middle school and above	Employs <= 6 workers	Employs > 6 workers
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Log (Government Bank Branches in 1991)</i>	-0.0065* (0.004)	-0.0013 (0.006)	-0.0107** (0.004)	-0.0115*** (0.004)	-0.0011 (0.012)	-0.0097** (0.004)
<i>Age (in decades)</i>	0.0537*** (0.001)	0.0353*** (0.001)	0.0616*** (0.002)	0.0631*** (0.002)	0.1123*** (0.004)	0.0391*** (0.001)
<i>Male</i>	0.1896*** (0.004)	0.2413*** (0.006)	0.1326*** (0.004)	0.1711*** (0.004)	0.1517*** (0.018)	0.1459*** (0.004)
<i>District population (millions)</i>	-0.0032* (0.002)	0.0009 (0.003)	-0.0040 (0.002)	-0.0061*** (0.002)	0.0011 (0.005)	-0.0072*** (0.002)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	946,381	307,253	288,322	350,806	75,582	870,799
Mean LHS (%)	0.178	0.186	0.172	0.176	0.463	0.153
Mean Log ( <i>Government Bank Branches in 1991</i> )	3.2	3.162	3.144	3.278	3.411	3.181
Effect at Mean of Branches (%)	-0.12	-0.02	-0.19	-0.21	-0.01	-0.20

**Table 4 Panel B**

Variables	<b>All Firms</b>	<b>Employer education</b>			<b>Firm size</b>	
		Illiterate	Less than primary schooling	Middle school and above	Employs <= 6 workers	Employs > 6 workers
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Log (Government Bank Credit in 1991)</i>	-0.0081*** (0.002)	-0.0068 (0.005)	-0.0113*** (0.003)	-0.0095*** (0.002)	-0.0023 (0.008)	-0.0126*** (0.003)
<i>Age (in decades)</i>	0.0537*** (0.001)	0.0353*** (0.001)	0.0617*** (0.002)	0.0632*** (0.002)	0.1123*** (0.004)	0.0391*** (0.001)
<i>Male</i>	0.1893*** (0.004)	0.2413*** (0.006)	0.1321*** (0.004)	0.1708*** (0.004)	0.1518*** (0.018)	0.1451*** (0.004)
<i>District population (millions)</i>	-0.001 (0.002)	0.0038 (0.004)	-0.0014 (0.003)	-0.0043** (0.002)	0.0019 (0.006)	-0.0035 (0.003)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	946,381	307,253	288,322	350,806	75,582	870,799
Mean LHS (%)	0.178	0.186	0.172	0.176	0.463	0.153
Mean <i>Log (Government Bank Credit in 1991)</i>	3.792	3.671	3.676	3.992	4.224	3.754
Effect at Mean of Credit (%)	-0.17	-0.13	-0.24	-0.21	-0.02	-0.31

**Table 5: Likelihood of Employment in a Micro-enterprise**

Using individual-level data from the Employment and Unemployment Survey, this table provides results from a logit specification where the dependent variable is equal to one if the individual is an employee in a household firm in the informal sector. In Panel A, *Log (Government Bank Branches in 1991)* is the log of the number of government-owned bank branches in a district in 1991 + 1; *Age* is the age of the individual in decades; *Male* is the gender; and *District Population* is the population at the district level from 2001. The specification controls for year, state and industry effects, and standard errors are clustered at the district level. In Panel B, we use *Log (Government Bank Credit in 1991)* which is the log of the total credit given by government-owned bank branches in that district in 1991 + 1. \*\*\*indicates significance at the 1% level; \*\* indicates significance at the 5% level, and \* indicates significance at the 10% level.

Variables	Panel A					
	All Firms	Employer education			Firm size	
	(1)	Illiterate	Less than primary schooling	Middle school and above	Employs <= 6 workers	Employs > 6 workers
<i>Log (Government Bank Branches in 1991)</i>	-0.0179*** (0.006)	-0.0115 (0.008)	-0.0157*** (0.005)	-0.0253*** (0.005)	-0.0237*** (0.007)	-0.0171*** (0.006)
<i>Age (in decades)</i>	-0.0090*** (0.001)	-0.0160*** (0.001)	0.0051*** (0.001)	-0.0214*** (0.001)	-0.0486*** (0.003)	-0.0060*** (0.001)
<i>Male</i>	-0.0304*** (0.004)	-0.0965*** (0.006)	-0.0178*** (0.004)	0.0436*** (0.004)	-0.2062*** (0.013)	-0.0227*** (0.004)
<i>District population (millions)</i>	-0.0137*** (0.003)	-0.0133*** (0.005)	-0.0100*** (0.003)	-0.0136*** (0.003)	-0.0015 (0.003)	-0.0169*** (0.004)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	946,381	307,253	288,322	350,806	75,582	870,799
Mean LHS (%)	0.124	0.154	0.113	0.106	0.148	0.121
Mean Log ( <i>Government Bank Branches in 1991</i> )	3.2	3.162	3.143	3.279	3.411	3.181
Effect at Mean of Branches (%)	-0.46	-0.24	-0.44	-0.78	-0.55	-0.45

**Table 5 Panel B**

Variables	All Firms	Employer education			Firm size	
		Illiterate	Less than primary schooling	Middle school and above	Employs <= 6 workers	Employs > 6 workers
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Log (Government Bank Credit in 1991)</i>	-0.0196*** (0.003)	-0.0220*** (0.006)	-0.0148*** (0.003)	-0.0190*** (0.003)	-0.0148*** (0.003)	-0.0205*** (0.004)
<i>Age (in decades)</i>	-0.0088*** (0.001)	-0.0158*** (0.001)	0.0052*** (0.001)	-0.0211*** (0.001)	-0.0485*** (0.003)	-0.0058*** (0.001)
<i>Male</i>	-0.0305*** (0.004)	-0.0963*** (0.006)	-0.0181*** (0.004)	0.0432*** (0.004)	-0.2051*** (0.013)	-0.0231*** (0.004)
<i>District population (millions)</i>	-0.0084** (0.004)	-0.0050 (0.005)	-0.0068** (0.003)	-0.0102*** (0.003)	0.0001 (0.003)	-0.0109*** (0.004)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	946,381	307,253	288,322	350,806	75,582	870,799
Mean LHS	0.124	0.154	0.113	0.106	0.148	0.121
Mean <i>Log (Government Bank Credit in 1991)</i>	3.792	3.671	3.676	3.992	4.224	3.754
Effect at Mean of Credit (%)	-0.06	-0.04	-0.05	-0.08	-0.08	-0.05

**Table 6: Likelihood of Employment in the Formal Sector**

Using individual-level data from the Employment and Unemployment Survey, this table provides results from a logit specification where the dependent variable is equal to one if the individual is formally employed for wages in a non-household firm. In Panel A, *Log (Government Bank Branches in 1991)* is the log of the number of government-owned bank branches in a district in 1991 + 1; *Age* is the age of the individual in decades; *Male* is the gender; and *District Population* is population at the district level from 2001. The specification controls for year, state, and industry effects, and standard errors are clustered at the district level. In Panel B, we use *Log (Government Bank Credit in 1991)* which is the log of the total credit given by government-owned bank branches in that district in 1991 + 1. \*\*\*indicates significance at the 1% level; \*\* indicates significance at the 5% level, and \* indicates significance at the 10% level.

Panel A						
Variables	All Firms	Employer education			Firm size	
		Illiterate	Less than primary schooling	Middle school and above	Employs <= 6 workers	Employs > 6 workers
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Log (Government Bank Branches in 1991)</i>	0.0083** (0.003)	0.0091** (0.004)	0.0088* (0.005)	0.0203*** (0.008)	-0.0055 (0.013)	0.0073*** (0.003)
<i>Age (in decades)</i>	0.0115*** (0.001)	-0.0013*** 0.000	0.0091*** (0.001)	0.0566*** (0.002)	-0.0093** (0.004)	0.0093*** (0.001)
<i>Male</i>	0.0550*** (0.004)	0.0248*** (0.002)	0.0442*** (0.003)	0.1327*** (0.006)	-0.0355*** (0.010)	0.0448*** (0.004)
<i>District population (millions)</i>	0.0073*** (0.002)	0.0026 (0.002)	0.0079*** (0.003)	0.0210*** (0.004)	0.0144* (0.008)	0.0050*** (0.002)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	946,381	307,253	288,322	350,806	75,582	870,799
Mean LHS (%)	0.0962	0.0458	0.0672	0.164	0.207	0.0866
Mean Log ( <i>Government Bank Branches in 1991</i> )	3.2	3.162	3.143	3.279	3.411	3.181
Effect at Mean of Branches (%)	0.27	0.63	0.41	0.41	-0.09	0.27

**Table 6 Panel B**

Variables	<b>All Firms</b>	<b>Employer education</b>			<b>Firm size</b>	
		Illiterate	Less than primary schooling	Middle school and above	Employs <= 6 workers	Employs > 6 workers
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Log (Government Bank Credit in 1991)</i>	0.0073*** (0.002)	0.0072*** (0.002)	0.0088*** (0.002)	0.0175*** (0.004)	0.0028 (0.008)	0.0059*** (0.001)
<i>Age (in decades)</i>	0.0114*** (0.001)	-0.0014*** 0.000	0.0089*** (0.001)	0.0563*** (0.002)	-0.0094** (0.004)	0.0092*** (0.001)
<i>Male</i>	0.0551*** (0.004)	0.0247*** (0.002)	0.0440*** (0.003)	0.1330*** (0.006)	-0.0354*** (0.010)	0.0450*** (0.003)
<i>District population (millions)</i>	0.0057** -0.002	0.0012 -0.002	0.0057** -0.003	0.0172*** -0.004	0.012 -0.008	0.0038*** -0.001
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	946,381	307,253	288,322	350,806	75,582	870,799
Mean LHS (%)	0.0962	0.0458	0.0672	0.164	0.207	0.0866
<i>Mean Log (Government Bank Credit in 1991)</i>	3.792	3.671	3.676	3.992	4.224	3.754
<i>Effect at Mean of Credit (%)</i>	0.29	0.57	0.48	0.43	0.06	0.26

**Table 7: Wages and Financial Development**

Using individual-level data from the Employment and Unemployment Survey, this table provides results from an OLS specification where the dependent variable is the log of Wages, or annual compensation. In Panel A, *Log (Government Bank Branches in 1991)* is the log of number of government-owned bank branches in a district in 1991 + 1; *Age* is the age of the individual in decades; *Male* is the gender; and *District Population* is the population at the district level from 2001. The specification controls for year, state, and industry effects, and standard errors are clustered at the district level. In Panel B, we use *Log (Government Bank Credit in 1991)* which is the log of the total credit given by government-owned bank branches in that district in 1991 + 1. In Panel C we consider two additional sample splits, wages for individuals who are either entrepreneurs or employed in Household Firms and individuals employed in Formal Sector Firms. \*\*\*indicates significance at the 1% level; \*\* indicates significance at the 5% level, and \* indicates significance at the 10% level.

Variables	Panel A					
	All Firms	Employer education			Firm size	
			Less than primary schooling	Middle school and above	Employs <= 6 workers	Employs > 6 workers
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Log (Government Bank Branches in 1991)</i>	0.1252*** (0.025)	0.0857*** (0.030)	0.1182*** (0.034)	0.1608*** (0.032)	0.0877*** (0.030)	0.1281*** (0.028)
<i>Age (in decades)</i>	0.1320*** (0.006)	0.0188*** (0.005)	0.1194*** (0.008)	0.3938*** (0.011)	0.1704*** (0.008)	0.1207*** (0.007)
<i>Male</i>	0.4024*** (0.013)	0.4190*** (0.015)	0.4334*** (0.035)	0.2047*** (0.028)	0.5187*** (0.034)	0.3714*** (0.014)
<i>District population (millions)</i>	0.0228*** (0.008)	0.0350** (0.016)	0.0413*** (0.010)	0.0205** (0.009)	0.0005 (0.010)	0.0270*** (0.008)
Constant	9.2406*** (0.104)	9.9021*** (0.106)	9.5469*** (0.134)	9.0282*** (0.120)	8.4404*** (0.050)	9.2513*** (0.109)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	167,902	56,692	42,562	68,648	22,842	145,060
Mean LHS	9.782	9.292	9.632	10.28	9.775	9.783
Mean Log ( <i>Government Bank Branches in 1991</i> )	3.357	3.318	3.307	3.42	3.419	3.347
Effect at Mean of Branches (%)	0.04	0.03	0.04	0.05	0.03	0.04

**Table 7 Panel B**

Variables	<u>All Firms</u>	<u>Employer education</u>			<u>Firm size</u>	
		Illiterate	Less than primary schooling	Middle school and above	Employs <= 6 workers	Employs > 6 workers
	(1)	(2)	(3)	(4)	(5)	(6)
Log ( <i>Government Bank Credit in 1991</i> )	0.0812*** (0.018)	0.0776*** (0.019)	0.0843*** (0.021)	0.0916*** (0.020)	0.0402** (0.017)	0.0899*** (0.021)
<i>Age (in decades)</i>	0.1313*** (0.006)	0.0181*** (0.005)	0.1186*** (0.008)	0.3934*** (0.011)	0.1707*** (0.008)	0.1196*** (0.007)
<i>Male</i>	0.4032*** (0.013)	0.4195*** (0.015)	0.4351*** (0.035)	0.2068*** (0.029)	0.5186*** (0.033)	0.3726*** (0.014)
<i>District population (millions)</i>	0.0122 (0.010)	0.0187 (0.016)	0.0288** (0.012)	0.0104 (0.012)	-0.0003 (0.011)	0.0137 (0.011)
Constant	9.3242*** (0.100)	9.9183*** (0.094)	9.6031*** (0.123)	9.1442*** (0.112)	8.4399*** (0.050)	9.3244*** (0.106)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	167,902	56,692	42,562	68,648	22,842	145,060
Mean LHS	9.782	9.292	9.632	10.28	9.775	9.783
Mean Log ( <i>Government Bank Credit in 1991</i> )	4.104	3.927	4.003	4.313	4.282	4.076
Effect at Mean of Credit (%)	0.03	0.03	0.04	0.04	0.02	0.04

**Table 7 Panel C**

Variables	Household Firm		Formal sector		Household Firm		Formal sector	
	Entrepreneur	Employee	Full time	Part-Time	Entrepreneur	Employee	Full time	Part-Time
			Employee	Employee			Employee	Employee
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Log ( <i>Government Bank Branches in 1991</i> )	0.06 (0.052)	0.1218** (0.061)	0.1560*** (0.036)	0.0730*** (0.028)				
Log ( <i>Government Bank Credit in 1991</i> )					0.0757*** (0.027)	0.0352 (0.029)	0.0757*** (0.022)	0.0699*** (0.019)
<i>Age (in decades)</i>	0.01 (0.019)	0.0301* (0.016)	0.3021*** (0.009)	0.0150*** (0.004)	0.0102 (0.019)	0.0299* (0.017)	0.3024*** (0.009)	0.0149*** (0.004)
<i>Male</i>	0.3052*** (0.060)	0.4030*** (0.051)	0.3833*** (0.043)	0.4545*** (0.015)	0.3121*** (0.060)	0.4015*** (0.051)	0.3837*** (0.043)	0.4535*** (0.015)
<i>District population (millions)</i>	0.0599*** (0.020)	0.0448 (0.032)	0.0002 (0.012)	0.0301** (0.015)	0.0415** (0.020)	0.0592** (0.028)	-0.0046 (0.016)	0.0148 (0.016)
Constant	9.1966*** (0.113)	7.4890*** (0.120)	9.0300*** (0.118)	9.8574*** (0.097)	9.2011*** (0.105)	7.5886*** (0.096)	9.1790*** (0.105)	9.8627*** (0.090)
Year Dummies	Yes							
State FE	Yes							
Industry FE	Yes							
Number of observations	1,285	838	85,070	80,709	1,285	838	85,070	80,709
Mean LHS	8.51	8.265	10.3	9.276	8.51	8.265	10.3	9.276
Mean Log ( <i>Government Bank Branches in 1991</i> )	3.16	3.223	3.395	3.322				
Effect at Mean of Branches (%)	0.02	0.05	0.05	0.03				
Mean Log ( <i>Government Bank Credit in 1991</i> )					3.60	3.71	4.3	3.91
Effect at Mean of Credit (%)					0.03	0.02	0.03	0.03

**Table 8: Likelihood of being Unemployed or a Student**

Using individual-level data from the Employment and Unemployment Survey, this table provides results from a logit specification where the dependent variables in columns (1) and (2) is equal to one if the individual is unemployed (not working but looking for work), and in columns (3) and (4) the dependent variable is equal to one if the individual is enrolled in an educational institution. *Log (Government Bank Branches in 1991)* is the log of the number of government-owned bank branches in a district in 1991 + 1; *Log (Government Bank Credit in 1991)* is the log of the total credit given by government-owned bank branches in that district in 1991 + 1. *Age* is the age of the individual in decades; *Male* is the gender; and *District Population* is the population at the district level from 2001. The specification controls for year, state, and industry effects, and standard errors are clustered at the district level. \*\*\*indicates significance at the 1% level; \*\* indicates significance at the 5% level, and \* indicates significance at the 10% level.

Variables	Unemployed		Student	
	(1)	(2)	(3)	(4)
<i>Log (Government Bank Branches in 1991)</i>	0.0011 (0.001)		0.0070** (0.003)	
<i>Log (Government Bank Credit in 1991)</i>		0.0003 0.000		0.0057*** (0.002)
<i>Age (in decades)</i>	-0.0036*** 0.000	-0.0036*** 0.000	-0.0996*** (0.002)	-0.0996*** (0.002)
<i>Male</i>	0.0082*** (0.001)	0.0082*** (0.001)	0.0026 (0.002)	0.0027 (0.002)
<i>District population (millions)</i>	-0.0004 (0.001)	-0.0003 0.000	-0.0009 (0.001)	-0.002 (0.001)
Year FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Number of observations	946,381	946,381	946380	946380
Mean LHS	0.0279	0.0279	0.181	0.181
Mean <i>Log (Government Bank Branches in 1991)</i>	3.2		3.2	
Effect at Mean of Branches (%)	0.12		0.12	
Mean <i>Log (Government Bank Credit in 1991)</i>		3.792		3.792
Effect at Mean of Credit (%)		0.04		0.12

**Table 9: Access to Credit for Women and Socially Disadvantaged Groups**

Using individual-level data from the Employment and Unemployment Survey, Panel A provides results from a logit specification where the dependent variable is equal to one if the individual is either self-employed in an Own Account Enterprise (OAE), which has no employees, or is the boss of a household enterprise with at least one employee; Panel B provides results from a logit specification where the dependent variable is equal to one if the individual is an employee in a household firm in the informal sector; Panel C provides results from a logit specification where the dependent variable is equal to one if the individual is formally employed for wages in a non-household firm; Panel D provides results from an OLS specification where the dependent variable is the log of Wages, or annual compensation; Panel E provides results from a logit specification where the dependent variable is equal to one if the individual is enrolled in an educational institution. *Scheduled Tribes*, *Scheduled Caste*, and *Other Backward Caste* capture population sub-groups that belong to discriminated against lower caste groups, *Other* captures individuals belonging to upper caste groups and those who do not belong to any caste. *Log (Government Bank Branches in 1991)* is the number of government-owned bank branches in a district in 1991 + 1; *Age* is the age of the individual in decades; *Male* is the gender; and *District Population* is the population at the district level from 2001. The specification controls for year, state and industry effects, and standard errors are clustered at the district level. \*\*\*indicates significance at the 1% level; \*\* indicates significance at the 5% level, and \* indicates significance at the 10% level.

<b>Panel A: Likelihood of Entrepreneurship</b>						
Variables	Scheduled	Scheduled	Other	Other	Women	Men
	Tribe	Caste	Backward			
	(1)	(2)	Caste	(4)	(5)	(6)
<i>Log (Government Bank Branches in 1991)</i>	0.0144 (0.012)	-0.0029 (0.005)	-0.0056 (0.005)	-0.0158*** (0.005)	-0.0017 (0.005)	-0.0125** (0.006)
<i>Age (in decades)</i>	0.0545*** (0.002)	0.0362*** (0.001)	0.0593*** (0.001)	0.0561*** (0.001)	0.0152*** (0.001)	0.1013*** (0.002)
<i>Male</i>	0.1954*** (0.009)	0.1153*** (0.006)	0.2087*** (0.006)	0.2159*** (0.006)		
<i>District population (millions)</i>	-0.0065 (0.007)	-0.0009 (0.003)	-0.0028 (0.004)	-0.0035 (0.002)	-0.0001 (0.002)	-0.0067** (0.003)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	109,801	150,661	332,675	352,936	449,048	497,333
Mean LHS	0.198	0.138	0.183	0.184	0.122	0.229
Mean Log ( <i>Government Bank Branches in 1991</i> )	2.538	3.327	3.206	3.345	3.197	3.202
Effect at Mean of Branches (%)	0.18	-0.07	-0.10	-0.29	-0.04	-0.17

**Table 9 Panel B: Likelihood of employment in a micro-enterprise**

Variables	Scheduled	Scheduled	Other	Other	Women	Men
	Tribe	Caste	Backward Caste			
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Log (Government Bank Branches in 1991)</i>	-0.0065 (0.012)	-0.0172*** (0.006)	-0.0228*** (0.008)	-0.0177*** (0.007)	-0.0175* (0.009)	-0.0195*** (0.004)
<i>Age (in decades)</i>	-0.0139*** (0.002)	-0.0043*** (0.001)	-0.0077*** (0.001)	-0.0118*** (0.001)	0.0130*** (0.001)	-0.0222*** (0.001)
<i>Male</i>	-0.1116*** (0.009)	-0.0377*** (0.005)	-0.0376*** (0.006)	0.0021 (0.005)		
<i>District population (millions)</i>	-0.0230*** (0.007)	-0.0029 (0.003)	-0.0104** (0.005)	-0.0161*** (0.003)	-0.0209*** (0.005)	-0.0083*** (0.002)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	109,801	150,661	332,675	352,936	449,048	497,333
Mean LHS	0.172	0.0883	0.136	0.112	0.131	0.117
Mean <i>Log (Government Bank Branches in 1991)</i>	2.538	3.327	3.206	3.345	3.197	3.202
Effect at Mean of Credit (%)	-0.10	-0.65	-0.54	-0.53	-0.43	-0.54

**Table 9 Panel C: Likelihood of Employment in the Formal sector**

Variables	Scheduled		Other		Women	Men
	Tribe	Caste	Backward	Other		
	(1)	(2)	(3)	(4)		
<i>Log (Government Bank Branches in 1991)</i>	0.0003 (0.004)	0.0111** (0.005)	0.0064* (0.003)	0.0108** (0.006)	0.0074** (0.003)	0.0325*** (0.010)
<i>Age (in decades)</i>	0.0097*** (0.001)	0.0109*** (0.001)	0.0094*** (0.001)	0.0151*** (0.001)	0.0026*** 0.000	0.0222*** (0.001)
<i>Male</i>	0.0197*** (0.004)	0.0335*** (0.003)	0.0410*** (0.003)	0.0925*** (0.007)		
<i>District population (millions)</i>	0.0031** (0.001)	0.0051 (0.003)	0.0076*** (0.002)	0.0100*** (0.003)	0.0042*** (0.002)	0.0212*** (0.006)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	109,801	150,661	332,675	352,936	449,048	497,333
Mean LHS	0.0779	0.0837	0.0816	0.121	0.0616	0.127
Mean Log ( <i>Government Bank Branches in 1991</i> )	2.538	3.327	3.206	3.345	3.197	3.202
Effect at Mean of Branches (%)	0.01	0.44	0.25	0.30	0.38	0.82

**Table 9 Panel D: Wages**

Variables	Scheduled	Scheduled	Other	Other	Women	Men
	Tribe	Caste	Backward			
	(1)	(2)	Caste (3)			
<i>Log (Government Bank Branches in 1991)</i>	0.0055 (0.063)	0.1348*** (0.032)	0.1138*** (0.035)	0.1616*** (0.029)	0.0922* (0.048)	0.2077*** (0.032)
<i>Age (in decades)</i>	0.0772*** (0.011)	0.0861*** (0.007)	0.1233*** (0.007)	0.1923*** (0.009)	0.0554*** (0.007)	0.1708*** (0.007)
<i>Male</i>	0.2905*** (0.034)	0.3861*** (0.018)	0.4580*** (0.018)	0.4065*** (0.021)		
<i>District population (millions)</i>	0.0158 (0.019)	0.0217 (0.014)	0.0254* (0.014)	0.0171** (0.009)	0.0915*** (0.022)	0.0411*** (0.010)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	19,112	36,790	55,236	56,728	57,291	110,611
Mean LHS	9.721	9.494	9.635	10.13	9.609	9.871
Mean Log ( <i>Government Bank Branches in 1991</i> )	2.781	3.428	3.368	3.495	3.349	3.361
Effect at Mean of Branches (%)	0.00	0.05	0.04	0.06	0.03	0.07

**Table 9 Panel E: Likelihood of being a Student**

Variables	Scheduled	Scheduled	Other	Other	Women	Men
	Tribe	Caste	Backward Caste			
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Log (Government Bank Branches in 1991)</i>	0.0022 (0.007)	-0.001 (0.005)	0.002 (0.004)	0.0147*** (0.005)	0.0118*** (0.004)	0.0084* (0.005)
<i>Age (in decades)</i>	-0.0756*** (0.003)	-0.0802*** (0.002)	-0.0946*** (0.002)	-0.1215*** (0.002)	-0.1051*** (0.002)	-0.1302*** (0.002)
<i>Male</i>	0.0031 (0.004)	-0.0035 (0.003)	0.0048 (0.003)	0.0070** (0.003)		
<i>District population (millions)</i>	-0.0011 (0.003)	-0.0025 (0.002)	-0.0005 (0.002)	-0.0004 (0.002)	0.0038** (0.002)	-0.0011 (0.002)
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	109,801	150,661	332,675	352,936	449,048	497,333
Mean LHS	0.184	0.161	0.173	0.198	0.174	0.188
Mean Log ( <i>Government Bank Branches in 1991</i> )	2.538	3.327	3.206	3.345	3.197	3.202
Effect at Mean of Branches (%)	0.0305	-0.0212	0.0371	0.248	0.217	0.144

**Table 10: Bank Loans and Access to Credit**

Using firm-level data from the Service Sector survey, this table provides results from a OLS specification where the dependent variable is the log of *Loans* at the firm level. In Panel A, Log (*Government Bank Branches in 1991*) is the log of the number of government-owned bank branches in a district in 1991 + 1. *Labor\_Post* is the interaction between employer-friendly labor regulations at the state level and a time dummy. The specification controls for district population and for year, state, and industry effects, and standard errors are clustered at the district level. Formality refers to whether a firm is in the informal or formal sector (registered with the government). In Panel B, we use Log (*Government Bank Credit*) which is the log of the total credit given by government-owned bank branches in that district in 1991 + 1. \*\*\*indicates significance at the 1% level; \*\* indicates significance at the 5% level, and \* indicates significance at the 10% level.

Variable	Panel A						
	All Firms	Firm size		Location		Formality	
	(1)	Firms with < 5 workers	Firms with ≥ 5 workers	Rural	Urban	Informal	Formal
Log ( <i>Government Bank Branches in 1991</i> )	0.260*	0.132	0.443***	0.094	0.324*	0.145	0.280**
	(0.139)	(0.117)	(0.159)	(0.163)	(0.175)	(0.135)	(0.122)
<i>Labor_Post</i>	0.704***	0.667**	0.219	0.589*	0.854**	0.591**	0.311
	(0.265)	(0.265)	(0.258)	(0.312)	(0.314)	(0.267)	(0.218)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	40,098	32,502	7,596	18,447	21,651	22,340	17,758
Mean LHS	9.83	9.32	12	9.5	10.1	8.84	11.1
Mean Log ( <i>Government Bank Branches in 1991</i> )	3.62	3.59	3.74	3.56	3.67	3.58	3.66
Effect at Mean of Branches (%)	0.10	0.05	0.14	0.04	0.12	0.06	0.09

**Table 10 Panel B**

Variable	All Firms	Firm size		Location		Formality	
		Firms with < 5 workers	Firms with ≥ 5 workers	Rural	Urban	Informal	Formal
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Log ( <i>Government Bank Credit in 1991</i> )	0.081 (0.106)	-0.024 (0.089)	0.247*** (0.081)	-0.021 (0.124)	0.116 (0.103)	-0.005 (0.085)	0.103 (0.079)
<i>Labor_Post</i>	0.684** (0.269)	0.653** (0.269)	0.149 (0.267)	0.587* (0.317)	0.814** (0.324)	0.578** (0.272)	0.283 (0.225)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	40,098	32,502	7,596	18,447	21,651	22,340	17,758
Mean LHS	9.83	9.32	12	9.5	10.1	8.84	11.1
Mean Log ( <i>Government Bank Credit in 1991</i> )	4.42	4.35	4.75	4.19	4.62	4.32	4.55
Effect at Mean of Credit (%)	0.04	-0.01	0.10	-0.01	0.05	0.00	0.04

**Table 11: Employment and Access to Credit**

Using firm-level data from the Service Sector surveys, this table provides results from a OLS specification where the dependent variable is *Total Workers* at the firm level. In Panel A, *Log (Government Bank Branches in 1991)* is the log of the number of government-owned bank branches in a district in 1991 + 1. *Labor\_Post* is the interaction between employer-friendly labor regulations at the state level and a time dummy. The specification controls for district population and for year, state, and industry effects, and standard errors are clustered at the district level. Formality refers to whether a firm is in the informal or formal sector (registered with the government). *Formality* refers to whether a firm is in the informal or formal sector (registered with the government). In Panel B, we use *Log (Government Bank Credit in 1991)* which is the log of the total credit given by government-owned bank branches in that district in 1991 + 1. \*\*\*indicates significance at the 1% level; \*\* indicates significance at the 5% level, and \* indicates significance at the 10% level.

Variable	Panel A						
	All Firms	Firm Size		Location		Formality	
	(1)	Firms with < 5 workers	Firms with ≥ 5 workers	Rural	Urban	Informal	Formal
<i>Log (Government Bank Branches in 1991)</i>	0.109** (0.051)	0.023* (0.012)	1.186*** (0.308)	-0.044 (0.058)	0.163*** (0.051)	0.023** (0.011)	0.384*** (0.134)
<i>Labor_Post</i>	-0.139 (0.107)	-0.021 (0.026)	0.26 (0.684)	-0.219* (0.131)	-0.086 (0.126)	-0.041** (0.021)	-0.219 (0.342)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	296,684	268,558	28,126	114,261	182,423	210,874	85,810
Mean LHS	2.62	1.58	12.6	2.01	3.01	1.31	5.86
Mean <i>Log (Government Bank Branches in 1991)</i>	3.43	3.42	3.51	3.38	3.46	3.42	3.45
Effect at Mean of Branches (%)	0.14	0.05	0.33	-0.08	0.19	0.06	0.23

**Table 11 Panel B**

Variable	All Firms	Firm Size		Location		Formality	
		Firms with < 5 workers	Firms with ≥ 5 workers	Rural	Urban	Informal	Formal
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Log ( <i>Government Bank Credit in 1991</i> )	0.095*** (0.022)	0.017*** (0.005)	0.738*** (0.179)	0.015 (0.024)	0.090*** (0.024)	0.017*** (0.005)	0.290*** (0.068)
<i>Labor_Post</i>	-0.157 (0.105)	-0.024 (0.026)	0.075 (0.680)	-0.228* (0.134)	-0.102 (0.126)	-0.044** (0.021)	-0.261 (0.335)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	296,684	268,558	28,126	114,261	182,423	210,874	85,810
Mean LHS	2.62	1.58	12.6	2.01	3.01	1.31	5.86
Mean Log ( <i>Government Bank Credit in 1991</i> )	4.09	4.07	4.3	3.92	4.21	4.06	4.18
Effect at Mean of Credit (%)	0.15	0.05	0.25	0.03	0.13	0.05	0.21

**Table 12: Firm Productivity and Access to Credit**

Using firm-level data from the Service Sector survey, this table provides results from a OLS specification where the dependent variable is  $\ln(\text{Value Added per worker})$  at the firm level. In Panel A,  $\text{Log}(\text{Government Bank Branches in 1991})$  is the log of the number of government-owned bank branches in a district in 1991 + 1.  $\text{Labor\_Post}$  is the interaction between employer-friendly labor regulations at the state level and a time dummy. The specification controls for district population and for year, state, and industry effects, and standard errors are clustered at the district level. Formality refers to whether a firm is in the informal or formal sector (registered with the government).  $\text{Formality}$  refers to whether a firm is in the informal or formal sector (registered with the government). In Panel B, we use  $\text{Log}(\text{Government Bank Credit in 1991})$  which is the log of the total loans given by government-owned bank branches in that district in 1991 + 1. \*\*\*indicates significance at the 1% level; \*\* indicates significance at the 5% level, and \* indicates significance at the 10% level.

Variable	Panel A						
	All Firms	Firm Size		Location		Formality	
		Firms with < 5 workers	Firms with ≥ 5 workers	Rural	Urban	Informal	Formal
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
$\text{Log}(\text{Government Bank Branches in 1991})$	0.087** (0.042)	0.066* (0.038)	0.246*** (0.050)	-0.071 (0.053)	0.130*** (0.035)	0.049 (0.037)	0.160*** (0.041)
$\text{Labor\_Post}$	-0.169** (0.080)	-0.160** (0.069)	0.169 (0.134)	-0.269*** (0.092)	-0.09 (0.080)	-0.203*** (0.067)	0.055 (0.096)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	293,853	265,931	27,922	113,053	180,800	208,961	84,892
Mean LHS	10.5	10.3	12.4	10.2	10.6	10	11.5
Mean $\text{Log}(\text{Government Bank Branches in 1991})$	3.43	3.42	3.51	3.38	3.46	3.42	3.45
Effect at Mean of Branches (%)	0.03	0.02	0.07	-0.02	0.04	0.02	0.05

**Table 12 Panel B**

Variable	All Firms	Firm Size		Location		Formality	
		Firms with < 5 workers	Firms with ≥ 5 workers	Rural	Urban	Informal	Formal
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Log ( <i>Government Bank Credit in 1991</i> )	0.073*** (0.018)	0.054*** (0.016)	0.171*** (0.023)	-0.023 (0.022)	0.064*** (0.017)	0.042*** (0.016)	0.123*** (0.018)
<i>Labor_Post</i>	-0.183** (0.079)	-0.170** (0.069)	0.131 (0.131)	-0.272*** (0.092)	-0.104 (0.082)	-0.211*** (0.067)	0.038 (0.095)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	293,853	265,931	27,922	113,053	180,800	208,961	84,892
Mean LHS	10.5	10.3	12.4	10.2	10.6	10	11.5
Mean Log ( <i>Government Bank Credit in 1991</i> )	4.09	4.07	4.3	3.91	4.21	4.06	4.18
Effect at Mean of Credit (%)	0.03	0.02	0.06	-0.01	0.03	0.02	0.05

**Table 13: Firm Wages and Access to Credit**

Using firm-level data from the Service Sector survey, this table provides results from a OLS specification where the dependent variable is Log (*Wages*) at the firm level. In Panel A, *Log (Government Bank Branches in 1991)* is the log of the number of government-owned bank branches in a district in 1991 + 1. *Labor\_Post* is the interaction between employer-friendly labor regulations at the state level and a time dummy. The specification controls for district population and for year, state, and industry effects, and standard errors are clustered at the district level. *Formality* refers to whether a firm is in the informal or formal sector (registered with the government). *Formality* refers to whether a firm is in the informal or formal sector (registered with the government). In Panel B, we use *Log (Government Bank Credit in 1991)* which is the log of the total credit given by government-owned bank branches in that district in 1991 + 1. \*\*\*indicates significance at the 1% level; \*\* indicates significance at the 5% level, and \* indicates significance at the 10% level.

Variable	Panel A						
	All Firms	Firm Size		Location		Formality	
		Firms with < 5 workers	Firms with ≥ 5 workers	Rural	Urban	Informal	Formal
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Log (Government Bank Branches in 1991)</i>	0.147** (0.073)	0.079 (0.069)	0.153*** (0.048)	-0.115* (0.066)	0.182*** (0.066)	-0.117 (0.087)	0.134*** (0.034)
<i>Labor_Post</i>	0.124 (0.118)	0.148 (0.117)	0.039 (0.107)	0.046 (0.120)	0.047 (0.123)	-0.3 (0.203)	-0.013 (0.080)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	101,300	73,803	27,497	32,875	68,425	17,213	84,087
Mean LHS	8.7	8.4	9.51	8.41	8.84	7.03	9.04
Mean Log ( <i>Government Bank Branches in 1991</i> )	3.47	3.45	3.51	3.42	3.49	3.55	3.45
Effect at Mean of Branches (%)	0.06	0.03	0.06	-0.05	0.07	-0.06	0.05

**Table 13 Panel B**

Variable	All Firms	Firm Size		Location		Formality	
		Firms with < 5 workers	Firms with ≥ 5 workers	Rural	Urban	Informal	Formal
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Log ( <i>Government Bank Credit in 1991</i> )	0.139*** (0.048)	0.101** (0.047)	0.116*** (0.021)	-0.034 (0.051)	0.129*** (0.038)	0.005 (0.045)	0.099*** (0.015)
<i>Labor_Post</i>	0.109 (0.117)	0.143 (0.117)	0.017 (0.104)	0.048 (0.121)	0.028 (0.124)	-0.289 (0.201)	-0.028 (0.079)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	101,300	73,803	27,497	32,875	68,425	17,213	84,087
Mean LHS	8.7	8.4	9.51	8.41	8.84	7.03	9.04
Mean Log ( <i>Government Bank Credit in 1991</i> )	4.19	4.15	4.3	4	4.28	4.24	4.18
Effect at Mean of Credit (%)	0.07	0.05	0.05	-0.02	0.06	0.00	0.05